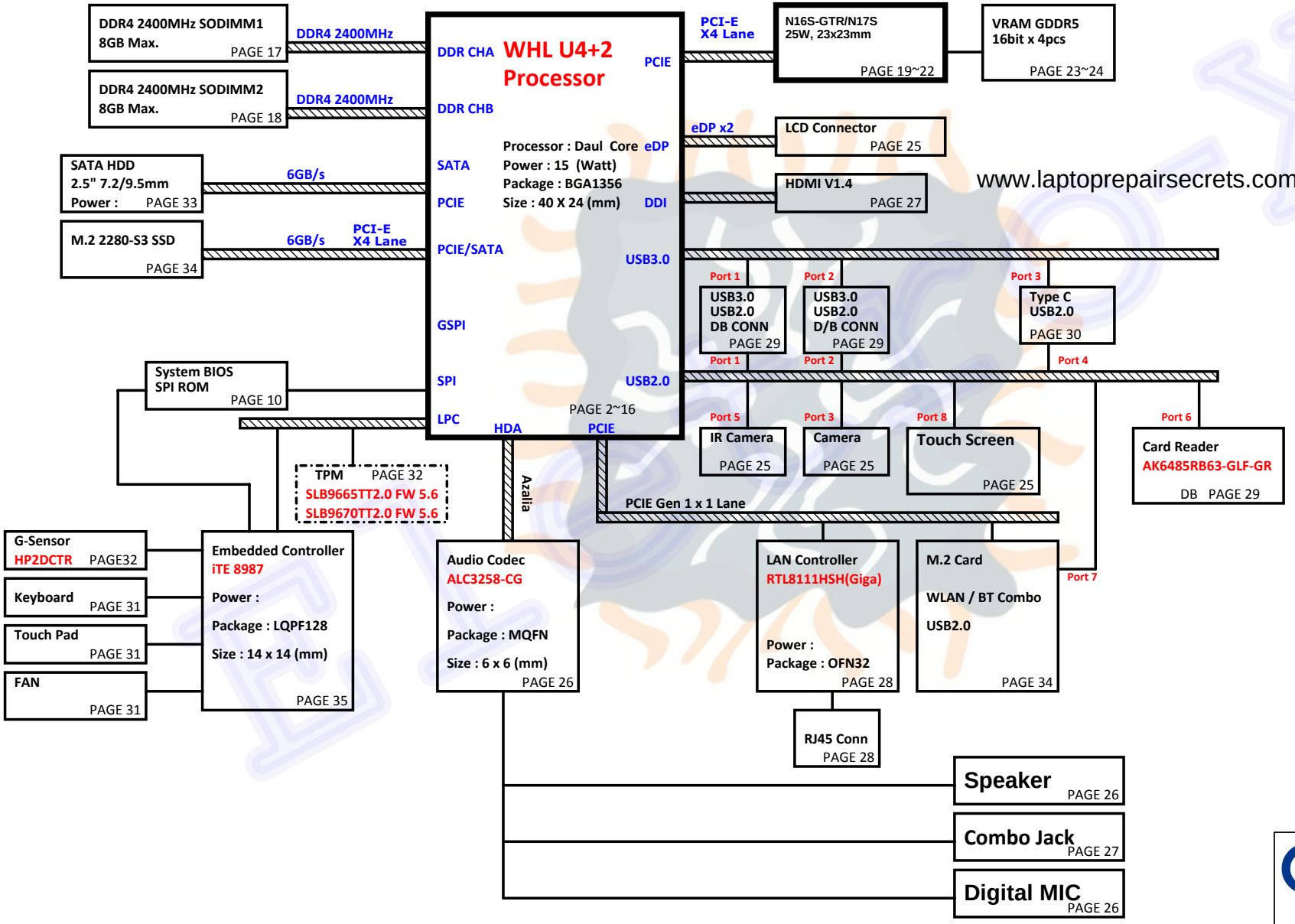
G7BD 1SPD DIS/UMA 15"
Intel WLH-U Platform Block Diagram

PCB 6L STACK UP

LAYER 1 : TOP
LAYER 2 : SGND
LAYER 3 : IN1
LAYER 4 : IN2
LAYER 5 : SVCC
LAYER 6 : IN3
LAYER 7 : SGND
LAYER 8 : BOT



PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Block Diagram	1A

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+3V <4,10,11,12,13,14,15,17,18,22,25,26,27,28,29,31,32,33,34,35,42,45,46,47>
+1.05V <6,35,41>
+VCCSTPLL <4,5,6,41,42>

HDMI

U30015A

<27> IN_D2# — IN_D2# — AL5 DDI1_TXN_0
<27> IN_D2 — IN_D2 — AL6 DDI1_TXP_0
<27> IN_D1# — IN_D1# — AJ5 DDI1_TXN_1
<27> IN_D1 — IN_D1 — AJ6 DDI1_TXP_1
<27> IN_D0# — IN_D0# — AF6 DDI1_TXN_2
<27> IN_D0 — IN_D0 — AF5 DDI1_TXP_2
<27> IN_CLK# — IN_CLK# — AE5 DDI1_TXN_3
<27> IN_CLK — IN_CLK — AE6 DDI1_TXP_3

AC4 DDI2_TXN_0
AC3 DDI2_TXP_0
AC1 DDI2_TXN_1
AC2 DDI2_TXP_1
AE4 DDI2_TXN_2
AE3 DDI2_TXP_2
AE1 DDI2_TXN_3
AE2 DDI2_TXP_3

EDP_TXN_0 AG4 INT_EDP_TXN0 → INT_EDP_TXN0 <25>
EDP_TXP_0 AG3 INT_EDP_TXP0 → INT_EDP_TXP0 <25>
EDP_TXN_1 AG2 INT_EDP_TXN1 → INT_EDP_TXN1 <25>
EDP_TXP_1 AG1 INT_EDP_TXP1 → INT_EDP_TXP1 <25>
EDP_TXN_2 AJ4
EDP_TXP_2 AJ3
EDP_TXN_3 AJ2
EDP_TXP_3 AJ1

EDP_AUX AH4 INT_EDP_AUXN → INT_EDP_AUXN <25>
EDP_AUX_P AH3 INT_EDP_AUXP → INT_EDP_AUXP <25>
DISP_UTILS AM7
DDI1_AUX AC7
DDI1_AUX_P AC6
DDI2_AUX AD4
DDI2_AUX_P AD3
DDI3_AUX AG7
DDI3_AUX_P AG6

GPP_E13/DDPB_HPD0/DISP_MISC0 CN6 HDMI_HPD_CON → HDMI_HPD_CON <27>
GPP_E14/DDPC_HPD1/DISP_MISC1 CM6
GPP_E15/DPPD_HPD2/DISP_MISC2 CP7
GPP_E16/DPPE_HPD3/DISP_MISC3 CP6
GPP_E17/EDP_HPD/DISP_MISC4 CM7 ULT_EDP_HPD → ULT_EDP_HPD <25>

EDP_BKLTEN CK11 PCH_LVDS_BLON → PCH_LVDS_BLON <25>
EDP_VDDEN CG11 PCH_DISP_ON → PCH_DISP_ON <25>
EDP_BKLTCTL CH11 PCH_DPST_PWM → PCH_DPST_PWM <25>

DISP_RCOMP signals should be shorted near balls and routed with typical impedance <20 mohms

+VCCIO — R30233 24.9_1%_4 — EDP_RCOMP — AM6 DISP_RCOMP

<27> SDVO_CLK — CC8 GPP_E18/DPPB_CTRLCLK/CNV_BT_HOST_WAKE#
<27> SDVO_DATA — CC9 GPP_E19/DPPB_CTRLDATA
CH4 GPP_E20/DPPC_CTRLCLK
CH3 GPP_E21/DPPC_CTRLDATA
CP4 GPP_E22/DPPD_CTRLCLK
CN4 GPP_E23/DPPD_CTRLDATA
CR26 GPP_H16/DDPF_CTRLCLK
CP26 GPP_H17/DDPF_CTRLDATA

*CFL_U_43E_IL_IP_DDR4
1 of 20

Reserve EDP_HPD opposites circuit!

ULT_EDP_HPD — R30274 100K_5%_4

PCH_DPST_PWM — C91187 0.033u/16V_4
PCH_LVDS_BLON — C91188 0.033u/16V_4
close SOC

JTAG_TDI_PCH — R30244 *0_4/S — XDP_TDI_CPU
JTAG_TDO_PCH — R30245 *0_4/S — XDP_TDO_CPU
JTAG_TMS_PCH — R30243 *0_4/S — XDP_TMS_CPU
XDP_TRST#_CPU — R30232 *0_4/S — PROC_TRST#
JTAGX_PCH — R124543 *0_4/S — XDP_TCK0
DCI Debug

Close to EC
+VCCSTPLL
PM_THRMTRIP# — R30249 1K_5%_4
Processor pull-up (CPU)

U30015D

+VCCSTPLL — R30250 *49.9/F_4 — CATERR#
<35,42> H_PROCHOT# — R30247 499_1%_4 — PROCHOT#
<35> EC_PECI — EC_PECI — AR1 PECI
<35> PM_THRMTRIP# — PM_THRMTRIP# — BJ31 THRMTRIP#
<16> XDP_BPM0 — U1 BPM#_0
<16> XDP_BPM1 — U2 BPM#_1
U3 BPM#_2
U4 BPM#_3

CATERR# AA4
PECI AR1
PROCHOT# Y4
THRMTRIP# BJ31

PROC_TCK T6 XDP_TCK0 → XDP_TCK0 <16>
PROC_TDI U6 XDP_TDI_CPU → XDP_TDI_CPU <16>
PROC_TDO Y5 XDP_TDO_CPU → XDP_TDO_CPU <16>
PROC_TMS T5 XDP_TMS_CPU → XDP_TMS_CPU <16>
PROC_TRST# AB6 PROC_TRST# → PROC_TRST# <16>

PCH_TCK W6 JTAG_TCK_PCH → JTAG_TCK_PCH <16>
PCH_TDI U5 JTAG_TDI_PCH → JTAG_TDI_PCH <16>
PCH_TDO W5 JTAG_TDO_PCH → JTAG_TDO_PCH <16>
PCH_TMS P5 JTAG_TMS_PCH → JTAG_TMS_PCH <16>
PCH_TRST# Y6 XDP_TRST#_CPU
PCH_JTAGX P6 JTAGX_PCH

GPP_E3/CPU_GP0 W2 PROC_PREQ# → XDP_PREQ#_CPU <16>
GPP_E7/CPU_GP1 W1 PROC_PRDY# → XDP_PRDY#_CPU <16>
GPP_B3/CPU_GP2
GPP_B4/CPU_GP3

PROC_POPIRCOMP BP27
PCH_OPIRCOMP BW25
OPCE_RCOMP L5
OPC_RCOMP N5

R30083 49.9_1%_4 — PROC_POPIRCOMP
R30131 49.9_1%_4 — PCH_OPI_RCOMP
R30241 49.9_1%_4 — EDRAM_OPIO_RCOMP
R30265 49.9_1%_4 — EOPIO_RCOMP

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*CFL_U_43E_IL_IP_DDR4

+1.05V
R30218 *1K_5%_4 — JTAGX_PCH
R30266 51_5%_4 — JTAG_TMS_PCH
R30220 51_5%_4 — JTAG_TDI_PCH
R30268 100_1%_4 — JTAG_TDO_PCH
R30269 *51_5%_4 — JTAG_TCK_PCH
Close to Chipset

PLACE NEAR CPU
+1.05V
XDP_TMS_CPU — R30219 *51_4
XDP_TDI_CPU — R30267 51_4
XDP_TDO_CPU — R30221 100_1%_4

+1.05V
H_PROCHOT# — R30222 1K_5%_4
XDP_TCK0 — R30242 51_5%_4
XDP_TRST#_CPU — R30231 *51_5%_4

PROJECT : G7BD
Quanta Computer Inc.
Size: Custom | Document Number: KBL-U 1/15 eDP/DDI/MISC | Rev: 1A
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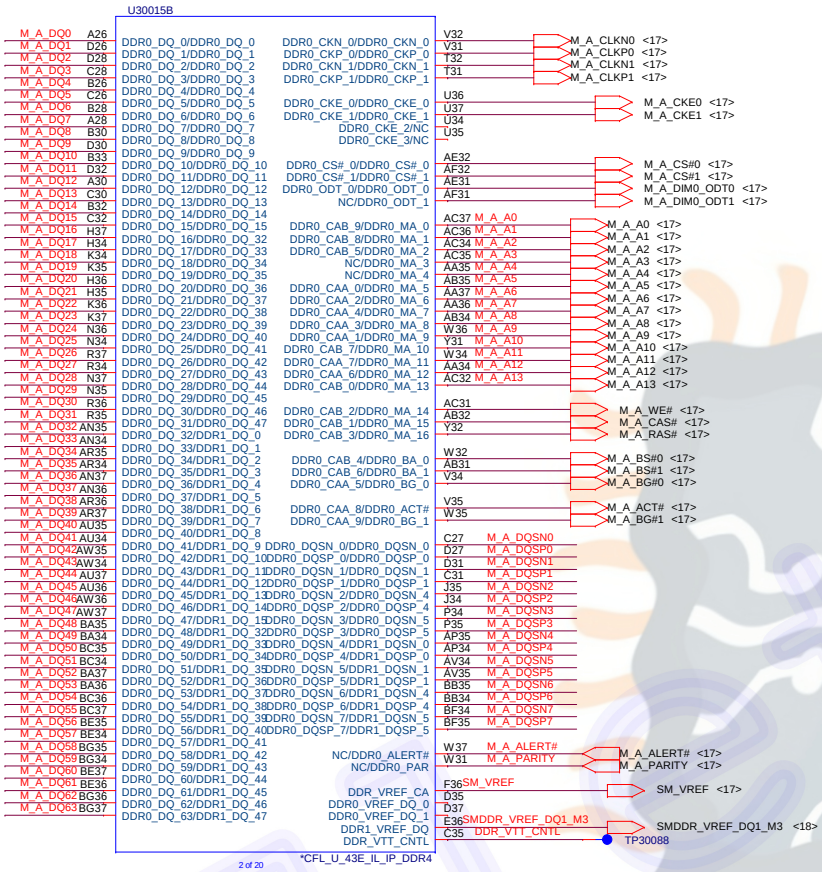
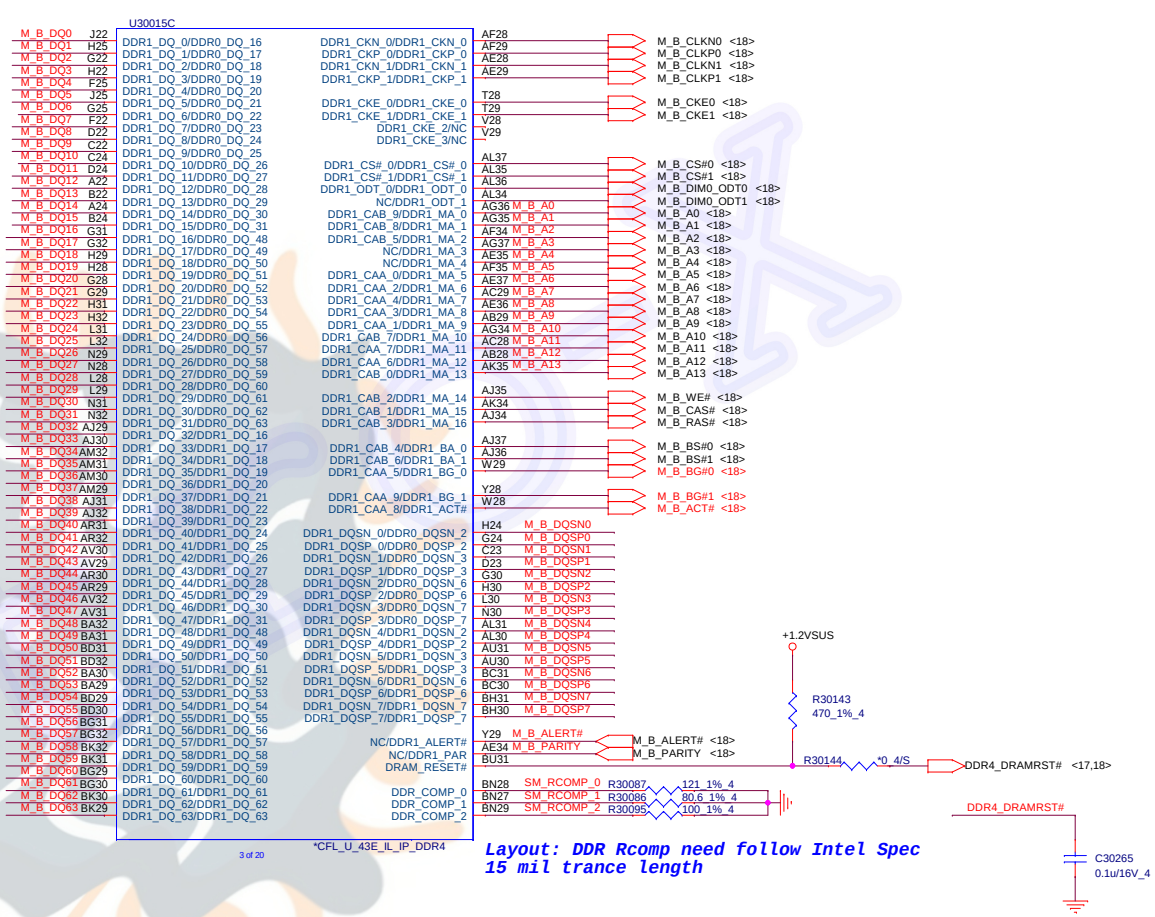
WHL ULT Processor (DDR4)

03

WHL ULT Processor (MEM-A)



WHL ULT Processor (MEM-B)



+1.2VSUS <3,6,17,18,39,41>

+1.2VSUS
R30143
470_1%_4
R30144 *0_4/S DDR4_DRAMRST# <17,18>
DDR4_DRAMRST#
C30265
0.1u/16V_4

Layout: DDR Rcomp need follow Intel Spec 15 mil trance length

+1.2VSUS <3,6,17,18,39,41>
+3V_DEEP_SUS <4,10,11,13,14,15,16,32>

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Size	Document Number	Rev
Custom	KBL-U 2/15(DDR4 I/F)	1A

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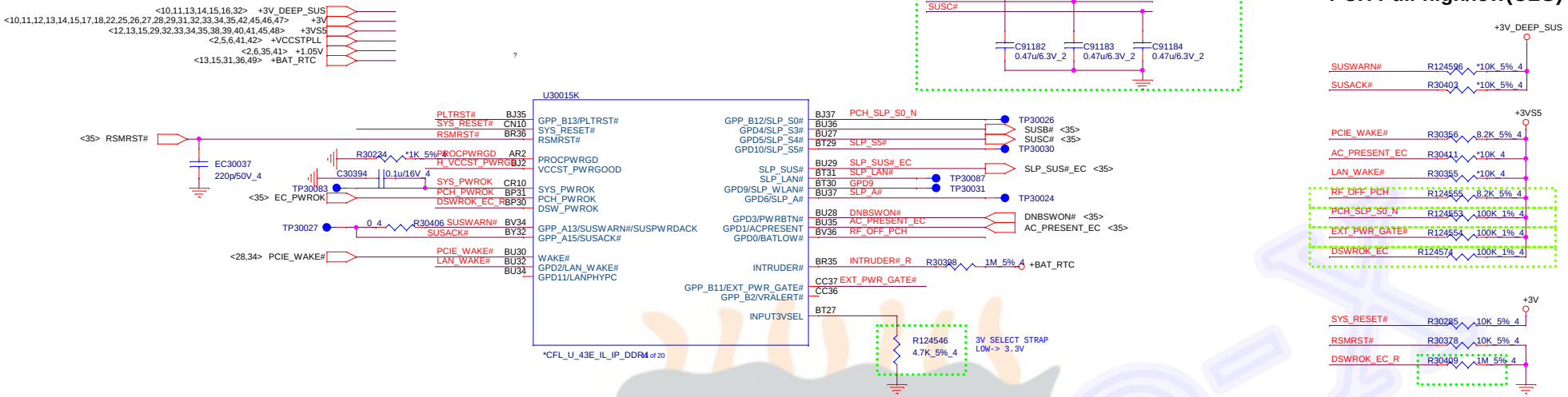
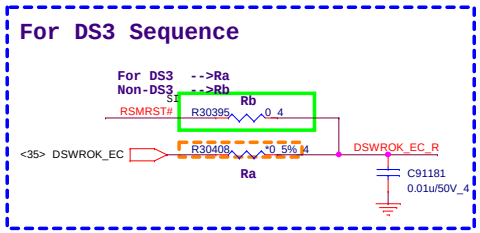
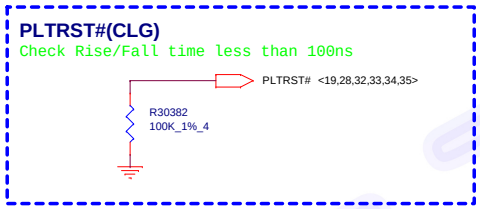
Eletro-X

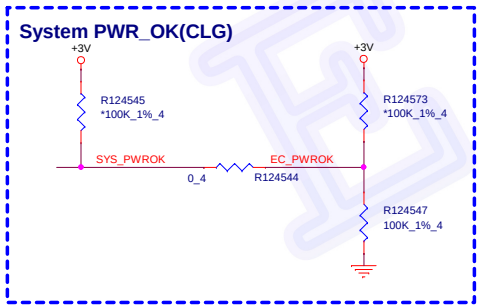
PCH Pull-high/low(CLG)

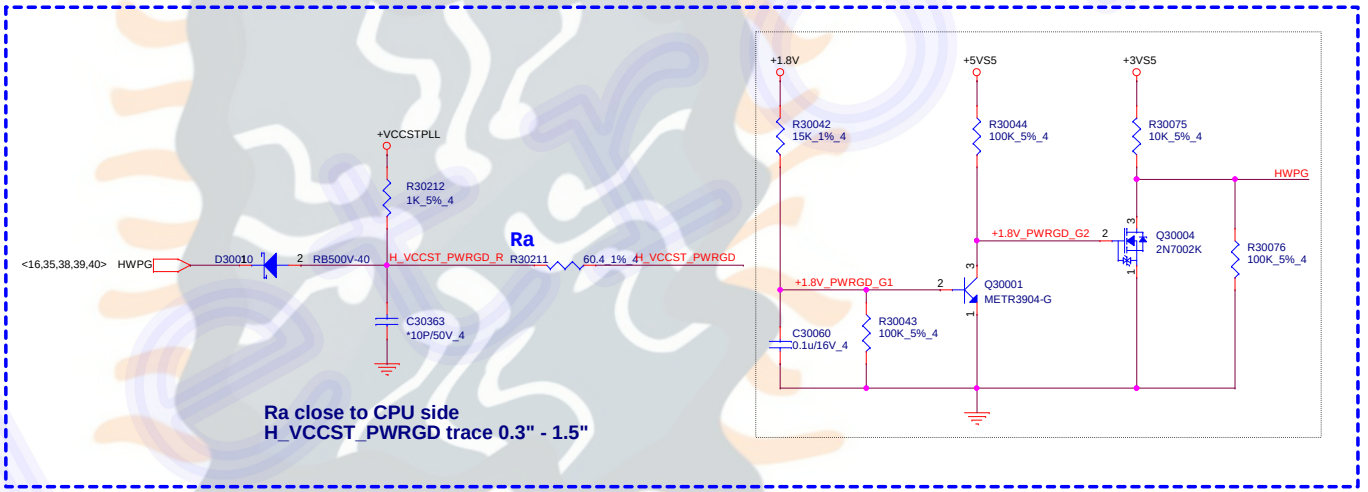
04

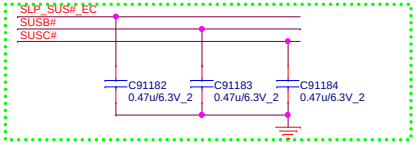












PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	KBL-U 3/15(PowerManger)	1A

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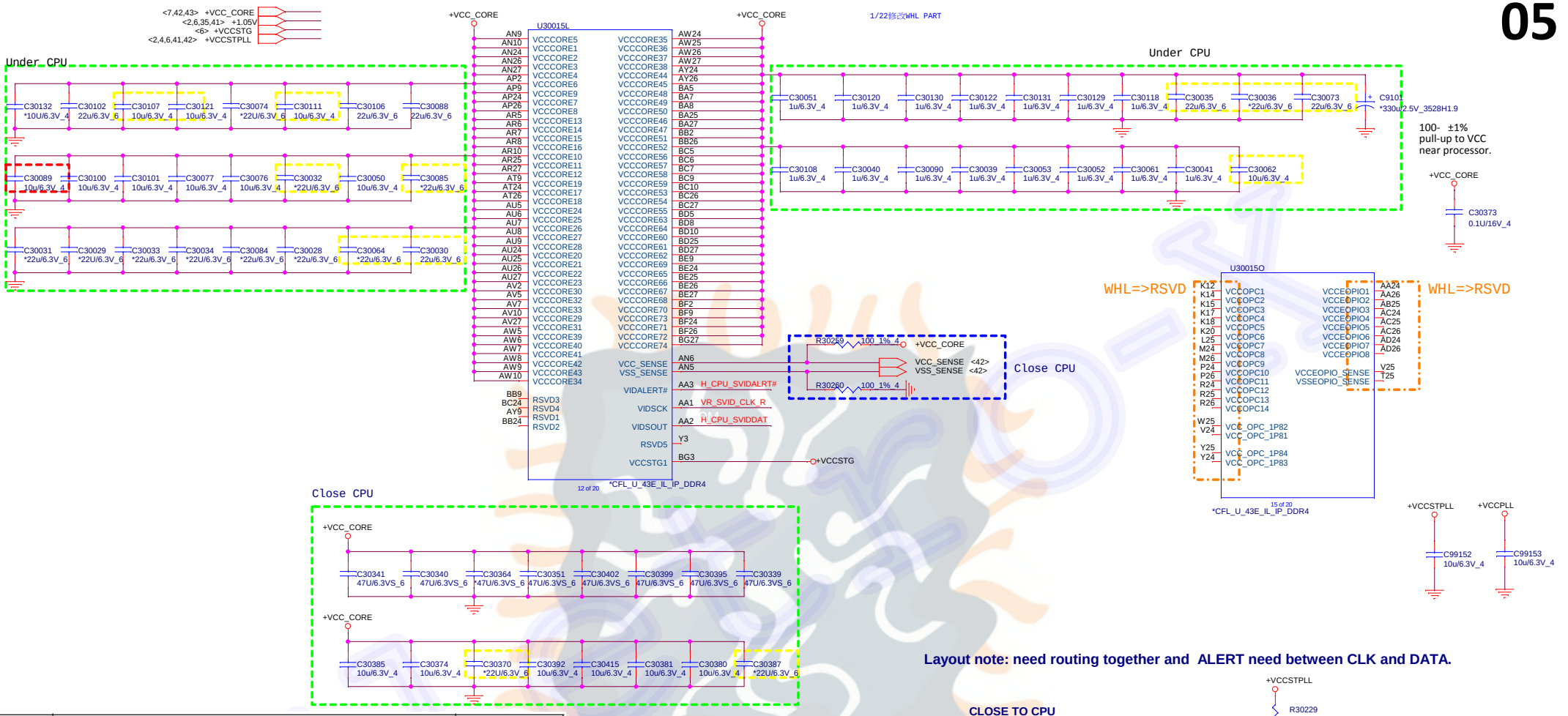

Power Rail	Description	Control
V_{CC}	Processor IA Cores Power Rail	SVID
$V_{CC_{GT}}$	Processor Graphics Power Rails	SVID
$V_{CC_{GTX}}$	Processor Graphics Extended Power Rail Available only for GT3/GT4 processor SKUs	SVID
$V_{CC_{SA}}$	System Agent Power Rail	SVID/Fixed (SKU dependent)
$V_{CC_{IO}}$	IO Power Rail	Fixed
$V_{CC_{ST}}$	Sustain Power Rail	Fixed
$V_{CC_{PLL}}$	Processor PLLs power rail	Fixed
V_{DDQ}	Integrated Memory Controller Power Rail	Fixed (Memory technology dependent)
$V_{CC_{OPC}}$	Processor OPC power rail (available only in SKU's with OPC)	Fixed
$V_{CC_{OPC\_1P8}}$	Processor OPC power rail (available only in SKU's with OPC)	Fixed
$V_{CC_{EOPIO}}$	Processor EOPIO power rail (available only in SKU's with OPC)	Fixed

Layout note: need routing together and ALERT need between CLK and DATA.

CLOSE TO CPU
PLACE THE PU RESISTORS
SVID ALERT

PLACE THE PU RESISTORS
CLOSE TO VR
PULL UP IS IN THE VR MODULE
SVID CLK

CLOSE TO CPU
PLACE THE PU RESISTORS
SVID DATA

PROJECT : G7BD
Quanta Computer Inc.

Size: Custom | Document Number: KBL-U 4/15 (POWER-1) | Rev: 1A
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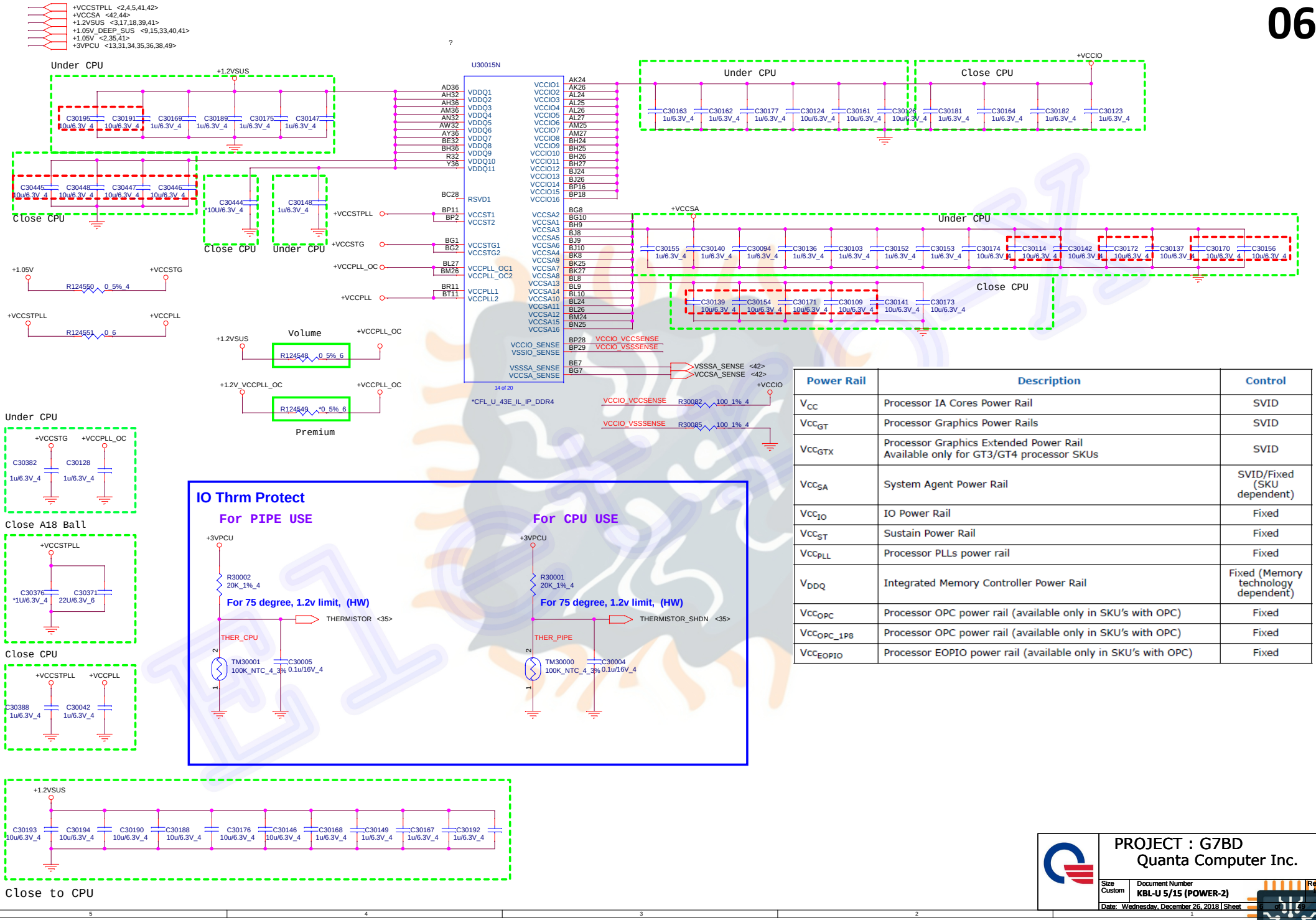

Power Rail	Description	Control
V_{CC}	Processor IA Cores Power Rail	SVID
Vcc_{GT}	Processor Graphics Power Rails	SVID
Vcc_{GTX}	Processor Graphics Extended Power Rail Available only for GT3/GT4 processor SKUs	SVID
Vcc_{SA}	System Agent Power Rail	SVID/Fixed (SKU dependent)
Vcc_{IO}	IO Power Rail	Fixed
Vcc_{ST}	Sustain Power Rail	Fixed
Vcc_{PLL}	Processor PLLs power rail	Fixed
V_{DDQ}	Integrated Memory Controller Power Rail	Fixed (Memory technology dependent)
Vcc_{OPC}	Processor OPC power rail (available only in SKU's with OPC)	Fixed
Vcc_{OPC_1P8}	Processor OPC power rail (available only in SKU's with OPC)	Fixed
Vcc_{EOPIO}	Processor EOPIO power rail (available only in SKU's with OPC)	Fixed

PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	KBL-U 5/15 (POWER-2)	1A

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Power Rail	Description	Control
V_{CC}	Processor IA Cores Power Rail	SVID
Vcc_{GT}	Processor Graphics Power Rails	SVID
Vcc_{GTX}	Processor Graphics Extended Power Rail Available only for GT3/GT4 processor SKUs	SVID
Vcc_{SA}	System Agent Power Rail	SVID/Fixed (SKU dependent)
Vcc_{IO}	IO Power Rail	Fixed
Vcc_{ST}	Sustain Power Rail	Fixed
Vcc_{PLL}	Processor PLLs power rail	Fixed
V_{DDQ}	Integrated Memory Controller Power Rail	Fixed (Memory technology dependent)
Vcc_{OPC}	Processor OPC power rail (available only in SKU's with OPC)	Fixed
Vcc_{OPC_1P8}	Processor OPC power rail (available only in SKU's with OPC)	Fixed
Vcc_{EOPIO}	Processor EOPIO power rail (available only in SKU's with OPC)	Fixed

PROJECT : G7BD
Quanta Computer Inc.
Size: Custom | Document Number: KBL-U 6/15 (POWER-3) | Rev: 1A
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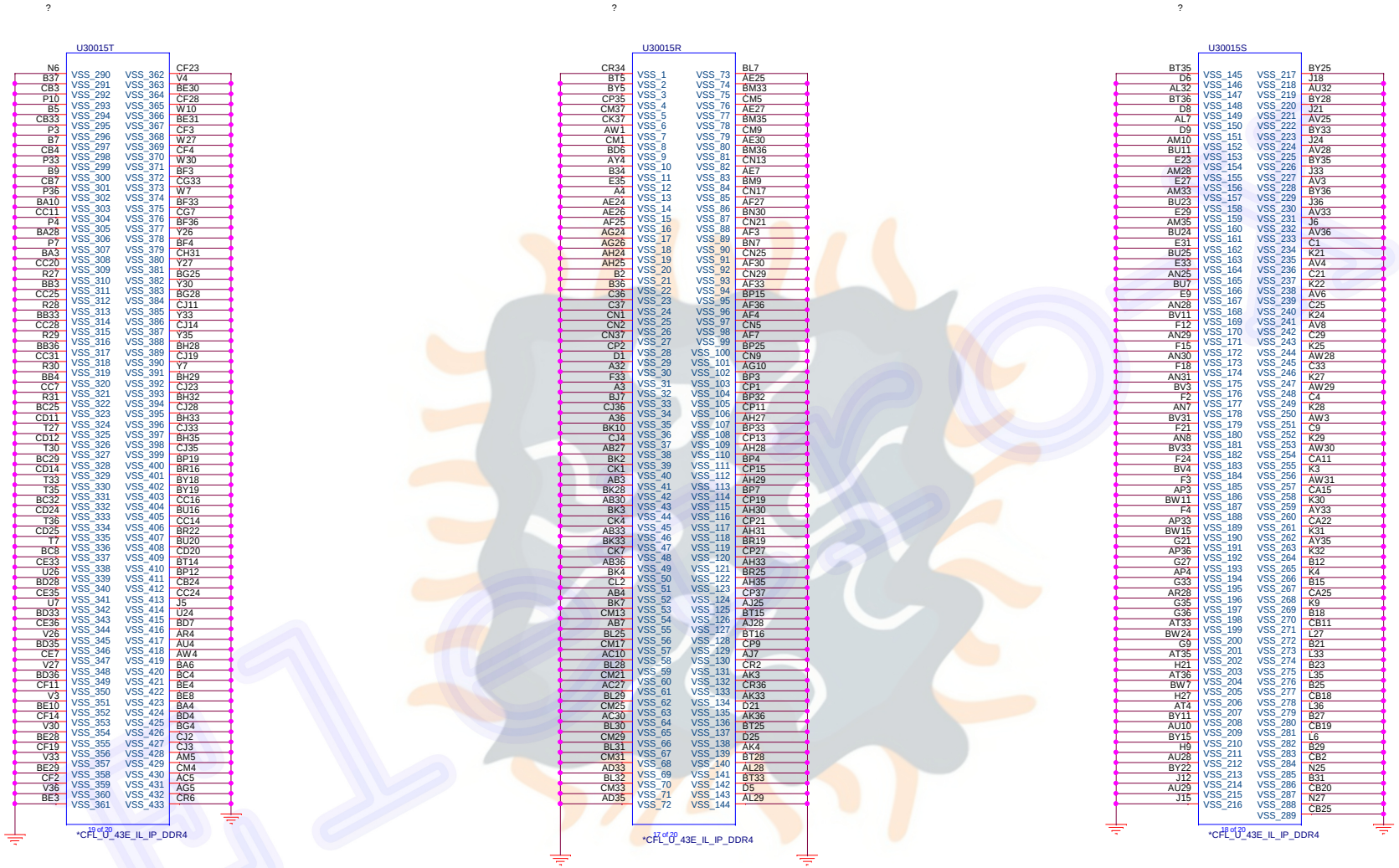

PROJECT : G7BD
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Size	Document Number	Rev
Custom	KBL-U 7/15 (GND)	1A

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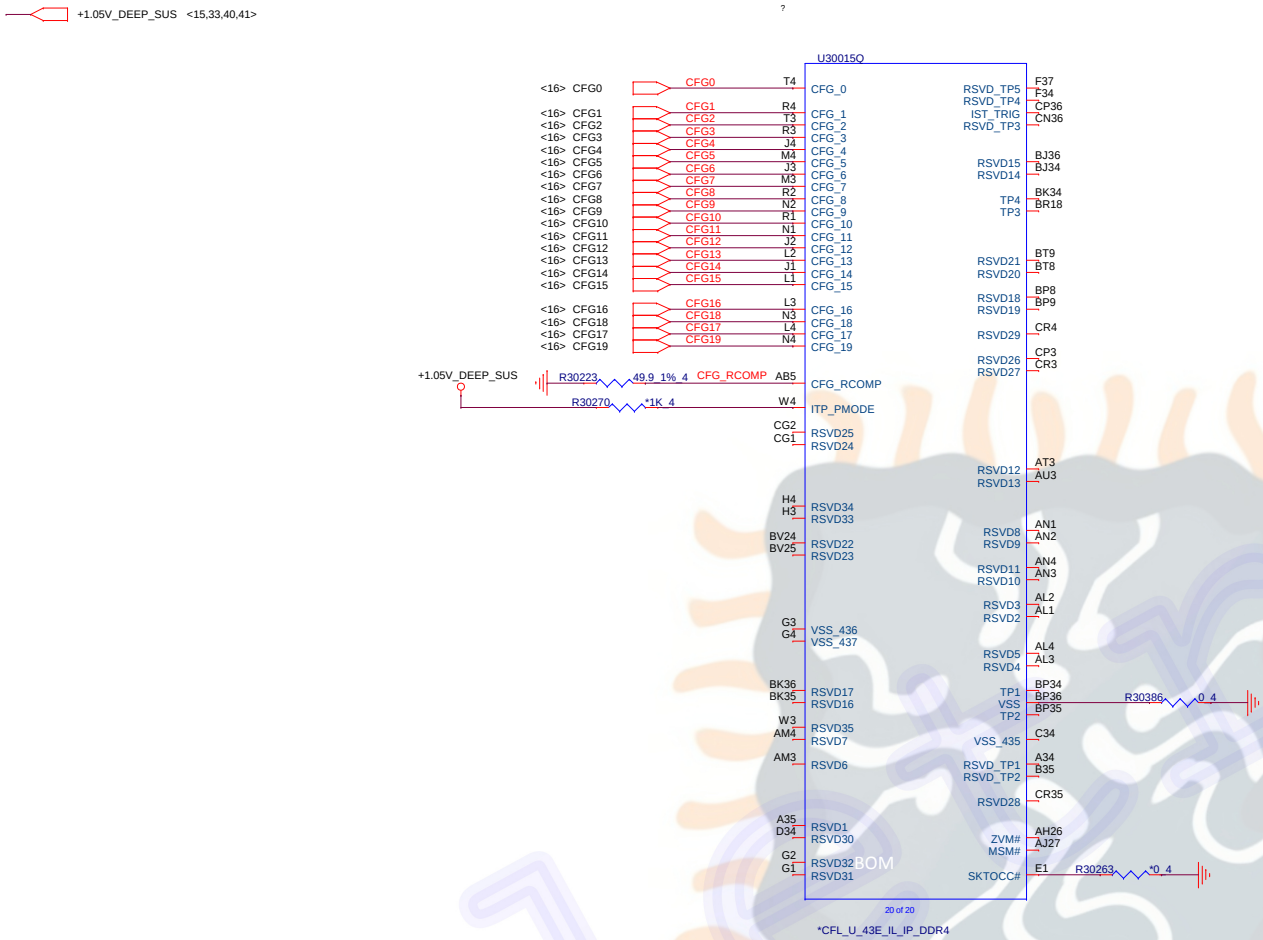

Processor Strapping

The CFG signals have a default value of '1' if not terminated on the board.

	1	0	Circuit
CFG3 (Physcial Debug Enable) DFX Privacy	Disable:	Enable: Set DFX Enable in DFX interface MSR	CFG3 R30246 *1K_4
CFG4 (DP Presence Strap)	Disable; No physical DP attached to eDP	Enable; An ext DP device is connected to eDP	CFG4 R30264 1K_5%_4

PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	KBL-U 8/15 (RSV)	1A

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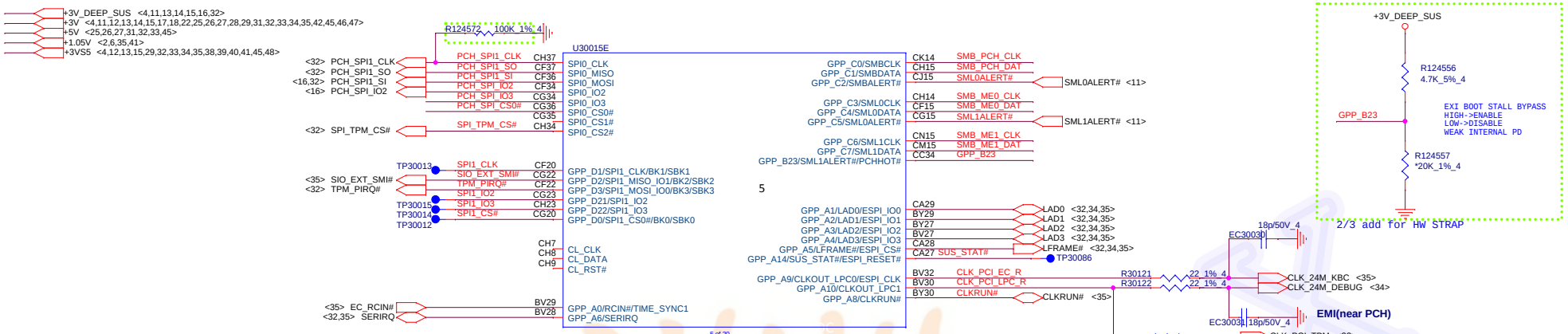
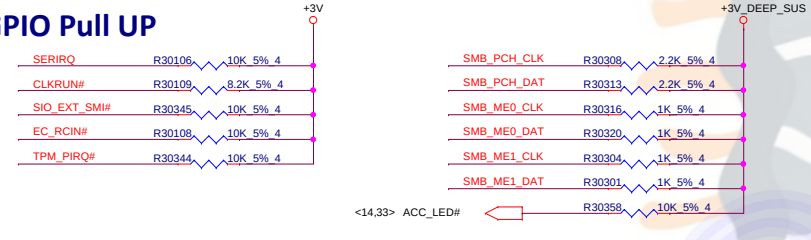


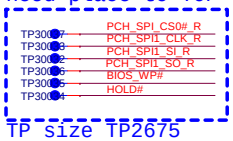
GPIO Pull UP



PCH SPI ROM(CLG)

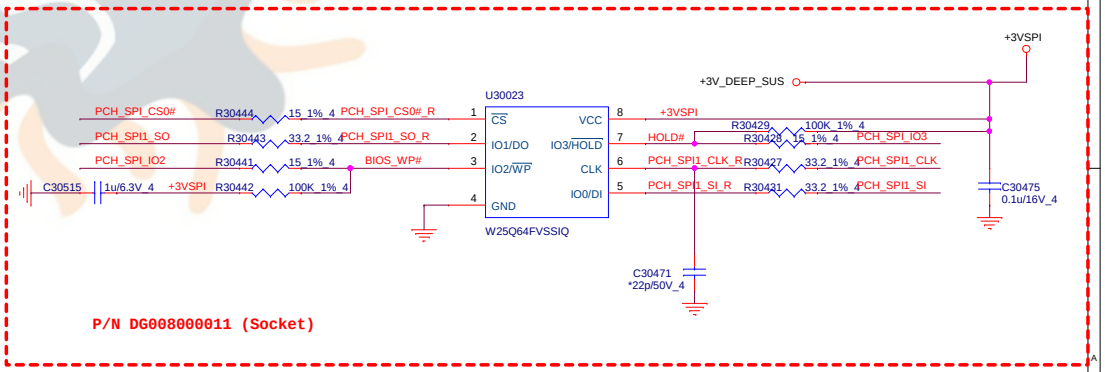
Vender	Size	P/N
MXIC	16MB	AKE3DZN0Z03 (MX25L12873FM2I-10G)
Winbond	16MB	AKE3DF-KN01 (W25Q128JVSIQ)
GigaDevice	16MB	AKE3DZN0Q02 (GD25B127DSIGR)
Socket		DG008000011

need place to TOP



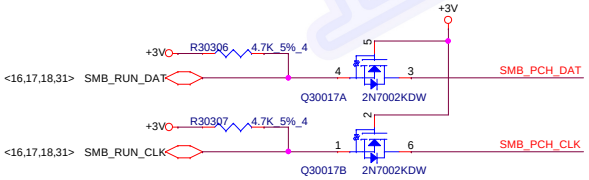
TP size TP2675

PCH SPI ROM(CLG)



SMBus/Pull-up(CLG)

CPU heat pipe local thermal sensor
DDR thermal sensor
EC



Touch Pad
XDP
DDR4

PROJECT : G7BD
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Size	Document Number	Rev
Custom	KBL-U 09/15(SPI/LPC/SM)	1A

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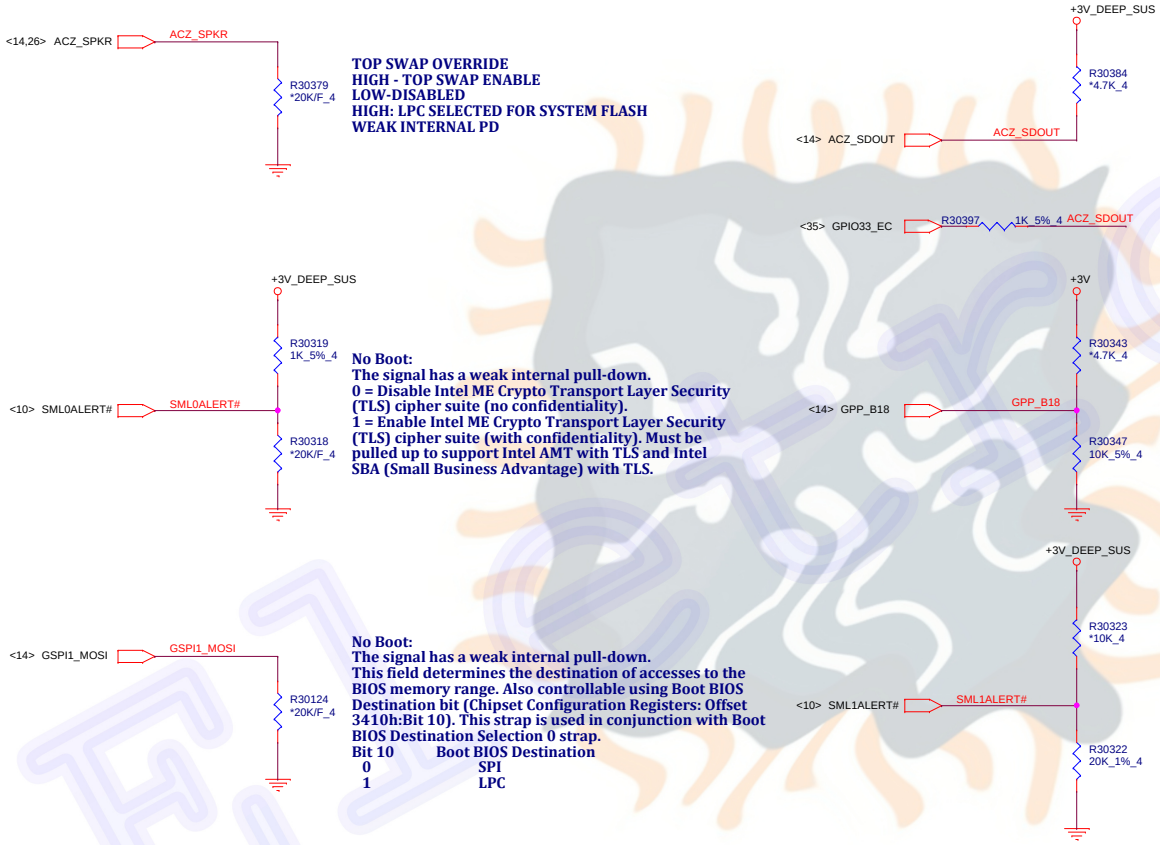
Functional Strap Definitions

DESIGN NOTE:
WEAK PULL UP RESISTOR PRESENT ON THIS NET



PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	KBL-U 10/15(HDA)	1A

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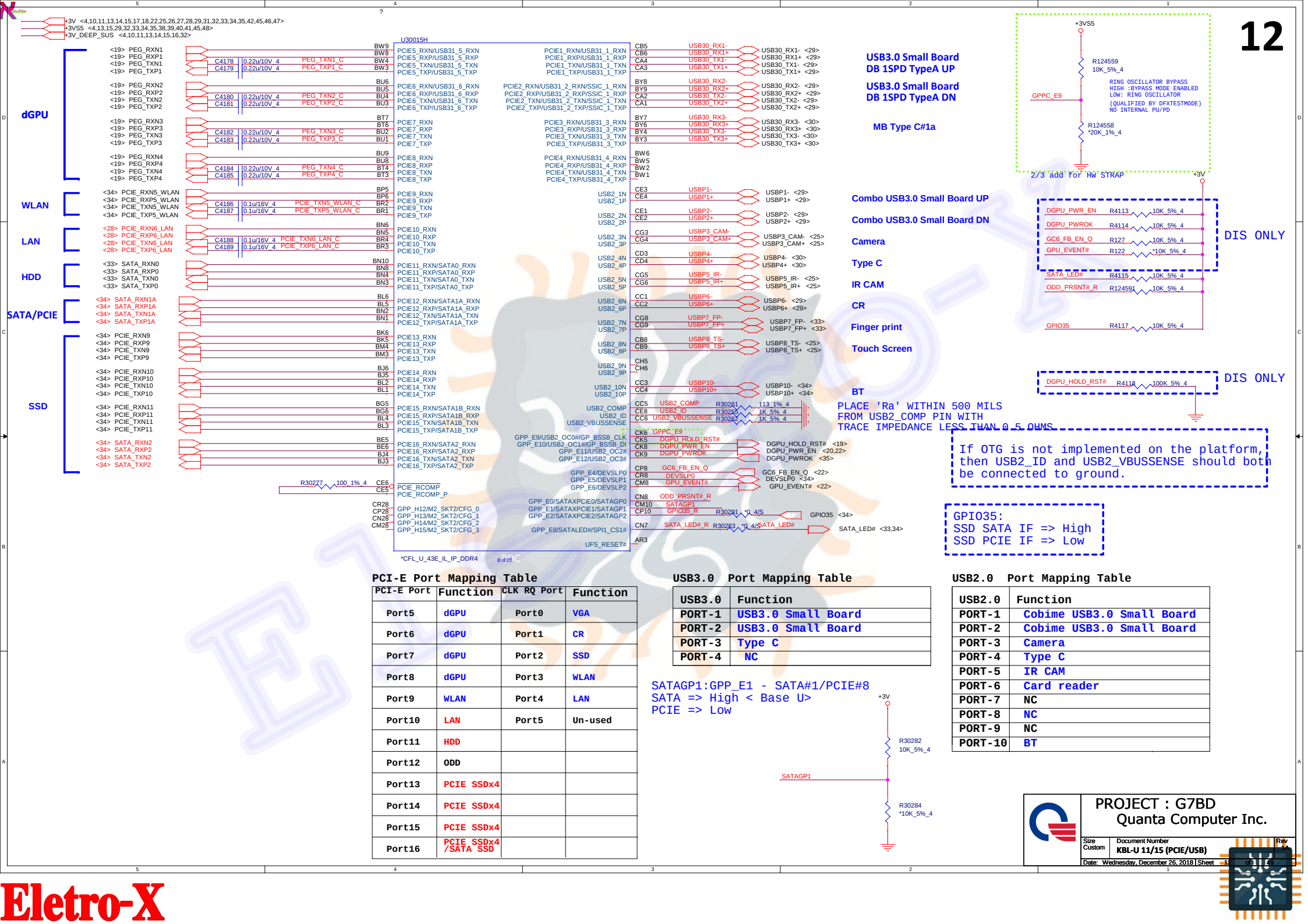

PCI-E Port Mapping Table

PCI-E Port	Function	CLK RQ Port	Function
Port5	dGPU	Port0	VGA
Port6	dGPU	Port1	CR
Port7	dGPU	Port2	SSD
Port8	dGPU	Port3	WLAN
Port9	WLAN	Port4	LAN
Port10	LAN	Port5	Un-used
Port11	HDD		
Port12	ODD		
Port13	PCIE SSDx4		
Port14	PCIE SSDx4		
Port15	PCIE SSDx4		
Port16	PCIE SSDx4 /SATA SSD		

USB3.0 Port Mapping Table

USB3.0	Function
PORT-1	USB3.0 Small Board
PORT-2	USB3.0 Small Board
PORT-3	Type C
PORT-4	NC

USB2.0 Port Mapping Table

USB2.0	Function
PORT-1	Cobime USB3.0 Small Board
PORT-2	Cobime USB3.0 Small Board
PORT-3	Camera
PORT-4	Type C
PORT-5	IR CAM
PORT-6	Card reader
PORT-7	NC
PORT-8	NC
PORT-9	NC
PORT-10	BT

PROJECT : G7BD
Quanta Computer Inc.
Size Custom | Document Number KBL-U 11/15 (PCIE/USB) | Rev 1A
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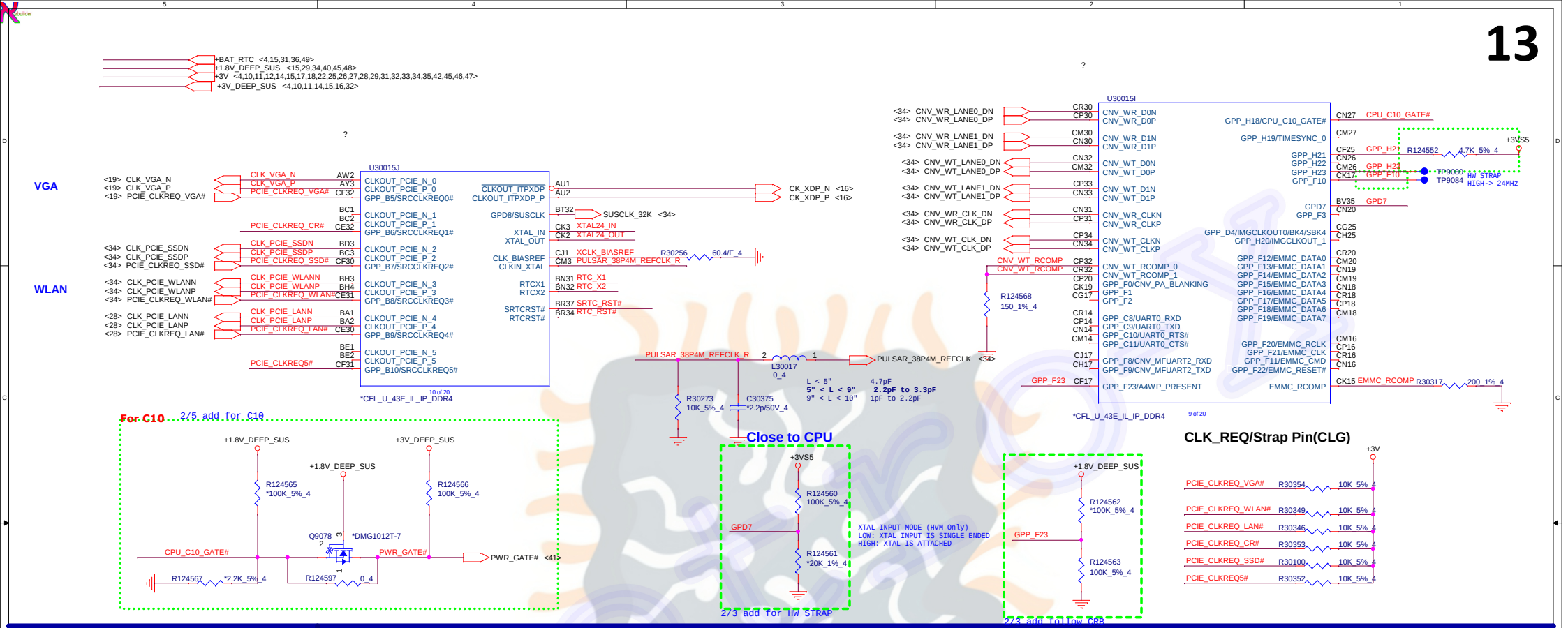
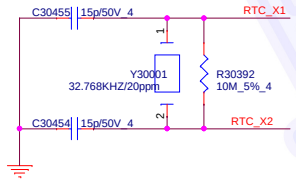
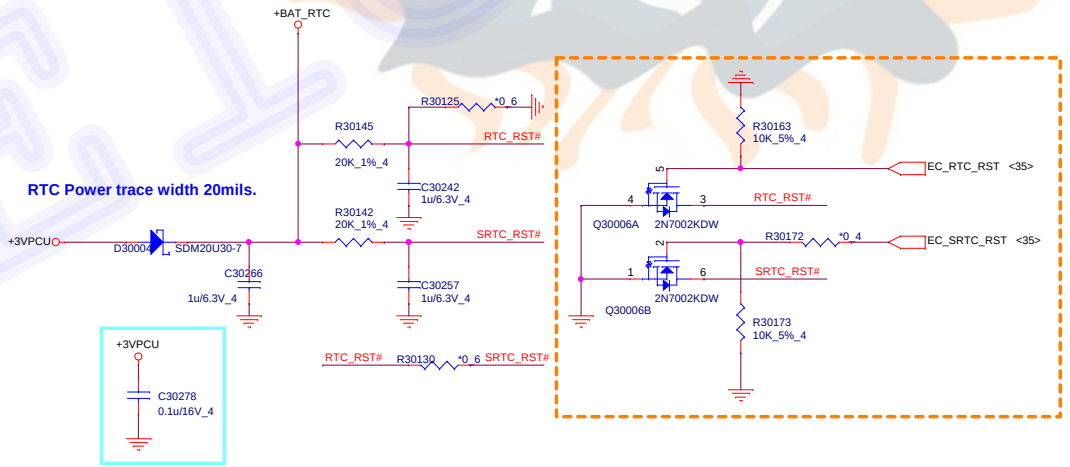


RTC Clock 32.768KHz



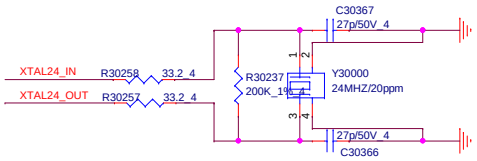
RTC Circuitry(RTC)

30mils



External Crystal

The 24 MHz (50 Ohm ESR) XTAL used for Skylake-U needs to be replaced by 38.4 MHz (30 Ohm ESR) XTAL for Cannonlake-U.



PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	KBL-U 12/15 (CLK/EMMC)	1A

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WHLake (GPIO)

+3V <4,10,11,12,13,15,17,18,22,25,26,27,28,29,31,32,33,34,35,42,45,46,47>
+3V_DEEP_SUS <4,10,11,13,15,16,32>

U30015F

+3V_DEEP_SUS

CNVi_EN# R30401 *10K_4
PCH_TEMPALERT# R30327 10K_5%_4
SIO_EXT_SCI# R30295 10K_5%_4
SPK_ID R30321 10K_5%_4
PIRQA# R1601 10K_4

+3V

ACCEL_INTA# R30292 10K_5%_4
PCI_SERR# R30102 10K_5%_4
UART2_RXD R30297 49.9K_1%_4
UART2_TXD R30296 49.9K_1%_4

CNV_RGI_DT R124576 *4.7K_5%_4
2/7 add for HW STRAP

M.2 CNVI MODES
LOW-> INTEGRATED CNVI ENABLE
HIGH-> INTEGRATED CNVI DISABLE

PIRQA# CC27
<11> GPP_B18 GPP_B18 CC32
<31> TP_INTH#_BIOS TP_INTH#_BIOS CE28
<35> PCI_SERR# PCI_SERR# CE27
<10,33> ACC_LED# ACC_LED# CE29
<11> GSPI1_MOSI GSPI1_MOSI CA31
CA32
CC29
CC30
CA30

<34> CNV_BRI_RSP CK20
<34> CNV_RGI_DT CG19
<34> CNV_BRI_DT CJ20
<34> CNV_RGI_RSP CH19

UART2_RXD CR12
UART2_TXD CP12
ACCEL_INTA# CN12
SIO_EXT_SCI# CM12
<32> ACCEL_INTA#
<35> SIO_EXT_SCI#

CM11
CN11

<31> TP_I2C_DATA TP_I2C_DATA CK12
<31> TP_I2C_CLK TP_I2C_CLK CJ12

CF27
CF29

CH27
CH28

CJ30
CJ31

GPP_B15/GSPI0_CS0#
GPP_A7/PIRQA#/GSPI0_CS1#
GPP_B16/GSPI0_CLK
GPP_B17/GSPI0_MISO
GPP_B18/GSPI0_MOSI
GPP_B19/GSPI1_CS0#
GPP_A11/PME#/GSPI1_CS1#/SD_VDD2_PWR_EN#
GPP_B20/GSPI1_CLK
GPP_B21/GSPI1_MISO
GPP_B22/GSPI1_MOSI
GPP_F5/CNV_BRI_RSP
GPP_F6/CNV_RGI_DT
GPP_F4/CNV_BRI_DT
GPP_F7/CNV_RGI_RSP
GPP_C20/UART2_RXD
GPP_C21/UART2_TXD
GPP_C22/UART2_RTS#
GPP_C23/UART2_CTS#
GPP_C16/I2C0_SDA
GPP_C17/I2C0_SCL
GPP_C18/I2C1_SDA
GPP_C19/I2C1_SCL
GPP_H4/I2C2_SDA
GPP_H5/I2C2_SCL
GPP_H6/I2C3_SDA
GPP_H7/I2C3_SCL
GPP_H8/I2C4_SDA
GPP_H9/I2C4_SCL
*CFL_U_43E_IL_IP_DDR4
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GPP_D9/ISH_SPI_CS#/GSPI2_CS0#
GPP_D10/ISH_SPI_CLK/GSPI2_CLK
GPP_D11/ISH_SPI_MISO/GSPI2_MISO
GPP_D12/ISH_SPI_MOSI/GSPI2_MOSI
GPP_D5/ISH_I2C0_SDA
GPP_D6/ISH_I2C0_SCL
GPP_D7/ISH_I2C1_SDA
GPP_D8/ISH_I2C1_SCL
GPP_H10/I2C5_SDA/ISH_I2C2_SDA
GPP_H11/I2C5_SCL/ISH_I2C2_SCL
GPP_D13/ISH_UART0_RXD/SML0BDATA/I2C4B_SDA
GPP_D14/ISH_UART0_TXD/SML0BCLK/I2C4B_SCL
GPP_D15/ISH_UART0_RTS#/GSPI2_CS1#
GPP_D16/ISH_UART0_CTS#/SML0BALERT#
GPP_C12/UART1_RXD/ISH_UART1_RXD
GPP_C13/UART1_TXD/ISH_UART1_TXD
GPP_C14/UART1_RTS#/ISH_UART1_RTS#
GPP_C15/UART1_CTS#/ISH_UART1_CTS#
GPP_A18/ISH_GP0
GPP_A19/ISH_GP1
GPP_A20/ISH_GP2
GPP_A21/ISH_GP3
GPP_A22/ISH_GP4
GPP_A23/ISH_GP5
GPP_A12/ISH_GP6/BM_BUSY#/SX_EXIT_HOLDOFF#

CN22
CR22
CM22 SPK_ID
CP22 GPP_D12 R124599 *0_4/S
FP_LOCK_CN <33>
SPK_ID <26>
FP_SLEEP_CN <33>
CK22
CH20
CH22
CJ22
CJ27
CJ29
CM24 PCH_TEMPALERT#
CN23
CM23
CR24
CG12
CH12
CF12
CG14
BW35
BW34
CA37
CA36
CA35
CA34
BW37

HDA Bus(CLG)

Add cap for RF issue

ACZ_SDOUT_AUDIO
ACZ_RST#_AUDIO
C30467 15p/50V_4
C30465 15p/50V_4

+3V_DEEP_SUS
<26> ACZ_SYNC_AUDIO
<26> ACZ_RST#_AUDIO
<26> ACZ_SDOUT_AUDIO
<26> BIT_CLK_AUDIO

R30383 *1K_4 ACZ_SYNC
R30396 33_5%_4 ACZ_SYNC
R30420 33_5%_4 ACZ_RST#
R30417 33_5%_4 ACZ_SDOUT
R30385 33_5%_4 ACZ_BCLK
C30451 15p/50V_4

close to CPU/1004
ACZ_SDOUT
ACZ_RST#
ACZ_SDIN0
C30464 33p/50V_4
C30466 33p/50V_4
C30463 33p/50V_4

R30393 *10K_4 BOARD_ID0 R30394 10K_5%_4
R30364 *10K_4 BOARD_ID1 R30365 10K_5%_4
R30368 10K_4 BOARD_ID2 R30369 *10K_5%_4
R30362 *10K_5%_4 BOARD_ID3 R30363 10K_4
R30360 10K_4 BOARD_ID4 R30361 *10K_5%_4
R30389 *10K_4 BOARD_ID5 R30390 10K_5%_4
R30380 *10K_5%_4 BOARD_ID6 R30381 10K_4
R30376 10K_5%_4 BOARD_ID7 R30377 *10K_4
R30415 10K_5%_4 BOARD_ID8 R30416 *10K_4
+3V_DEEP_SUS

Board ID6 default High,when device insert will become low

U30015G

ACZ_SYNC BN34
ACZ_BCLK BN37
ACZ_SDOUT BN36
ACZ_SDIN0 BN35
ACZ_RST# BL35
CK23
BL37
BL34
<11> ACZ_SDOUT
<26> ACZ_SDIN0

HDA_SYNC/I2S0_SFRM
HDA_BCLK/I2S0_SCLK
HDA_SDO/I2S0_TXD
HDA_SDI0/I2S0_RXD
HDA_SDI1/I2S1_RXD/SNDW1_DATA
HDA_RST#/I2S1_SCLK/SNDW1_CLK
GPP_D23/I2S_MCLK
I2S1_SFRM/SNDW2_CLK
I2S1_TXD/SNDW2_DATA

GPP_G0/SD_CMD
GPP_G1/SD3_DATA0
GPP_G2/SD3_DATA1
GPP_G3/SD3_DATA2
GPP_G4/SD_DATA3
GPP_G5/SD_CD#
GPP_G6/SD_CLK
GPP_G7/SD_WP

CH36 BOARD_ID0
CL35 BOARD_ID1
CL36 BOARD_ID2
CM35 BOARD_ID3
CN35 BOARD_ID4
CH35 BOARD_ID5
CK36 BOARD_ID6
CK34 BOARD_ID7

<34> CNV_RF_RESET#
<34> MODEM_CLKREQ
CNV_RF_RESET# CJ32
MODEM_CLKREQ CH29
CH32
CH30

GPP_H1/I2S2_SFRM/CNV_BT_I2S_BCLK/CNV_RF_RESET#
GPP_H0/I2S2_SCLK/CNV_BT_I2S_SCLK
GPP_H2/I2S2_TXD/CNV_BT_I2S_SDI/MODEM_CLKREQ
GPP_H3/I2S2_RXD/CNV_BT_I2S_SDO
GPP_A17/SD_VDD1_PWR_EN#/ISH_GP7
GPP_A16/SD_1P8_SEL
SD_1P8_RCOMP
SD_3P3_RCOMP

CP24
CN24
GPP_D19/DMIC_CLK0/SNDW4_CLK
GPP_D20/DMIC_DATA0/SNDW4_DATA
CK25
CJ25
GPP_D17/DMIC_CLK1/SNDW3_CLK
GPP_D18/DMIC_DATA1/SNDW3_DATA

<11,26> ACZ_SPKR
ACZ_SPKR CF35
GPP_B14/SPKR
*CFL_U_43E_IL_IP_DDR4
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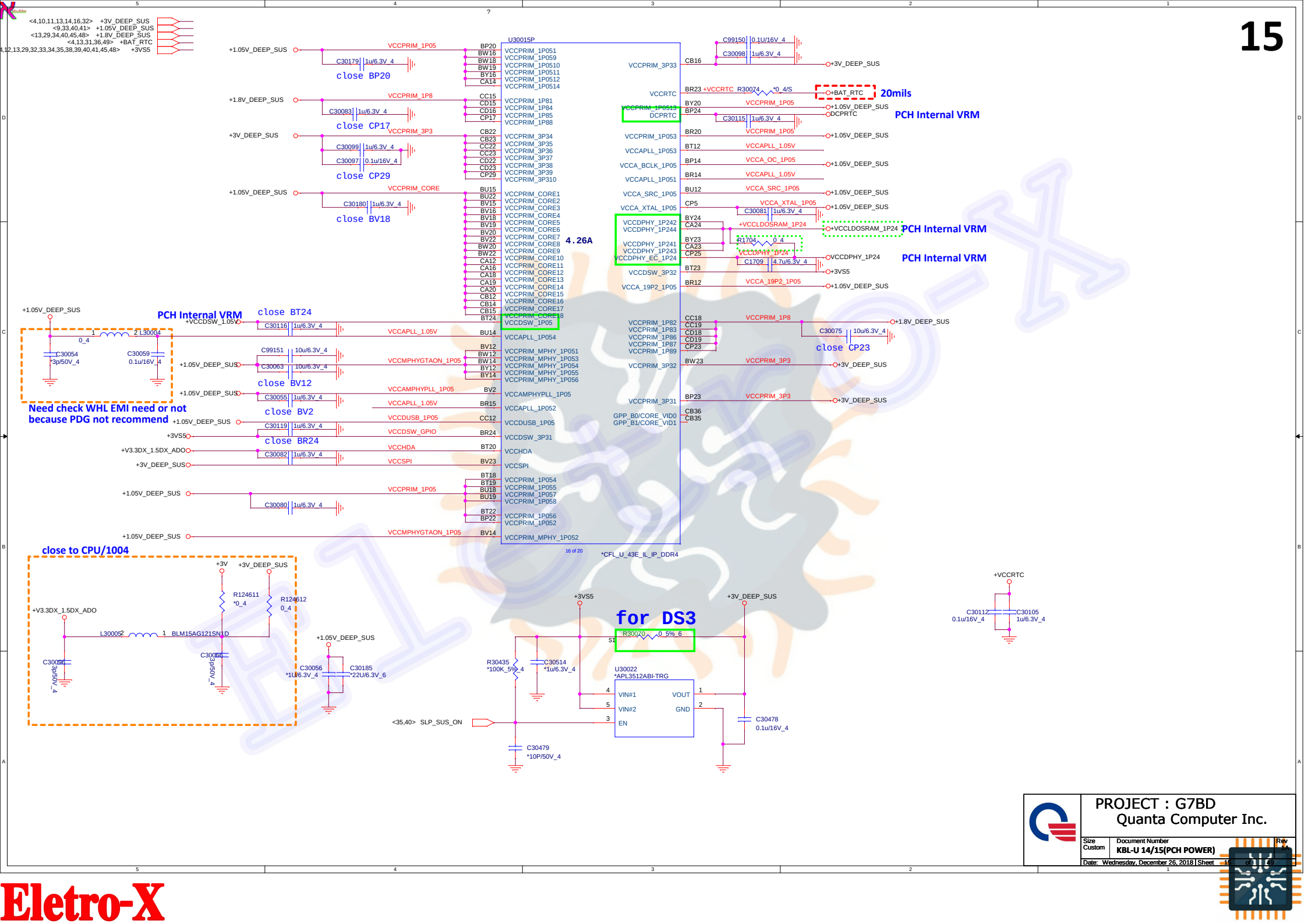
BW36 BOARD_ID8
BY31
CK33
CM34
2/23 add for CNVI_EN# need check with BIOS
CNVi_EN# <34>
R30099 200_1%_4

WHL	BOARD_ID[8:7]	Board ID 6	Board ID 5	Board ID 4	BOARD_ID[3:1]	BOARD_ID0
Model	ID8 ID7	ID6	ID5	ID4	ID3 ID2 ID1	ID0
Definition	Reserve (Default = 00)	0:Finger Print 1:Non-Finger Print	0 : AMD 1 : Nvidia GPU setting	0 : 2G VRAM 1 : 4G VRAM	100 : 14" (WHL) 000 : 14" 101 : 15" 1SPD (WHL) 001 : 15 1SPD 110 : 2SPD (WHL) 010 : MAX-Q 111 : 13" (WHL) 011 : 2SPD	0 : UMA 1 : DIS

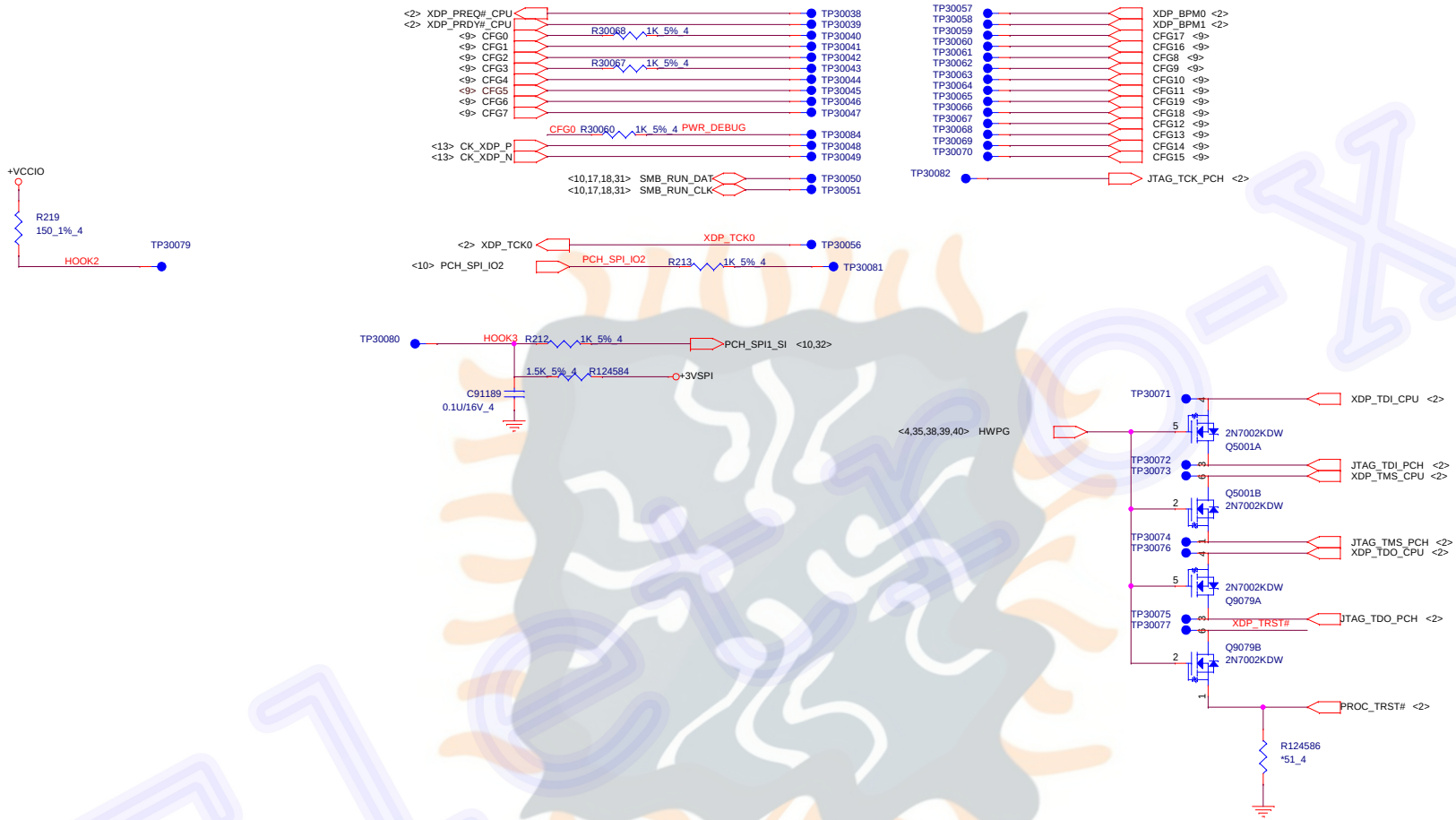
PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	KBL-U 13/15 (GPIO)	1A

Date: Wednesday, December 26, 2018 | Sheet 14 of 70


U30015P
4.26A
PCH Internal VRM
20mils
close BP20
close CP17
close CP29
close BV18
close BT24
close BV12
close BV2
close BR24
close CP23
Need check WHL EMI need or not
because PDG not recommend
close to CPU/1004
for DS3
*CFL_U_43E_IL_IP_DDR4
PROJECT : G7BD
Quanta Computer Inc.
KBL-U 14/15(PCH POWER)
Wednesday, December 26, 2018

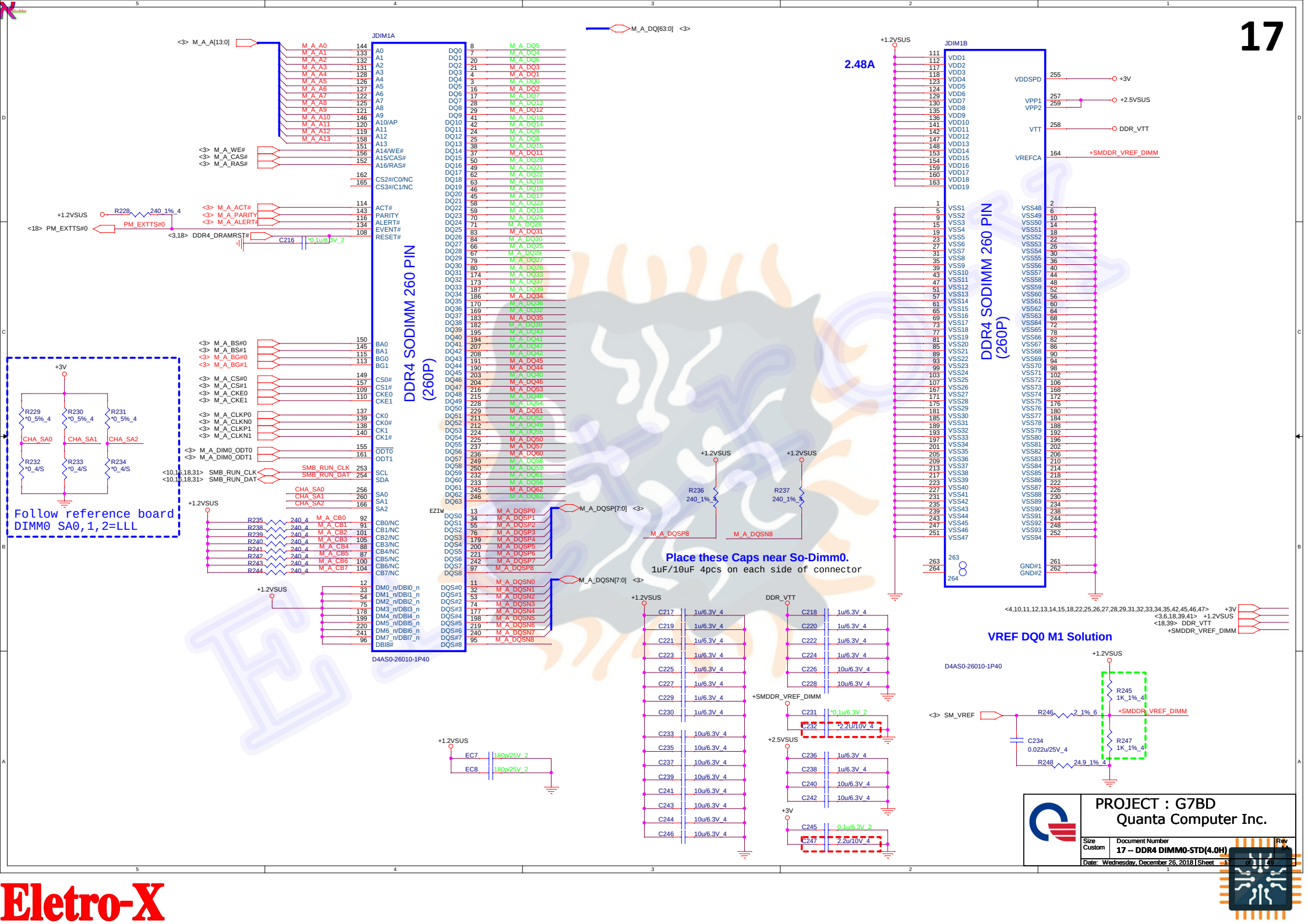
XDP Debug

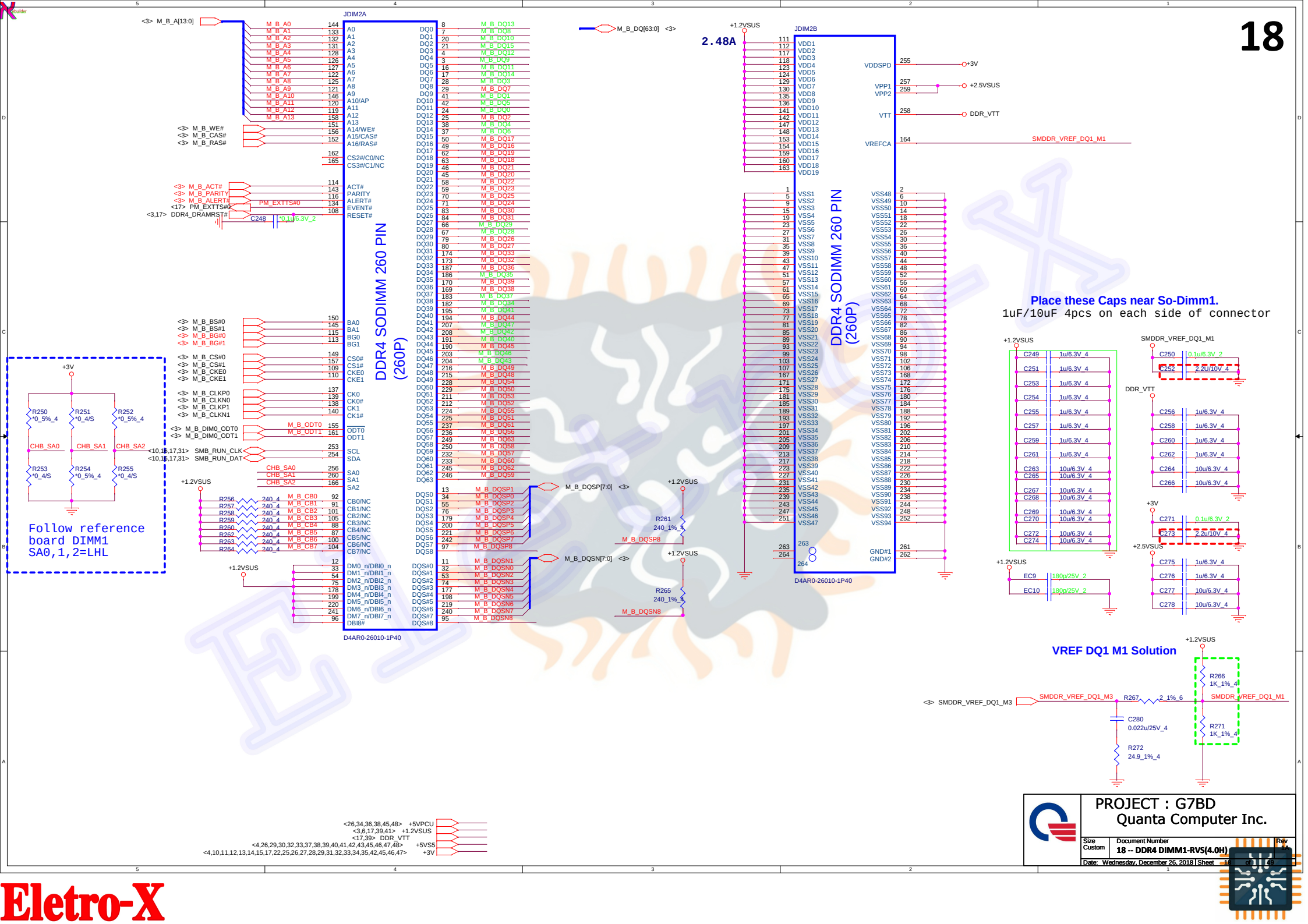


PROJECT : G7BD
Quanta Computer Inc.

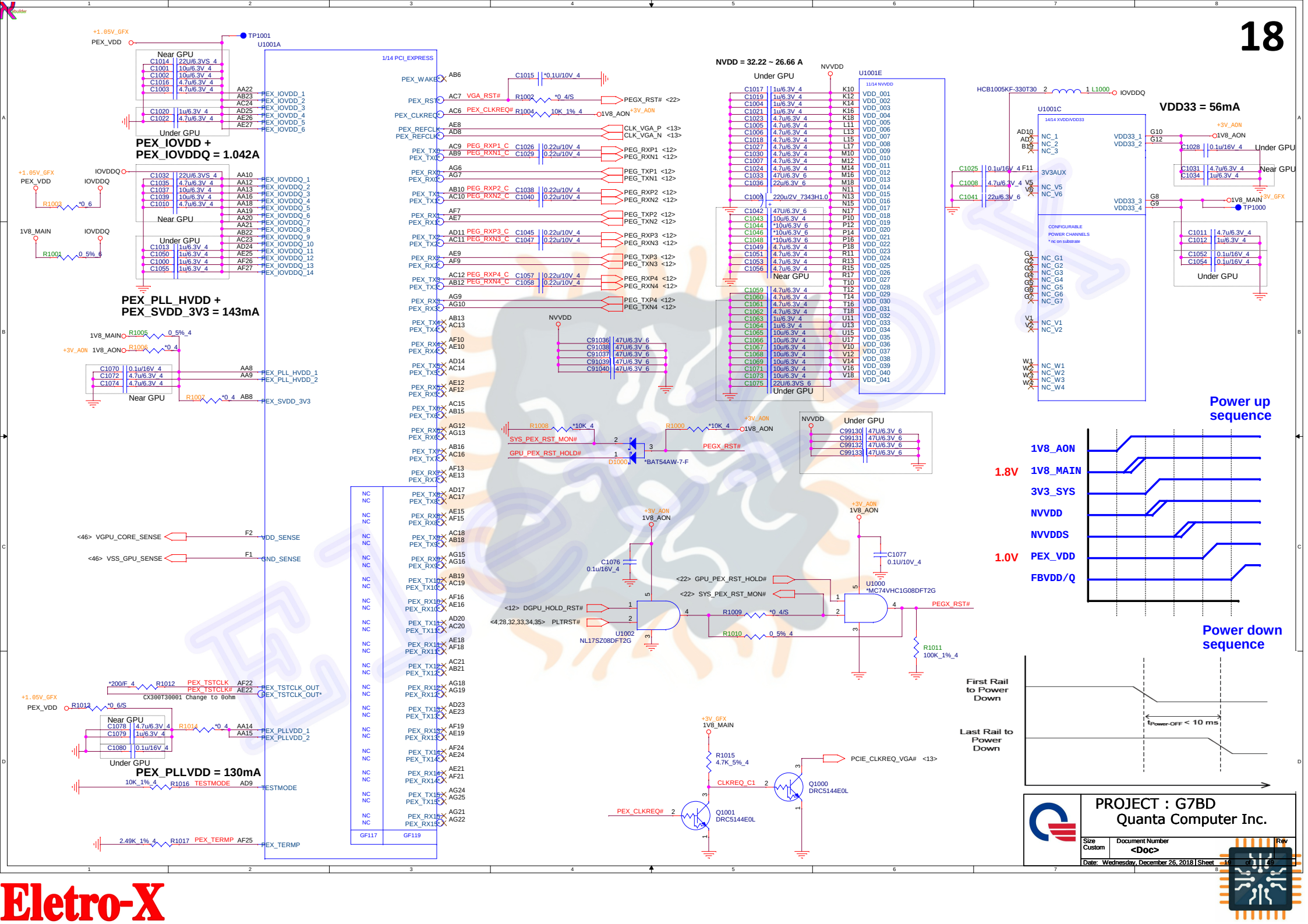
Size	Document Number	Rev
	KBL-U 15/15 XDP&APS *	1A

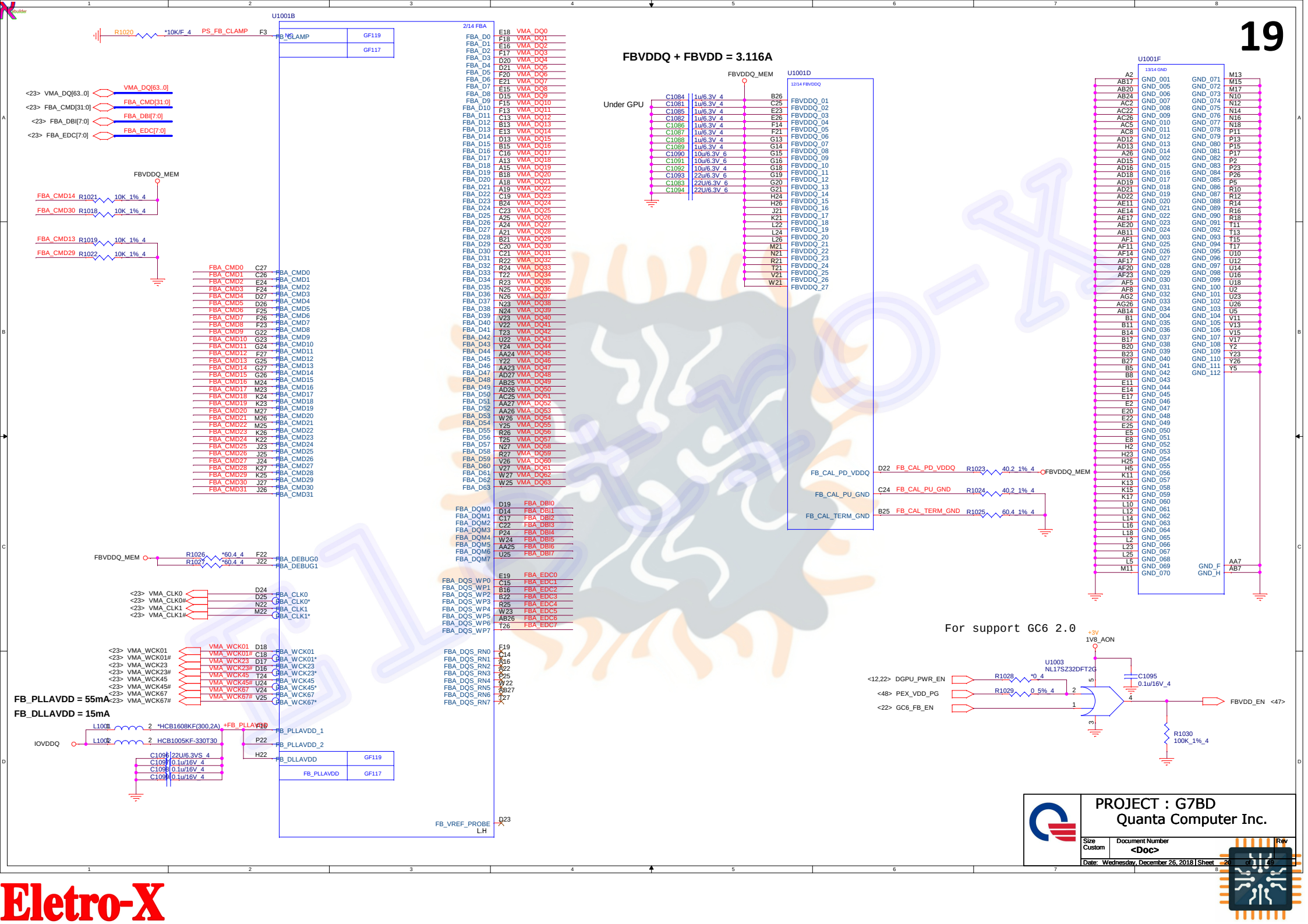
Date: Wednesday, December 26, 2018 | Sheet 16 of 40

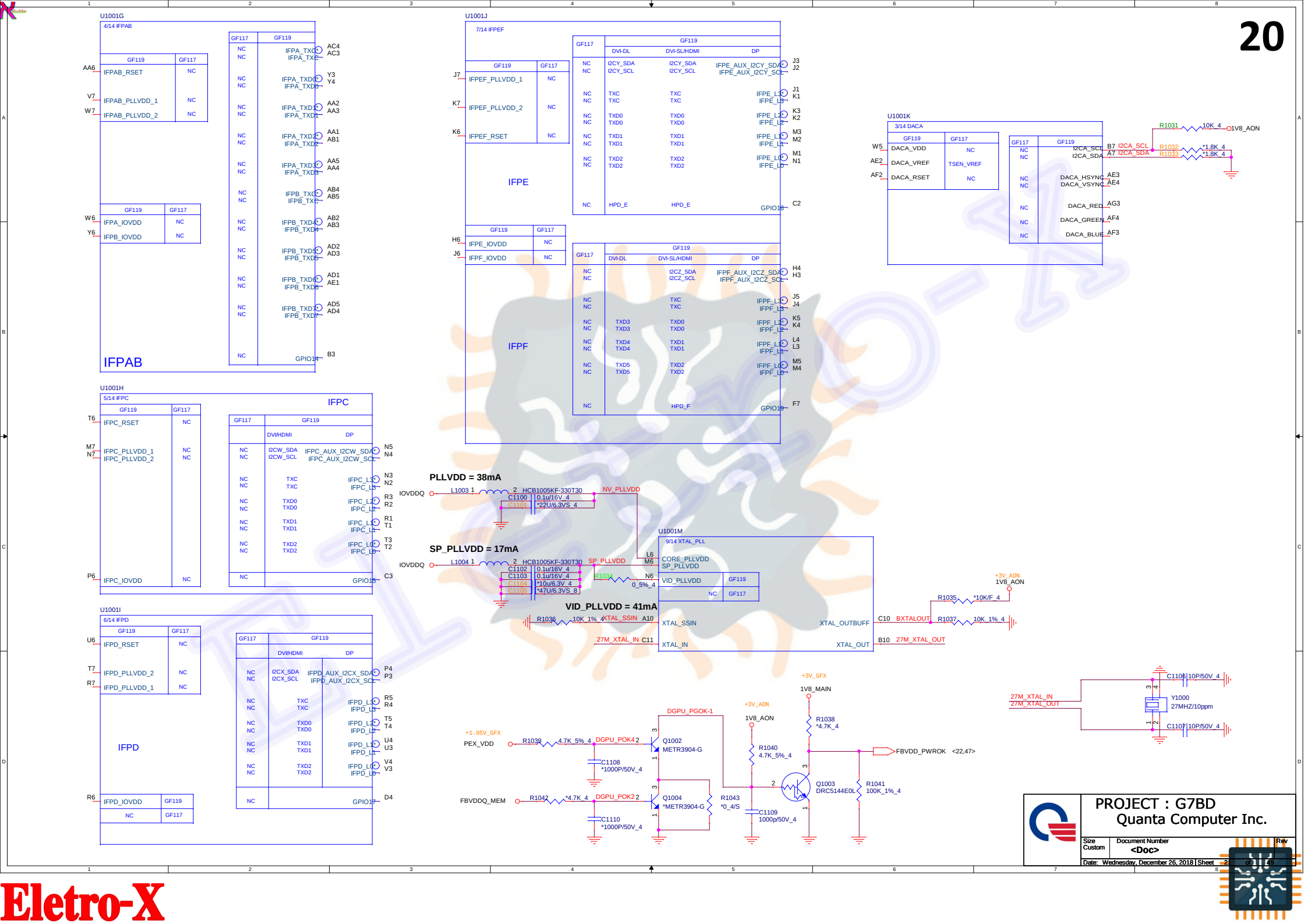

JDIM1A
DDR4 SODIMM 260 PIN (260P)
D4AS0-26010-1P40
JDIM1B
DDR4 SODIMM 260 PIN (260P)
2.48A
Follow reference board
DIMM0 SA0,1,2=LLL
Place these Caps near So-Dimm0.
1uF/10uF 4pcs on each side of connector
VREF DQ0 M1 Solution
PROJECT : G7BD
Quanta Computer Inc.
Size Custom
Document Number
17 -- DDR4 DIMM0-STD(4.0H)
Rev 1A
Date: Wednesday, December 26, 2018 | Sheet 17 of 40


JDIM2A
DDR4 SODIMM 260 PIN (260P)
D4AR0-26010-1P40
JDIM2B
DDR4 SODIMM 260 PIN (260P)
D4AR0-26010-1P40
2.48A
Follow reference board DIMM1 SA0,1,2=LHL
Place these Caps near So-Dimm1.
1uF/10uF 4pcs on each side of connector
VREF DQ1 M1 Solution
PROJECT : G7BD
Quanta Computer Inc.
Size Custom
Document Number
18 -- DDR4 DIMM1-RVS(4.0H)
Rev 1A
Date: Wednesday, December 26, 2018 | Sheet 18 of 40

Eletro-X


PEX_IOVDD + PEX_IOVDDQ = 1.042A
PEX_PLL_HVDD + PEX_SVDD_3V3 = 143mA
PEX_PLLVDD = 130mA
NVDD = 32.22 ~ 26.66 A
VDD33 = 56mA
Power up sequence
1V8_AON
1V8_MAIN
3V3_SYS
NVVDD
NVVDDS
PEX_VDD
FBVDD/Q
1.8V
1.0V
Power down sequence
First Rail to Power Down
Last Rail to Power Down
tPower-OFF < 10 ms
PROJECT : G7BD
Quanta Computer Inc.
Size Custom
Document Number
<Doc>
Rev
Date: Wednesday, December 26, 2018 | Sheet 18 of 40

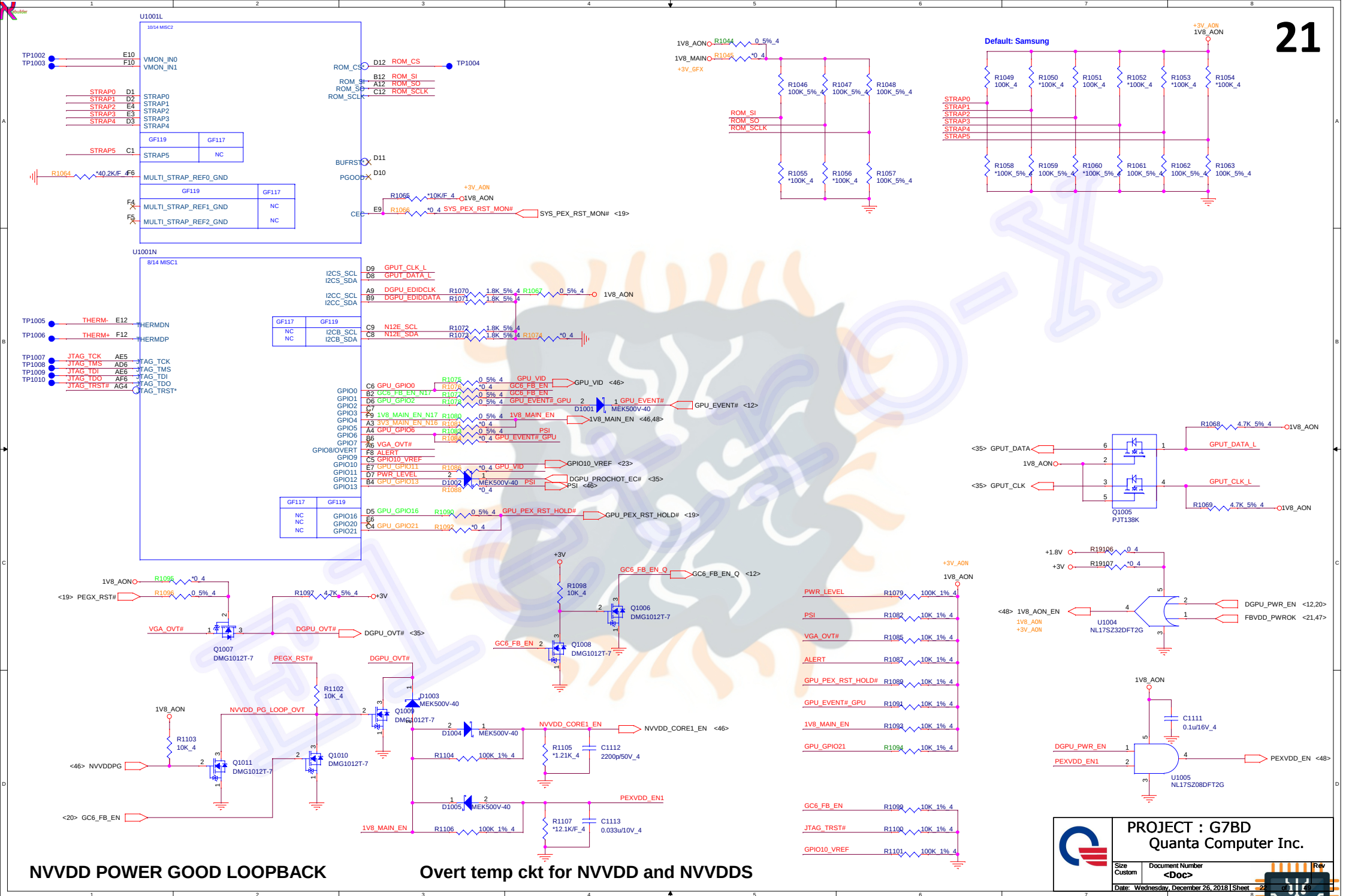

U1001B
2/14 FBA
R1020 *10K/F_4 PS_FB_CLAMP F3
FB_CLAMP
GF119
GF117
<23> VMA_DQ[63..0]
<23> FBA_CMD[31:0]
<23> FBA_DBI[7:0]
<23> FBA_EDC[7:0]
FBVDDQ_MEM
FBA_CMD14 R1021 10K_1%_4
FBA_CMD30 R1018 10K_1%_4
FBA_CMD13 R1019 10K_1%_4
FBA_CMD29 R1022 10K_1%_4
FBVDDQ_MEM R1026 *60.4_4 F22
R1027 *60.4_4 J22
FBA_DEBUG0
FBA_DEBUG1
<23> VMA_CLK0 D24
<23> VMA_CLK0# D25
<23> VMA_CLK1 N22
<23> VMA_CLK1# M22
FBA_CLK0
FBA_CLK0*
FBA_CLK1
FBA_CLK1*
<23> VMA_WCK01 D18
<23> VMA_WCK01# C18
<23> VMA_WCK23 D17
<23> VMA_WCK23# D16
<23> VMA_WCK45 T24
<23> VMA_WCK45# U24
<23> VMA_WCK67 V24
<23> VMA_WCK67# V25
FBA_WCK01
FBA_WCK01*
FBA_WCK23
FBA_WCK23*
FBA_WCK45
FBA_WCK45*
FBA_WCK67
FBA_WCK67*
FB_PLLAVDD = 55mA
FB_DLLAVDD = 15mA
IOVDDQ
L1001 2 *HCB1608KF(300,2A) +FB_PLLAVDD
L1002 2 HCB1005KF-330T30
C1096 22U/6.3VS_4
C1097 0.1u/16V_4
C1098 0.1u/16V_4
C1099 0.1u/16V_4
F16 FB_PLLAVDD_1
P22 FB_PLLAVDD_2
H22 FB_DLLAVDD
FB_PLLAVDD
GF119
GF117
FBA_CMD0 C27
FBA_CMD1 C26
FBA_CMD2 E24
FBA_CMD3 F24
FBA_CMD4 D27
FBA_CMD5 D26
FBA_CMD6 F25
FBA_CMD7 F26
FBA_CMD8 F23
FBA_CMD9 G22
FBA_CMD10 G23
FBA_CMD11 G24
FBA_CMD12 F27
FBA_CMD13 G25
FBA_CMD14 G27
FBA_CMD15 G26
FBA_CMD16 M24
FBA_CMD17 M23
FBA_CMD18 K24
FBA_CMD19 K23
FBA_CMD20 M27
FBA_CMD21 M26
FBA_CMD22 M25
FBA_CMD23 K26
FBA_CMD24 K22
FBA_CMD25 J23
FBA_CMD26 J25
FBA_CMD27 J24
FBA_CMD28 K27
FBA_CMD29 K25
FBA_CMD30 J27
FBA_CMD31 J26
FBA_CMD0
FBA_CMD1
FBA_CMD2
FBA_CMD3
FBA_CMD4
FBA_CMD5
FBA_CMD6
FBA_CMD7
FBA_CMD8
FBA_CMD9
FBA_CMD10
FBA_CMD11
FBA_CMD12
FBA_CMD13
FBA_CMD14
FBA_CMD15
FBA_CMD16
FBA_CMD17
FBA_CMD18
FBA_CMD19
FBA_CMD20
FBA_CMD21
FBA_CMD22
FBA_CMD23
FBA_CMD24
FBA_CMD25
FBA_CMD26
FBA_CMD27
FBA_CMD28
FBA_CMD29
FBA_CMD30
FBA_CMD31
FBA_D0 E18 VMA_DQ0
FBA_D1 F18 VMA_DQ1
FBA_D2 E16 VMA_DQ2
FBA_D3 F17 VMA_DQ3
FBA_D4 D20 VMA_DQ4
FBA_D5 D21 VMA_DQ5
FBA_D6 F20 VMA_DQ6
FBA_D7 E21 VMA_DQ7
FBA_D8 E15 VMA_DQ8
FBA_D9 D15 VMA_DQ9
FBA_D10 F15 VMA_DQ10
FBA_D11 F13 VMA_DQ11
FBA_D12 C13 VMA_DQ12
FBA_D13 B13 VMA_DQ13
FBA_D14 E13 VMA_DQ14
FBA_D15 D13 VMA_DQ15
FBA_D16 B15 VMA_DQ16
FBA_D17 C16 VMA_DQ17
FBA_D18 A13 VMA_DQ18
FBA_D19 A15 VMA_DQ19
FBA_D20 B18 VMA_DQ20
FBA_D21 A18 VMA_DQ21
FBA_D22 A19 VMA_DQ22
FBA_D23 C19 VMA_DQ23
FBA_D24 B24 VMA_DQ24
FBA_D25 C23 VMA_DQ25
FBA_D26 A25 VMA_DQ26
FBA_D27 A24 VMA_DQ27
FBA_D28 A21 VMA_DQ28
FBA_D29 B21 VMA_DQ29
FBA_D30 C20 VMA_DQ30
FBA_D31 C21 VMA_DQ31
FBA_D32 R22 VMA_DQ32
FBA_D33 R24 VMA_DQ33
FBA_D34 T22 VMA_DQ34
FBA_D35 R23 VMA_DQ35
FBA_D36 N25 VMA_DQ36
FBA_D37 N26 VMA_DQ37
FBA_D38 N23 VMA_DQ38
FBA_D39 N24 VMA_DQ39
FBA_D40 V23 VMA_DQ40
FBA_D41 V22 VMA_DQ41
FBA_D42 T23 VMA_DQ42
FBA_D43 U22 VMA_DQ43
FBA_D44 Y24 VMA_DQ44
FBA_D45 AA24 VMA_DQ45
FBA_D46 Y22 VMA_DQ46
FBA_D47 AA23 VMA_DQ47
FBA_D48 AD27 VMA_DQ48
FBA_D49 AB25 VMA_DQ49
FBA_D50 AD26 VMA_DQ50
FBA_D51 AC25 VMA_DQ51
FBA_D52 AA27 VMA_DQ52
FBA_D53 AA26 VMA_DQ53
FBA_D54 W26 VMA_DQ54
FBA_D55 Y25 VMA_DQ55
FBA_D56 R26 VMA_DQ56
FBA_D57 T25 VMA_DQ57
FBA_D58 N27 VMA_DQ58
FBA_D59 R27 VMA_DQ59
FBA_D60 V26 VMA_DQ60
FBA_D61 V27 VMA_DQ61
FBA_D62 W27 VMA_DQ62
FBA_D63 W25 VMA_DQ63
FBA_DQM0 D19 FBA_DBI0
FBA_DQM1 D14 FBA_DBI1
FBA_DQM2 C17 FBA_DBI2
FBA_DQM3 C22 FBA_DBI3
FBA_DQM4 P24 FBA_DBI4
FBA_DQM5 W24 FBA_DBI5
FBA_DQM6 AA25 FBA_DBI6
FBA_DQM7 U25 FBA_DBI7
FBA_DQS_WP0 E19 FBA_EDC0
FBA_DQS_WP1 C15 FBA_EDC1
FBA_DQS_WP2 B16 FBA_EDC2
FBA_DQS_WP3 B22 FBA_EDC3
FBA_DQS_WP4 R25 FBA_EDC4
FBA_DQS_WP5 W23 FBA_EDC5
FBA_DQS_WP6 AB26 FBA_EDC6
FBA_DQS_WP7 T26 FBA_EDC7
FBA_DQS_RN0 F19
FBA_DQS_RN1 C14
FBA_DQS_RN2 A16
FBA_DQS_RN3 A22
FBA_DQS_RN4 C25
FBA_DQS_RN5 W22
FBA_DQS_RN6 AB27
FBA_DQS_RN7 T27
FB_VREF_PROBE D23
L.H
FBA_DBI0
FBA_DBI1
FBA_DBI2
FBA_DBI3
FBA_DBI4
FBA_DBI5
FBA_DBI6
FBA_DBI7
FBA_EDC0
FBA_EDC1
FBA_EDC2
FBA_EDC3
FBA_EDC4
FBA_EDC5
FBA_EDC6
FBA_EDC7
FBVDDQ + FBVDD = 3.116A
Under GPU
FBVDDQ_MEM
U1001D
12/14 FBVDDQ
C1084 1u/6.3V_4
C1081 1u/6.3V_4
C1085 1u/6.3V_4
C1082 1u/6.3V_4
C1086 1u/6.3V_4
C1087 1u/6.3V_4
C1088 1u/6.3V_4
C1089 1u/6.3V_4
C1090 10u/6.3V_6
C1091 10u/6.3V_6
C1092 10u/6.3V_4
C1093 22u/6.3V_6
C1083 22U/6.3V_6
C1094 22U/6.3V_6
B26 FBVDDQ_01
C25 FBVDDQ_02
E23 FBVDDQ_03
E26 FBVDDQ_04
F14 FBVDDQ_05
F21 FBVDDQ_06
G13 FBVDDQ_07
G14 FBVDDQ_08
G15 FBVDDQ_09
G16 FBVDDQ_10
G18 FBVDDQ_11
G19 FBVDDQ_12
G20 FBVDDQ_13
G21 FBVDDQ_14
H24 FBVDDQ_15
H26 FBVDDQ_16
J21 FBVDDQ_17
K21 FBVDDQ_18
L22 FBVDDQ_19
L24 FBVDDQ_20
L26 FBVDDQ_21
M21 FBVDDQ_22
N21 FBVDDQ_23
R21 FBVDDQ_24
T21 FBVDDQ_25
V21 FBVDDQ_26
W21 FBVDDQ_27
FB_CAL_PD_VDDQ D22 FB_CAL_PD_VDDQ R1023 40.2_1%_4 FBVDDQ_MEM
FB_CAL_PU_GND C24 FB_CAL_PU_GND R1024 40.2_1%_4
FB_CAL_TERM_GND B25 FB_CAL_TERM_GND R1025 60.4_1%_4
U1001F
13/14 GND
A2 AB17 AB20 AB24 AC2 AC22 AC26 AC5 AC8 AD12 AD13 A26 AD15 AD16 AD18 AD19 AD21 AD22 AE11 AE14 AE17 AE20 AB11 AF1 AF11 AF14 AF17 AF20 AF23 AF5 AF8 AG2 AG26 AB14 B1 B11 B14 B17 B20 B23 B27 B5 B8 E11 E14 E17 E2 E20 E22 E25 E5 E8 H2 H23 H25 H5 K11 K13 K15 K17 L10 L12 L14 L16 L18 L2 L23 L25 L5 M11
GND_001 GND_005 GND_006 GND_007 GND_008 GND_009 GND_010 GND_011 GND_012 GND_013 GND_014 GND_002 GND_015 GND_016 GND_017 GND_018 GND_019 GND_020 GND_021 GND_022 GND_023 GND_024 GND_003 GND_025 GND_026 GND_027 GND_028 GND_029 GND_030 GND_031 GND_032 GND_033 GND_034 GND_004 GND_035 GND_036 GND_037 GND_038 GND_039 GND_040 GND_041 GND_042 GND_043 GND_044 GND_045 GND_046 GND_047 GND_048 GND_049 GND_050 GND_051 GND_052 GND_053 GND_054 GND_055 GND_056 GND_057 GND_058 GND_059 GND_060 GND_061 GND_062 GND_063 GND_064 GND_065 GND_066 GND_067 GND_068 GND_069 GND_070
GND_071 GND_072 GND_073 GND_074 GND_075 GND_076 GND_077 GND_078 GND_079 GND_080 GND_081 GND_082 GND_083 GND_084 GND_085 GND_086 GND_087 GND_088 GND_089 GND_090 GND_091 GND_092 GND_093 GND_094 GND_095 GND_096 GND_097 GND_098 GND_099 GND_100 GND_101 GND_102 GND_103 GND_104 GND_105 GND_106 GND_107 GND_108 GND_109 GND_110 GND_111 GND_112
M13 M15 M17 N10 N12 N14 N16 N18 P11 P13 P15 P17 P2 P23 P26 P5 R10 R12 R14 R16 R18 T11 T13 T15 T17 U10 U12 U14 U16 U18 U2 U23 U26 U5 V11 V13 V15 V17 Y2 Y23 Y26 Y5
GND_F AA7
GND_H AB7
For support GC6 2.0
+3V
1V8_AON
U1003
NL17SZ32DFT2G
<12,22> DGPU_PWR_EN
<48> PEX_VDD_PG
<22> GC6_FB_EN
R1028 *0_4
R1029 0_5%_4
C1095 0.1u/16V_4
FBVDD_EN <47>
R1030 100K_1%_4
PROJECT : G7BD
Quanta Computer Inc.
Size Custom
Document Number <Doc>
Rev
Date: Wednesday, December 26, 2018 | Sheet 20 of 40



PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	<Doc>	

Date: Wednesday, December 26, 2018 | Sheet 20 of 40


U1001L
10/14 MISC2
U1001N
8/14 MISC1
Default: Samsung
NVVDD POWER GOOD LOOPBACK
Overt temp ckt for NVVDD and NVVDDS
PROJECT : G7BD
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Size Custom
Document Number
<Doc>
Rev
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CHANNEL A: 2G GDDR5

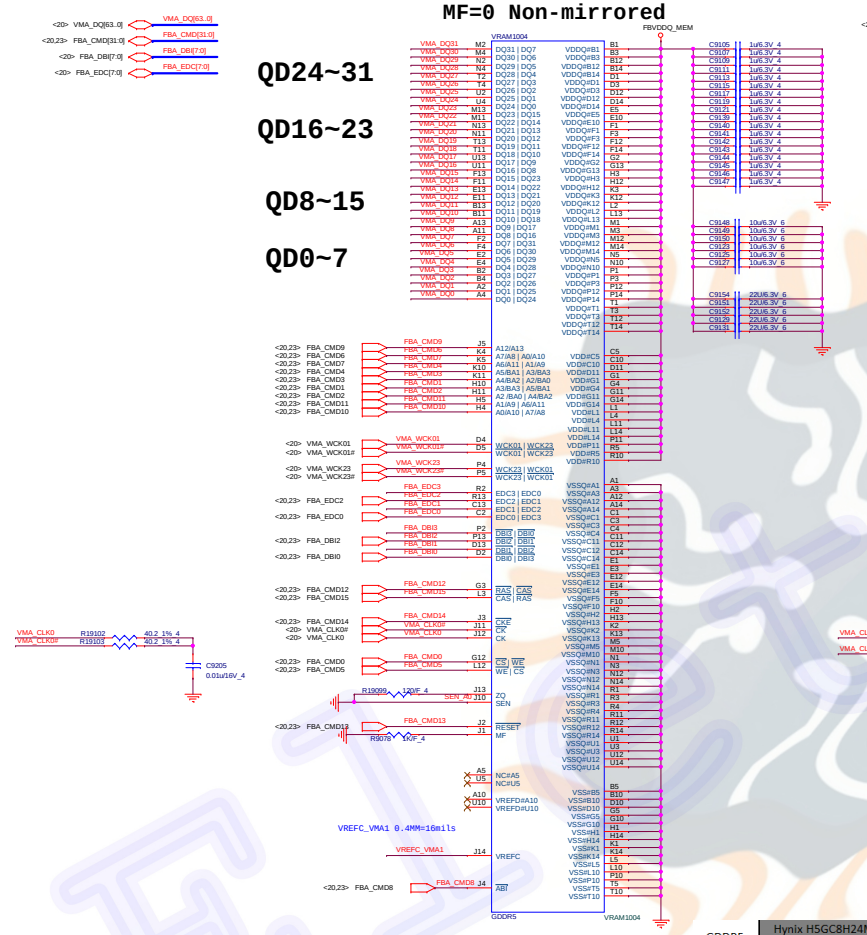
Channel A <0-31> MF=0 Non-mirrored

QD24~31

QD16~23

QD8~15

QD0~7



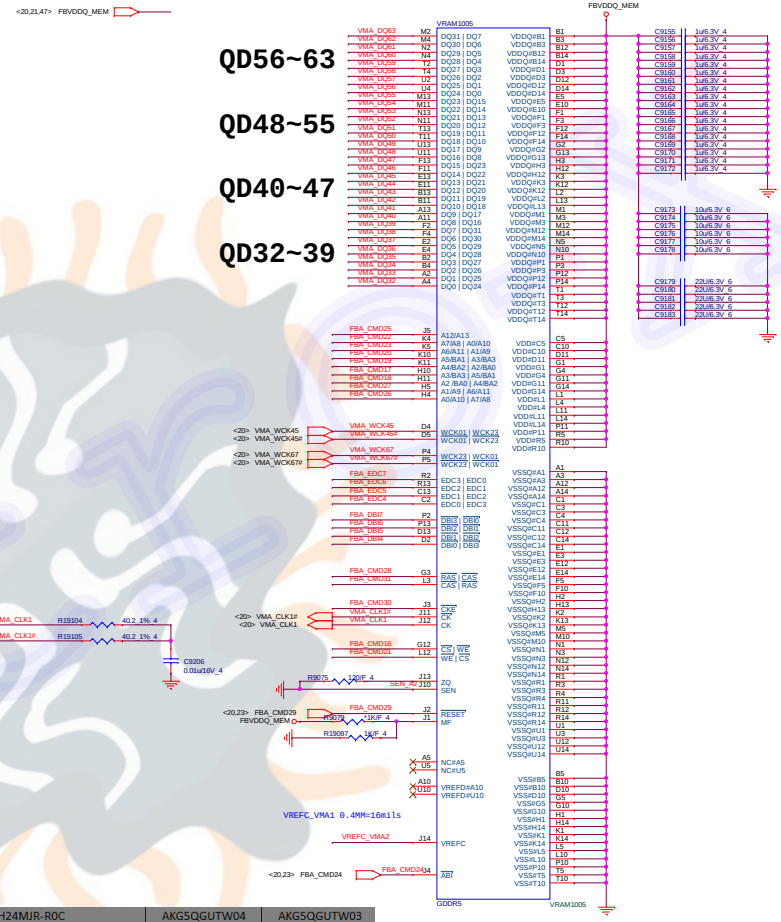
Channel A <32-63> MF=0 Non-mirrored

QD56~63

QD48~55

QD40~47

QD32~39



GDDR5 256 x 32			
	Hynix H5GC8H24MJR-R0C	AKG5QGUTW04	AKG5QGUTW03
	Micron MT51J256M32HF-70:A	AKG5QGUTL07	AKG5QGUTL06
	Samsung K4G80325FB-HC28	AKG5QGDT509	AKG5QGDT508

PROJECT : G7BD
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Size: Custom | Document Number: 23 – VRAM GDDR5 - RANK1 | Rev: 1A

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N16S strap setting

```
ROM_SI    =  VRAM Configuration follow VRAM table
ROM_SO    =  Stuff 4.99K Pull Up      CS24992FB26
ROM_SCLK  =  Stuff 4.99K Pull Down    CS24992FB26

STRAP0    =  Stuff 49.9K Pull Up      CS34992FB18
STRAP1    =  NC
STRAP2    =  NC
STRAP3    =  NC
STRAP4    =  NC
STRAP5    =  NC
```

N17S strap setting

```
ROM_SI    =  Stuff 100K Pull Up    CS41002JB20
ROM_SO    =  Stuff 100K Pull Up    CS41002JB20
ROM_SCLK  =  Stuff 100K Pull Up and 100K Pull Down
                                   CS41002JB20

STRAP0    =  VRAM Configuration follow VRAM table
STRAP1    =  VRAM Configuration follow VRAM table
STRAP2    =  VRAM Configuration follow VRAM table
STRAP3    =  Stuff 100K Pull Down  CS41002JB20
STRAP4    =  Stuff 100K Pull Down  CS41002JB20
STRAP5    =  Stuff 100K Pull Down  CS41002JB20
```

	STRAP2	STRAP1	STRAP0	
Samsung	L	L	L	0x0000
Micron	H	L	L	0x0004
Hynix	H	L	H	0x0005

STRAP[2:0] VRAM Table for N17S-G1 GDDR5 Recommended Memories

RAMCFG [2:0]	DESCRIPTION	Vendor	Vendor P/N	TOP P/N	QB P/N
0x0	GDDR5 512Mx16 7 GHz	Samsung B die	K4G80325FB-HC28	AKG5QGDT509	AKG5QGDT508
0x4	GDDR5 512Mx16 8 GHz	Micron B die	MT51J256M32HF-80:B	AKG5QGUTL24	AKG5QGUTL25
0x5	GDDR5 512Mx16 8 GHz	Hynix A die	H5GC8H24AJR-R2C	AKG5QGUTW15	AKG5QGUTW16

ROM_SI VRAM Table for N16S-GTR GDDR5 Recommended Memories

ROM_SI	DESCRIPTION	Vendor	Vendor P/N	TOP P/N	QB P/N
0x0	GDDR5 512Mx16 7 GHz	Samsung B die	K4G80325FB-HC28	AKG5QGDT509	AKG5QGDT508
0x8	GDDR5 512Mx16 8 GHz	Micron B die	MT51J256M32HF-80:B	AKG5QGUTL24	AKG5QGUTL25
0x9	GDDR5 512Mx16 8 GHz	Hynix A die	H5GC8H24AJR-R2C	AKG5QGUTW15	AKG5QGUTW16

R1055	SAMSUNG	0000	4.99k	CS24992FB26
R1046	Micron	1000	4.99k	CS24992FB26
R1046	HYNIX	1001	10k	CS31002FB26

PROJECT : G7BD
Quanta Computer Inc.

Size: Custom | Document Number: 24 – VRAM CONFIG | Rev: 1A

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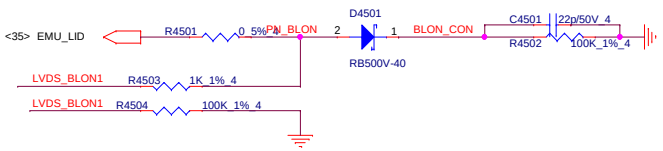
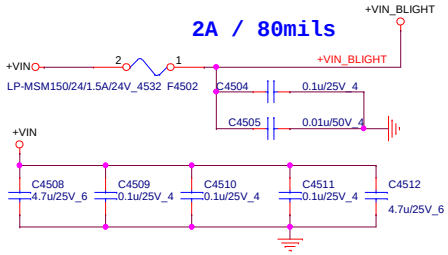
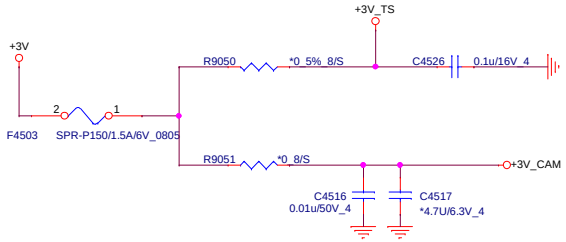
LID Switch

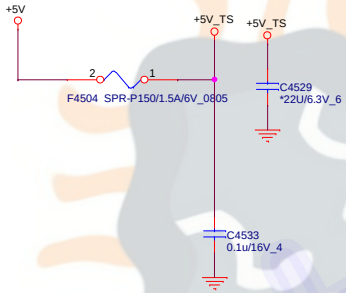


2A / 80mils

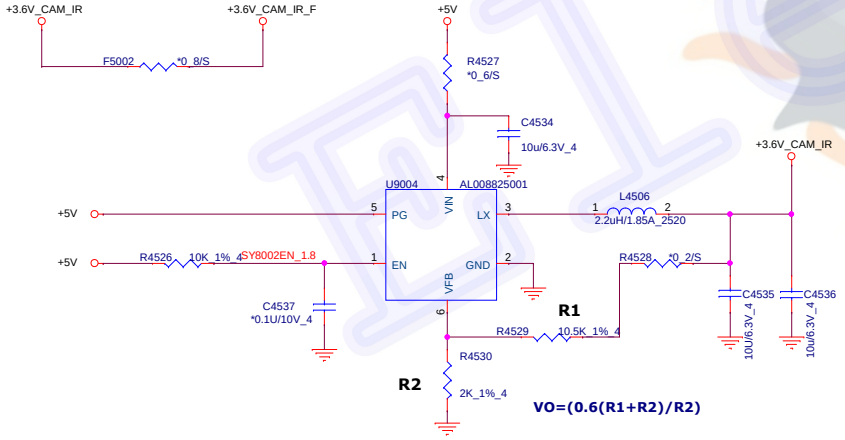


Touch screen



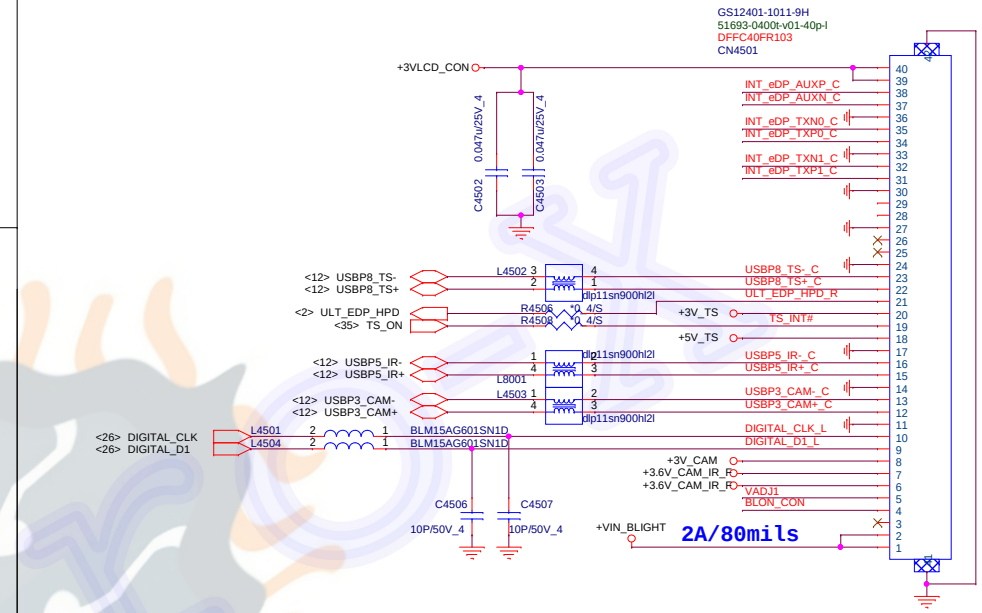


IR CAM

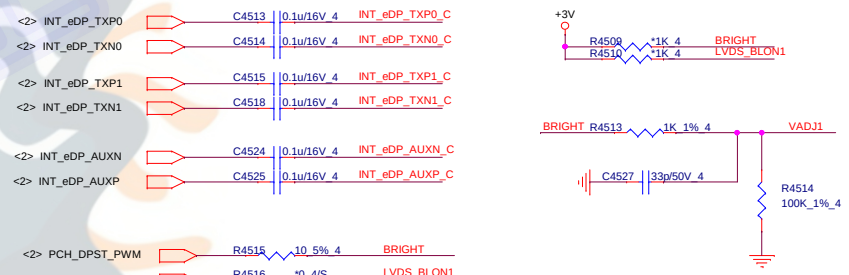


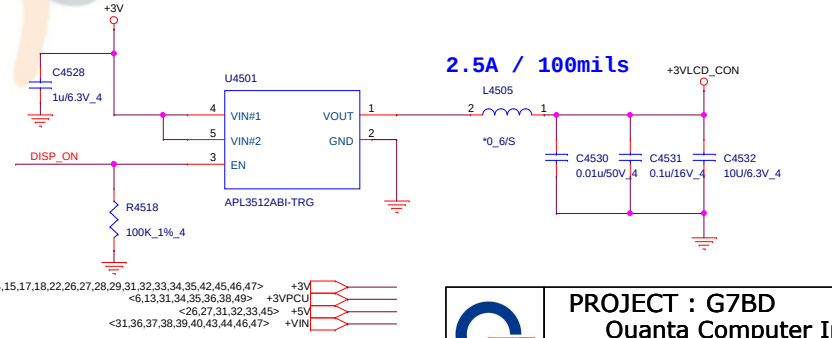
+3.6V +/- 5%
TDC:1A
EDP:2A

eDP Conn.



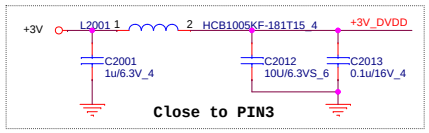
2A/80mils

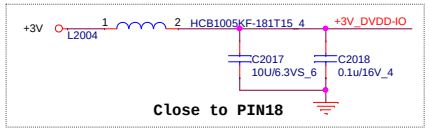


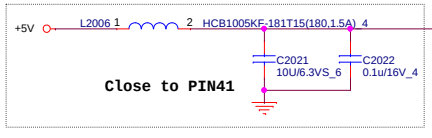


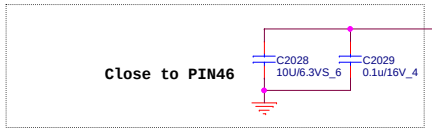
PROJECT : G7BD
Quanta Computer Inc.

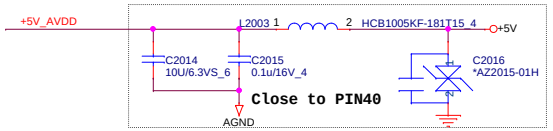
Size	Document Number	Rev
Custom	27 -- eDP CONN/LID/CAM/D-MIC/TS	1A
Date: Wednesday, December 26, 2018	Sheet 25 of 40	

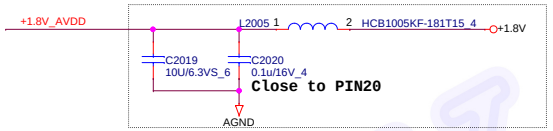


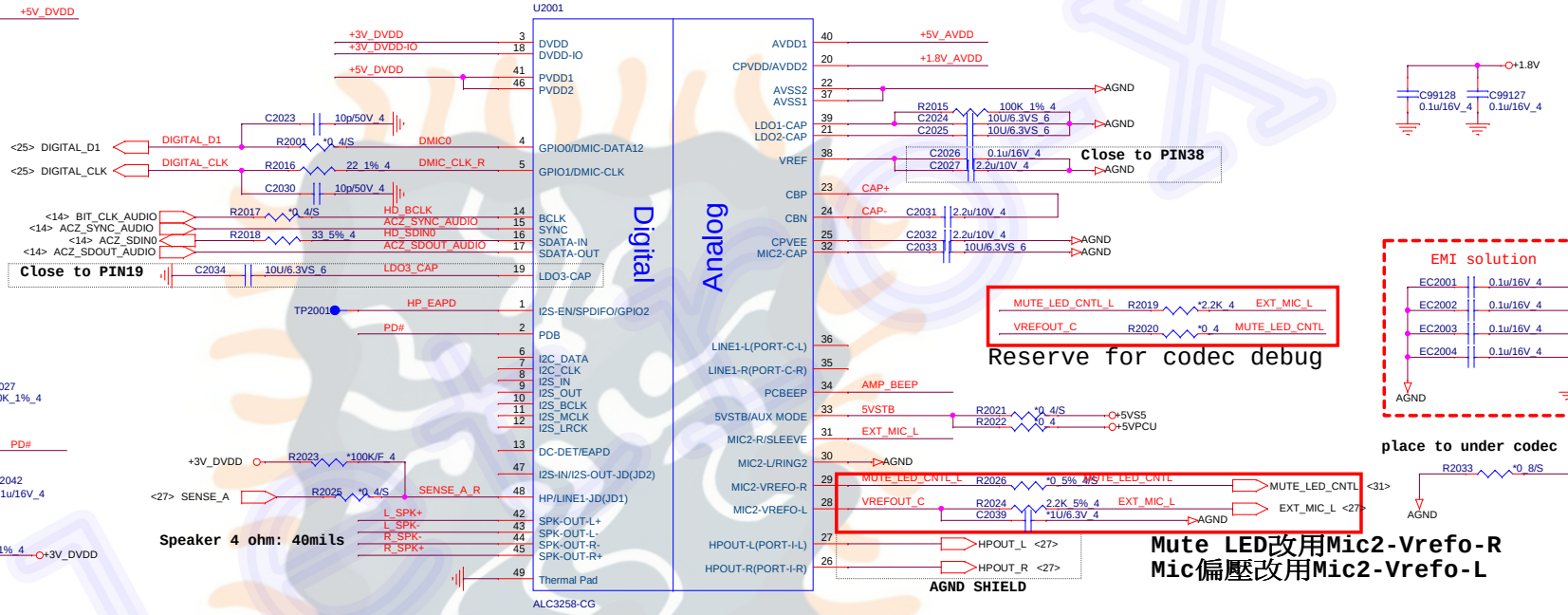




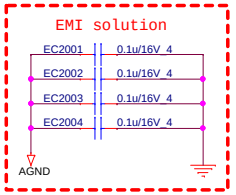


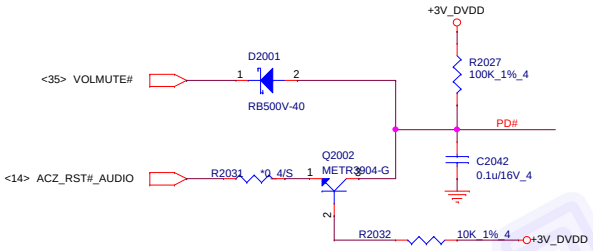


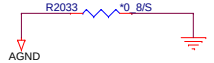




Reserve for codec debug

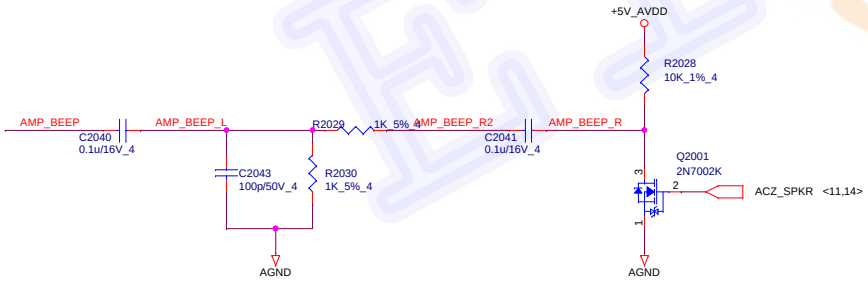






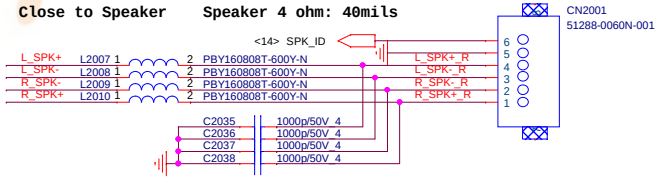
Mute LED改用Mic2-Vrefo-R
Mic偏壓改用Mic2-Vrefo-L

AGND SHIELD



Add cap for RF issue

SPK CONN



SPK_ID for Smart amp feature

PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	28 -- Codec ALC3258-CG	1A
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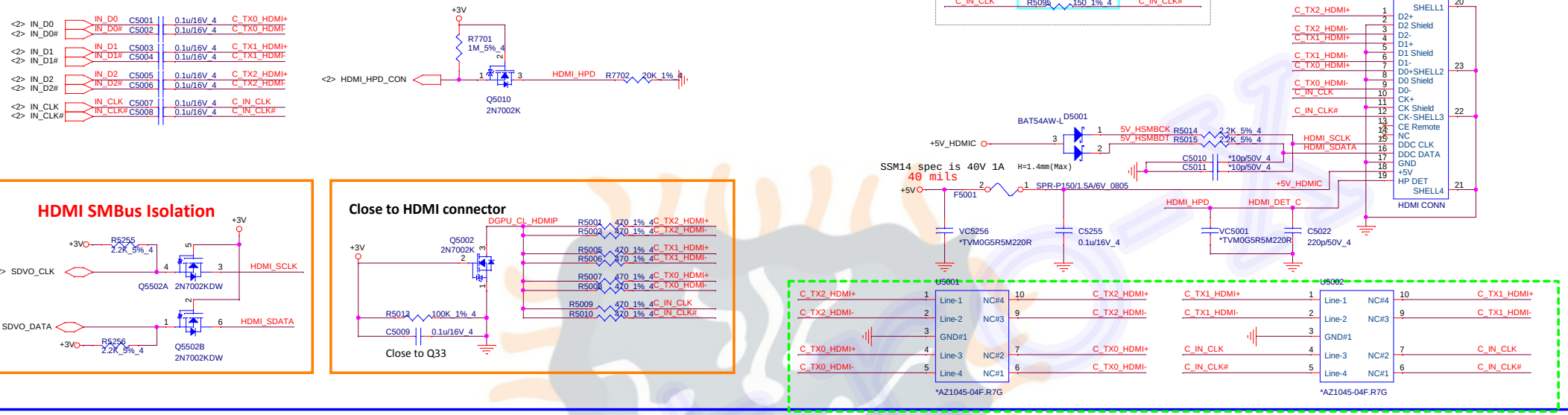
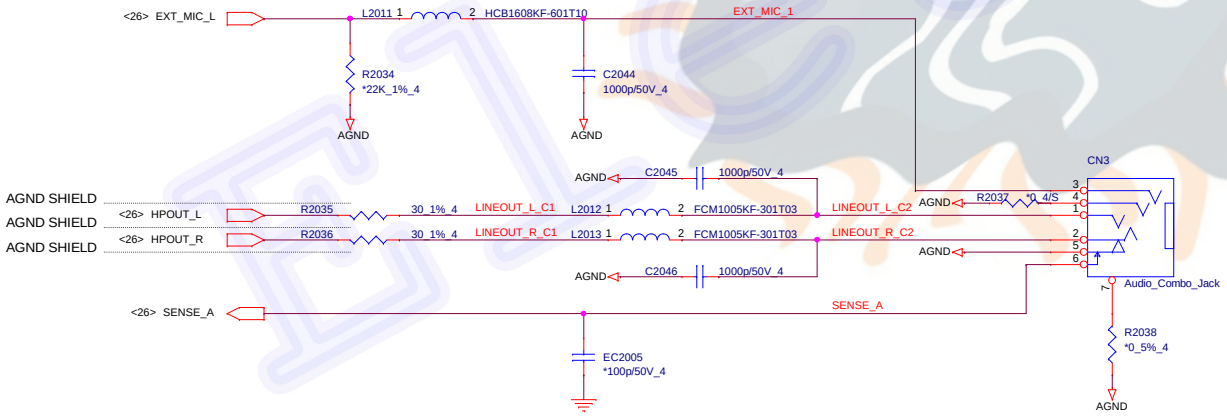
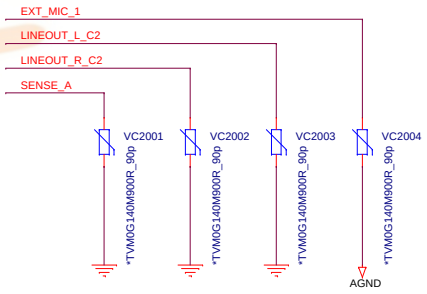
HDMI CONN



Audio Jack



Audio JACK ESD



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Quanta Computer Inc.

Size	Document Number	Rev
Custom	29 – HDMI/AMP HPA02264287JR	1A

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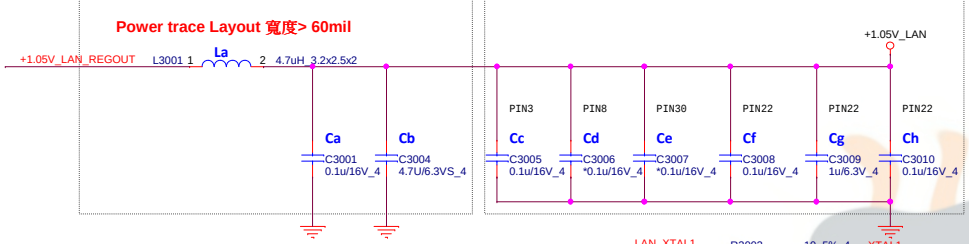
LAN RTL8111HSH-CG

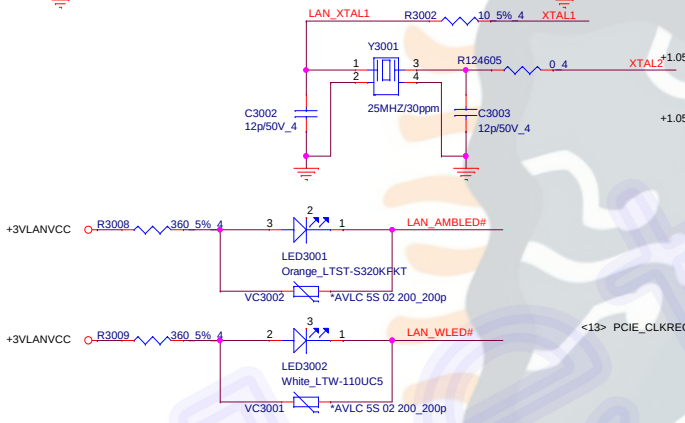
For SWR mode support
RTL8107ESH-CG/RTL8111HSH-CG
Stuff: La, Ca ,Cb

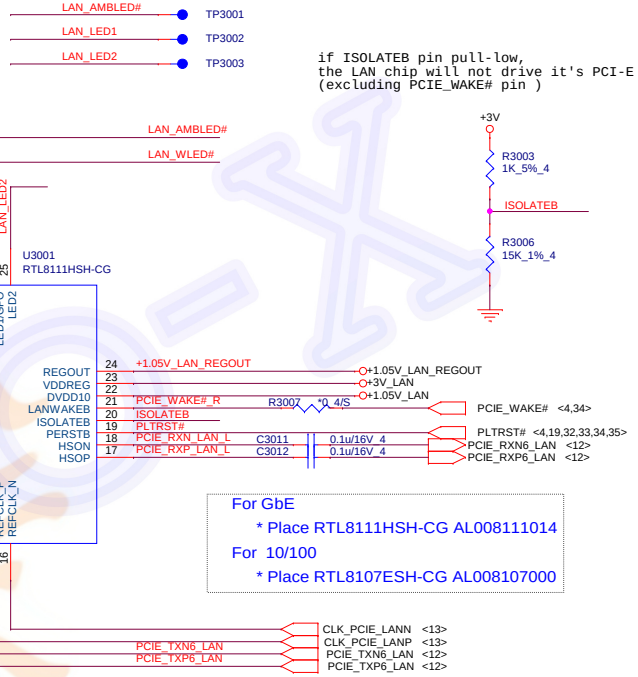
* Place Cc,Cd,Ce,Cf for RTL8107ESH-CG/RTL8111HSH-CG close to each VDD10 pin-- 3, 22, 8 , 30

* Place Cg,Ch for RTL8107ESH-CG/RTL8111HSH-CG close to each VDD10 pin-- 22(reserved)

Power trace Layout 寬度> 60mil





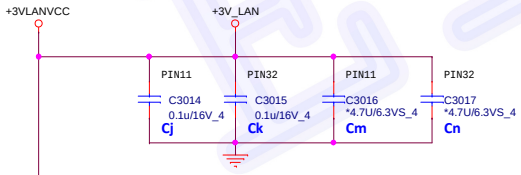


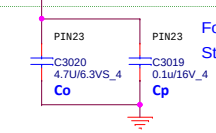
if ISOLATEB pin pull-low,
the LAN chip will not drive it's PCI-E outputs
(excluding PCIE_WAKE# pin)

For GbE
* Place RTL8111HSH-CG AL008111014
For 10/100
* Place RTL8107ESH-CG AL008107000

* Place Cj and Ck, close to each VDD33 pin-- 11, 32 for RTL8107ESH-CG/RTL8111HSH-CG

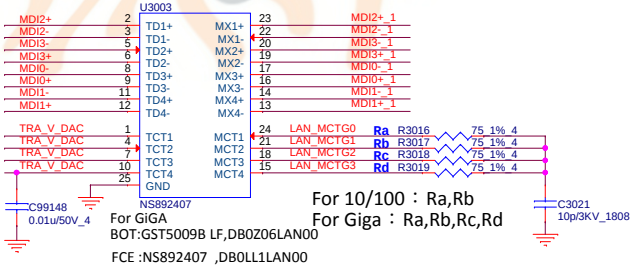
* For surge improvement, place Cm and Cn, close to each VDD33 pin-- 11, 32(optional)



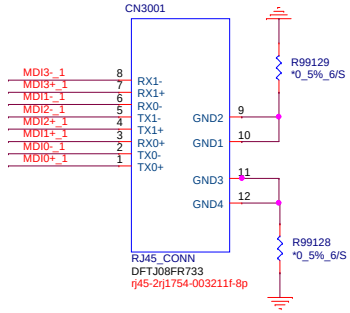


For SWR mode support RTL8107ESH-CG/RTL8111HSH-CG
Stuff Co, Cp

For Giga：Ub



RJ45



PROJECT：G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	30 -- LAN RTL8166EH/RTL8111HSH	1A

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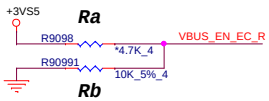
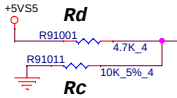
USB TYPEC POWER SWITCH



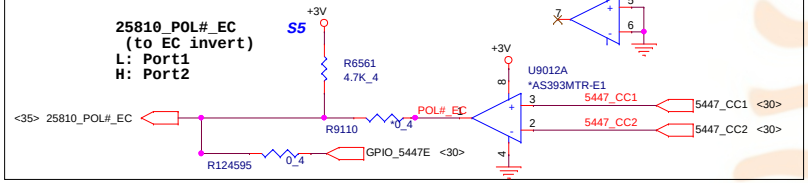
For C_VBUS power switch enable pin	Ra/Rb Note
Low Active	R16/R17 mount
High Active (default)	R17 mount,R16 don't mount

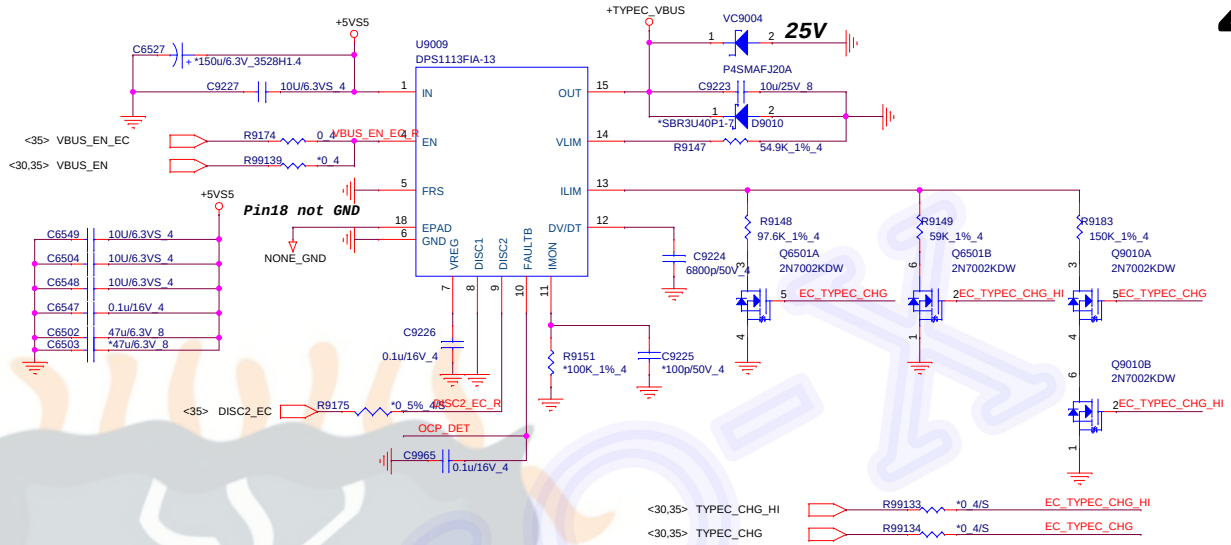


Power switch OCP pin	Rc/Rd Note
Low Active (default)	R18/R19 mount
High Active	R18 mount,R19 don't mount

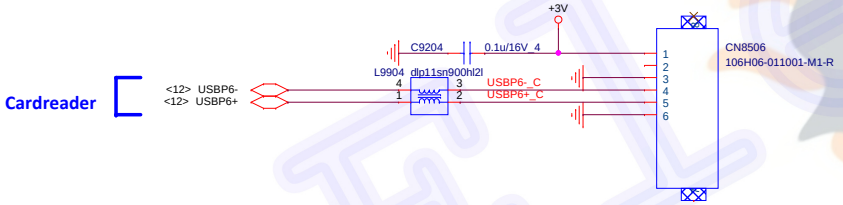
For C_VBUS power switch OCP pin

If can identify port1 or 2

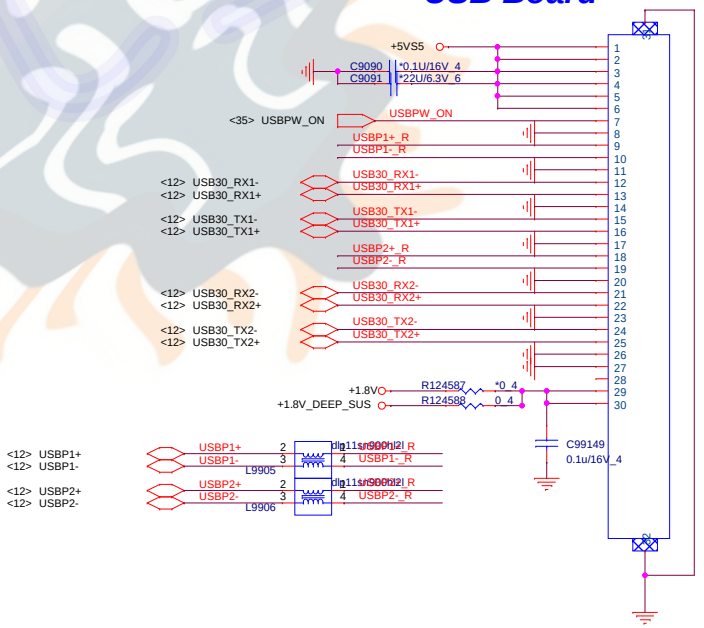




SD Board



USB Board



CN5502
DFFC30FR148
51519-03001-v01-30p-l
51519-0300T-V01

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Quanta Computer Inc.

Size	Document Number	Rev
Custom	31 -- USB3.0/DB	1A

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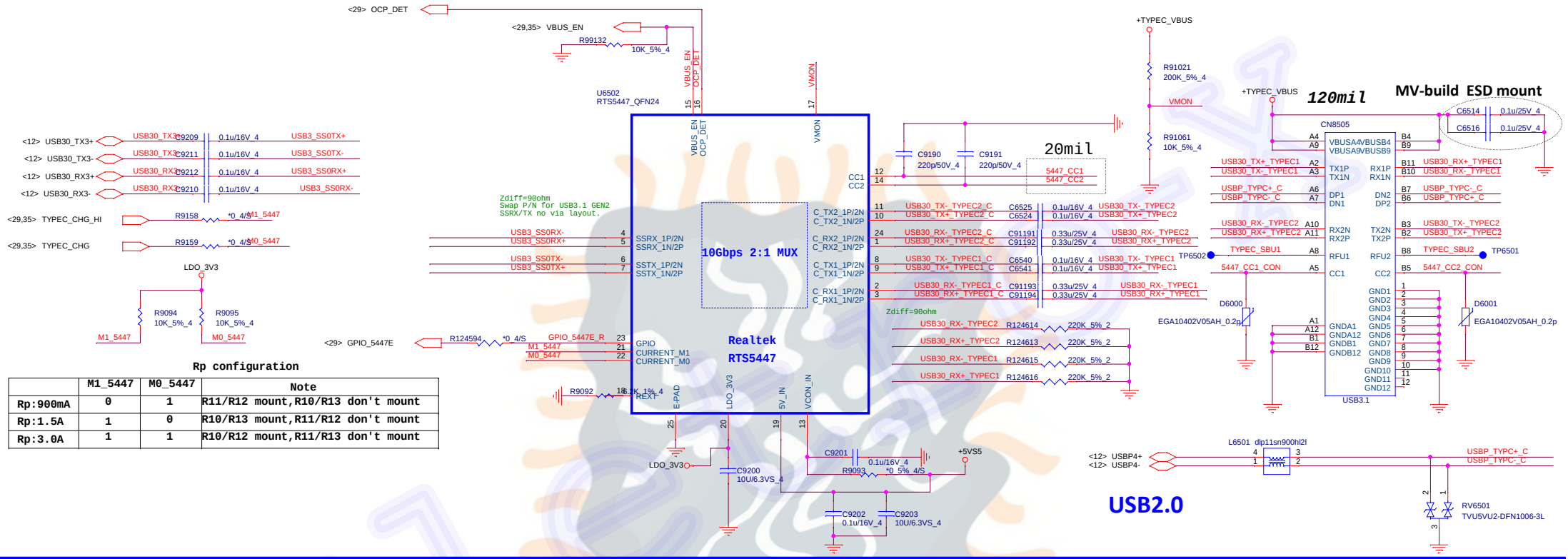
TYPE C MUX RTS5447

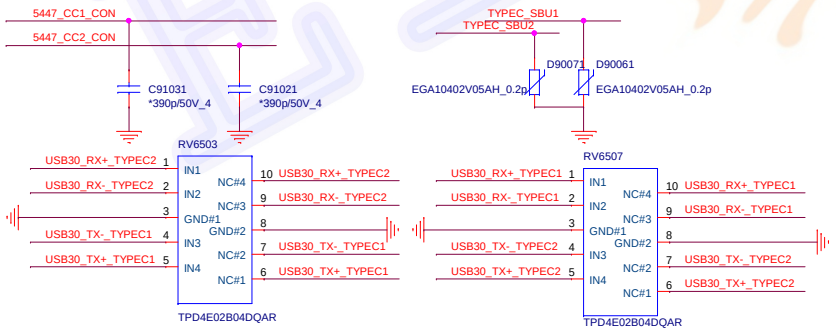
<4,26,29,32,33,37,38,39,40,41,42,43,45,46,47,48> +5VS5
<4,12,13,15,29,32,33,34,35,38,39,40,41,45,48> +3VS5
<4,10,11,12,13,14,15,17,18,22,25,26,27,28,29,31,32,33,34,35,42,45,46,47> +3V
<29> +TYPEC_VBUS



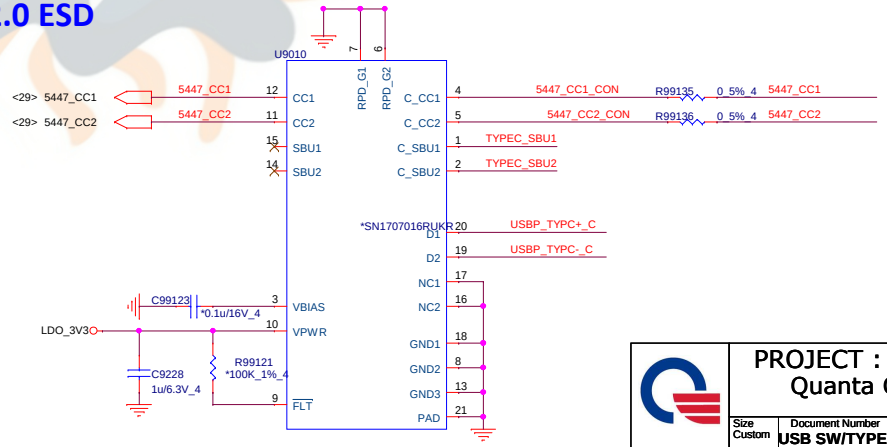
Rp configuration

	M1_5447	M0_5447	Note
Rp:900mA	0	1	R11/R12 mount,R10/R13 don't mount
Rp:1.5A	1	0	R10/R13 mount,R11/R12 mount
Rp:3.0A	1	1	R10/R13 mount,R11/R13 mount

TYPE C USB3.0 ESD



TYPE C USB2.0 ESD



PROJECT : G7BD
Quanta Computer Inc.

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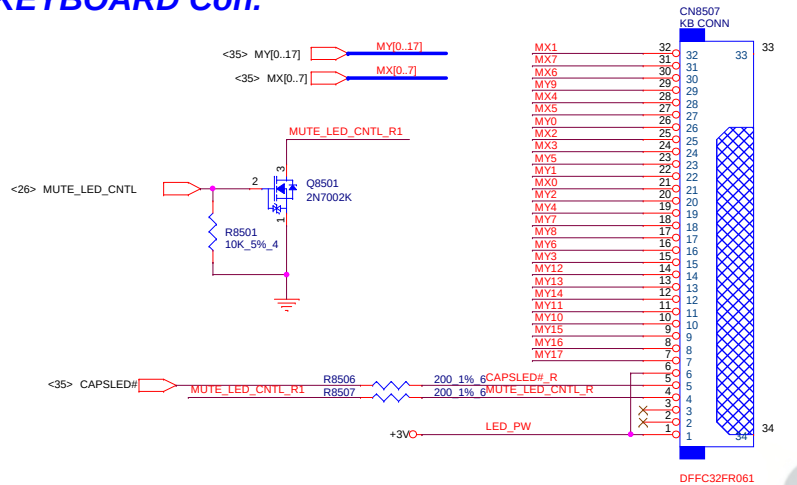
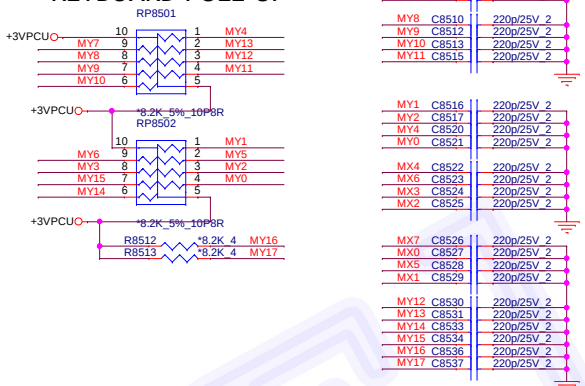
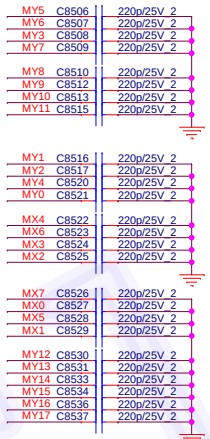
KEYBOARD Con.

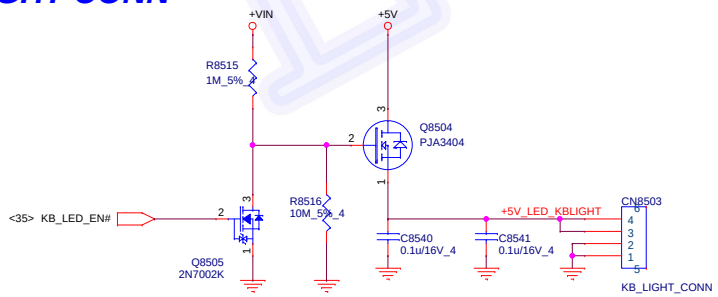


KEYBOARD PULL-UP

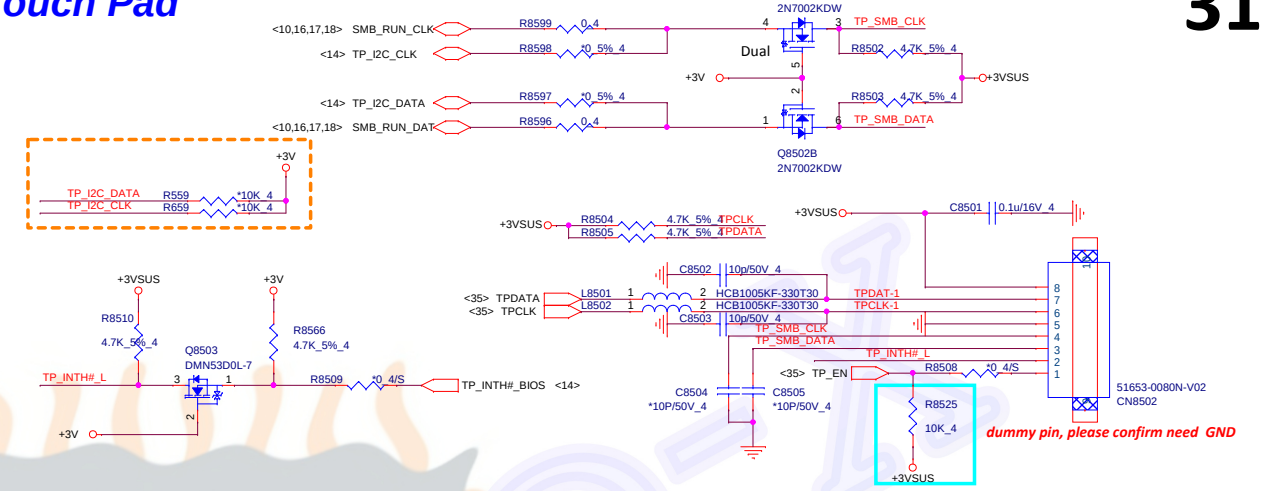




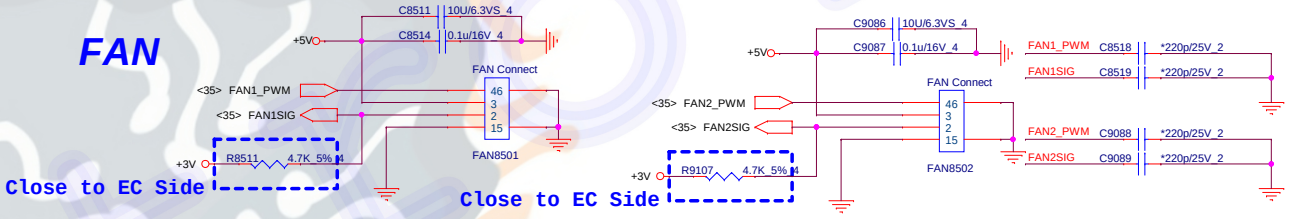
KB LIGHT CONN



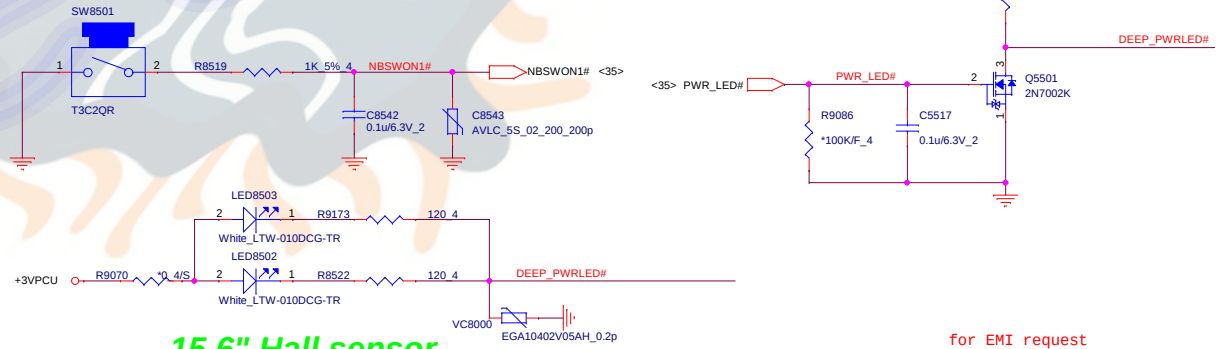
Touch Pad



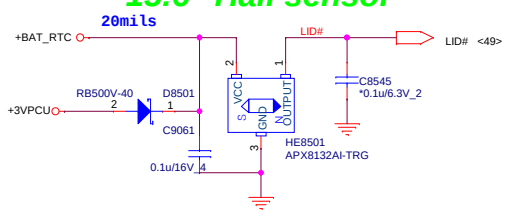
FAN



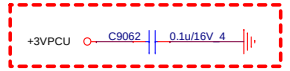
PWR Button & LED & HALL IC



15.6" Hall sensor



for EMI request



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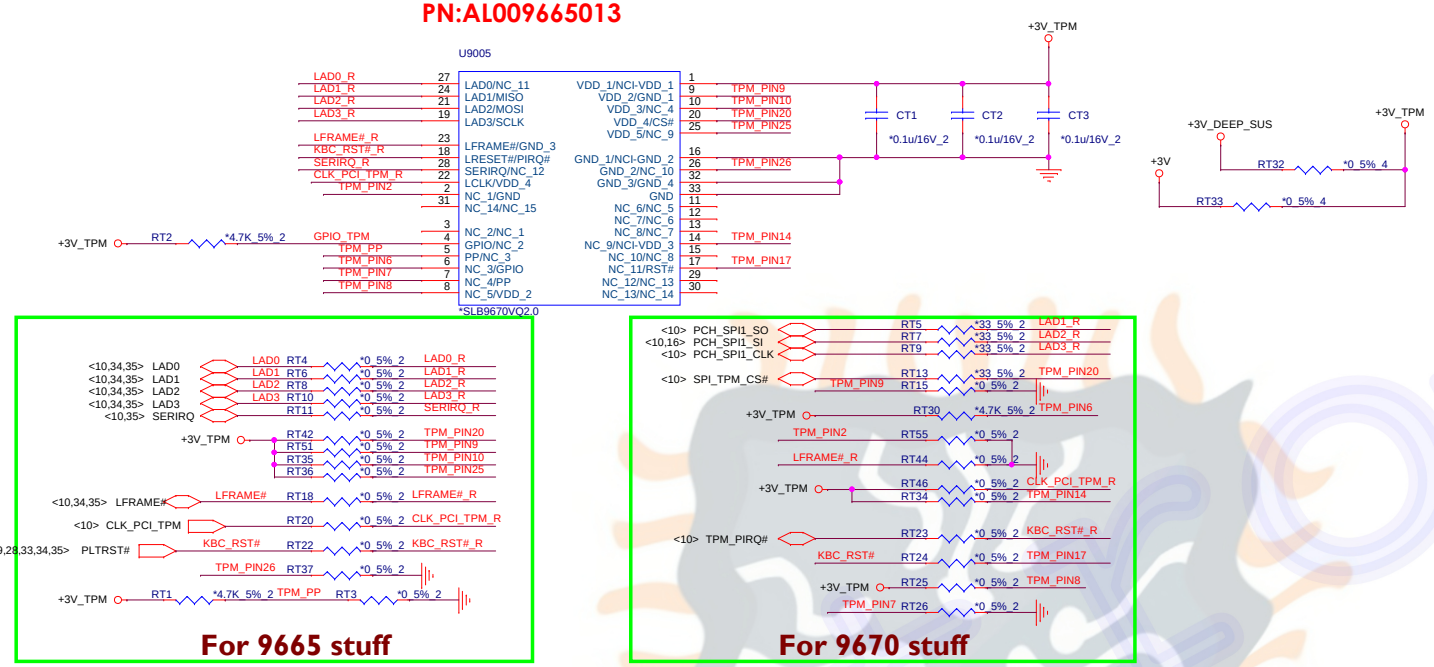
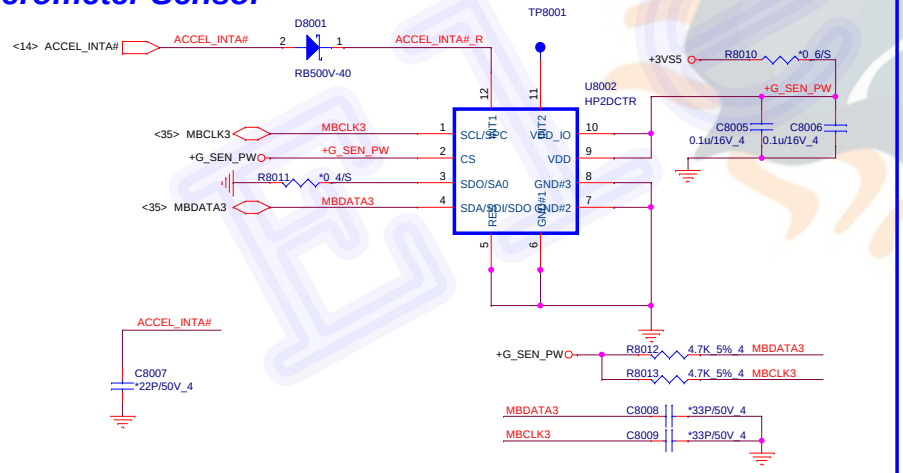
TPM (2.0)

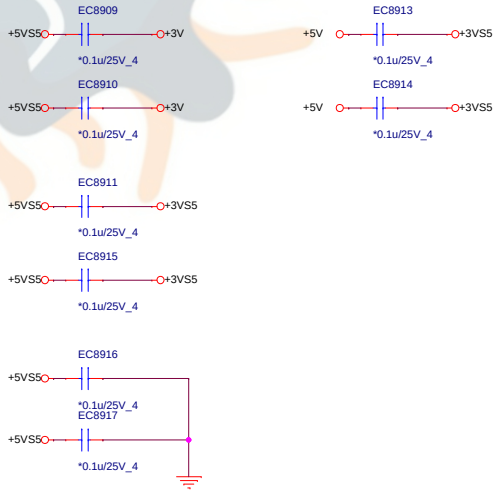
change to FW 5.61
PN:AL009665013



Accelerometer Sensor



EMI Solution



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Quanta Computer Inc.	
Size: Custom	Document Number: 34 – TPM/G-Sensor/IR CAM
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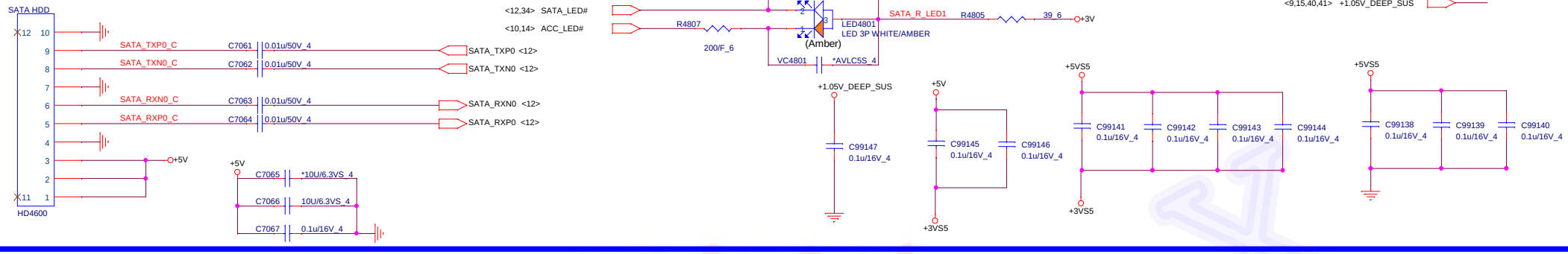
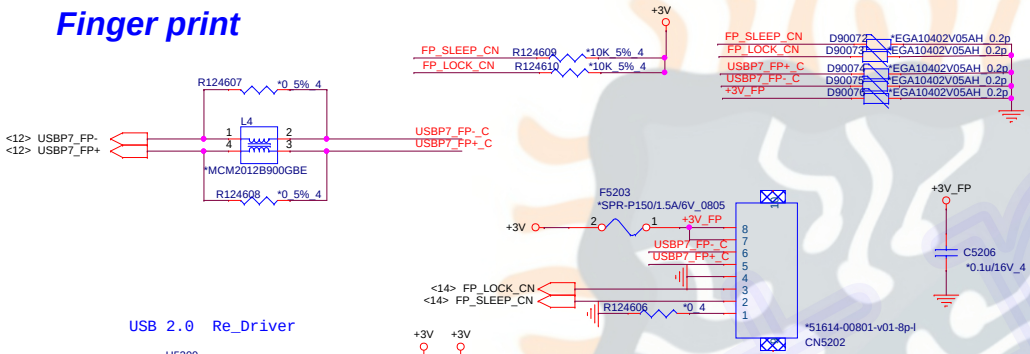
SATA HDD & LED

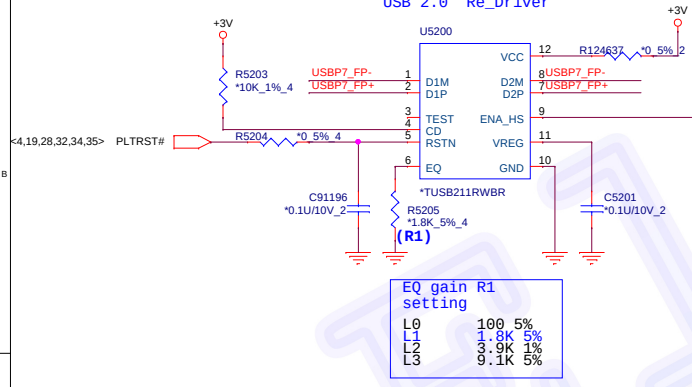
SATA LED



Finger print

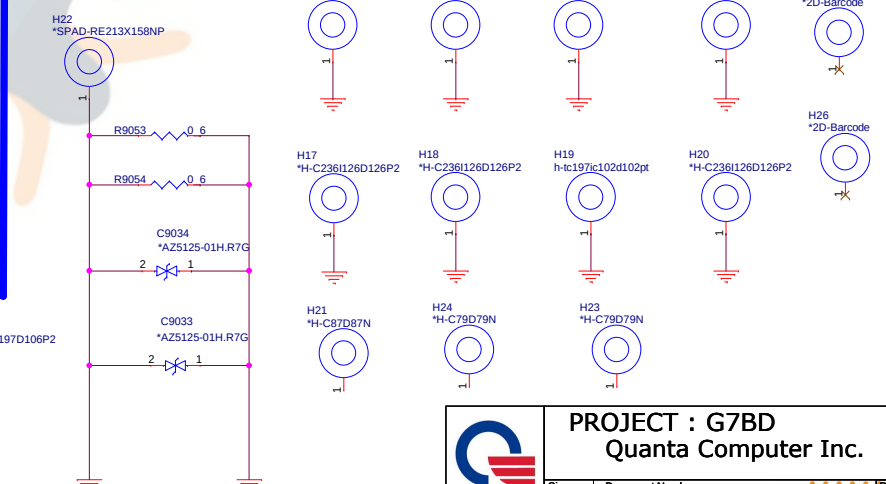


USB 2.0 Re_Driver



EQ gain R1 setting	
L0	100 5%
L1	1.8K 5%
L2	3.9K 1%
L3	9.1K 5%

Hole



H1 *H-C236I106D106P2
H2 *H-K51N4-6
H3 *H-C67X86D67X86N
H4 *H-C236I126D126P2
H8 *H-C87D87N
H5 *H-K51N4-7
H9 *H-TC256IC138D138PT
H10 *H-TC256IC138D138PT
H11 *H-TC256IC138D138PT
H12 *H-TC256IC138D138PT
H6 *H-C236I126D126P2
H7 *H-TC236IC106BC197D106P2

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PCIE/SATA SSD

CN6001
SSD_NGFF_CONN_75P

NGFF

100 mils

+3V_SSD 1.4A

C6004 0.01u/50V_4
C6002 0.1u/16V_4
C6003 4.7u/6.3V_4

R6002 *0_8/S +3V

For PCIe SSD SATA LED

D6541 RB500V-40
R6669 10K_5%_4
SATA_LED# <12,33>

R6003 10K_5%_4 +3V
R6004 *0_4 DEVSLP0 <12>

R6006 *0_4/S PLTRST# <4,19,28,32,33,34,35>
PCIE_CLKREQ_SSD# <13>

<4,10,11,12,13,14,15,17,18,22,25,26,27,28,29,31,32,33,35,42,45,46,47> +3V
<25,26,27,31,32,33,45> +5V
<6,13,31,35,36,38,49> +3VPCU

<12> PCIE_RXN9
<12> PCIE_RXP9
<12> PCIE_TXN9
<12> PCIE_TXP9
<12> PCIE_RXN10
<12> PCIE_RXP10
<12> PCIE_TXN10
<12> PCIE_TXP10
<12> PCIE_RXN11
<12> PCIE_RXP11
<12> PCIE_TXN11
<12> PCIE_TXP11
<12> SATA_RXP2
<12> SATA_RXN2
<12> SATA_TXN2
<12> SATA_TXP2
<13> CLK_PCIE_SSDN
<13> CLK_PCIE_SSDP

SATA_TXN9 C9080 0.22U/10V_4 SATA_TXN9_C
SATA_TXP9 C9081 0.22U/10V_4 SATA_TXP9_C
SATA_TXN10 C9082 0.22U/10V_4 SATA_TXN10_C
SATA_TXP10 C9083 0.22U/10V_4 SATA_TXP10_C
SATA_TXN11 C9056 0.22U/10V_4 SATA_TXN11_C
SATA_TXP11 C9057 0.22U/10V_4 SATA_TXP11_C
R9166 0_4 SATA_RXP2_C
R9168 0_4 SATA_RXN2_C
C6055 0.22U/10V_4 SATA_TXN2_C
C6056 0.22U/10V_4 SATA_TXP2_C

CONFIG3/GND PERN3 PERP3 GND2 PETN3 PETP3 GND3 PERN2 PERP2 CONFIG0/GND PETN2 PETP2 GND4 PERN1 PERP1 GND5 PETN1 PETP1 GND6 SATA RX+/PERN0 SATA RX-/PERP0 GND7 SATA TX-/PETN0 SATA TX+/PETP0 GND8 REFCLKN REFCLKP GND9

3.3Vaux_1 3.3Vaux_2 N/A_2 N/A_3 DAS/DSS#(O)(OD) 3.3Vaux_3 3.3Vaux_4 3.3Vaux_5 3.3Vaux_6 N/A_4 N/A_5 N/A_6 N/A_7 N/A_8 N/A_9 N/A_10 N/A_11 N/A_12 DEVSLP N/A_13 N/A_14 N/A_15 N/A_16 N/A_17 PERST# CLKREQ# PEWAKE#/NC MFGDAT MFGCLK

N/A_1 PEDET(NC-PCIE/GND-SATA) GND10 GND11 GND12 SUSCLK 3.3Vaux_7 3.3Vaux_8 3.3Vaux_9

ngff-apci0050-p002h-75p-km

<12> SATA_RXN1A
<12> SATA_RXP1A
<12> SATA_TXN1A
<12> SATA_TXP1A

C91032 *0.1u/16V_4 SATA_RXN2_C
C91033 *0.1u/16V_4 SATA_RXP2_C
C91034 *0.1u/16V_4 SATA_TXN2_C
C91035 *0.1u/16V_4 SATA_TXP2_C

Colay SATA SSD

+3V
R6008 100K_1%_4 PEDET
R9167 *0_4

M key

only SATA-->GND

<12> GPIO35
R6010 *0_4/S
Q6001 2N7002K

TP6002
R6009 *0_8/S +3V

EC6002 470p/50V_4
EC6003 10u/6.3V_4
EC6004 10u/6.3V_4

Support Wake Function(Reserve)

+3V_WLAN_P

REQ_WLAN# Q6004A *2N7002KDW PCIE_CLKREQ_WLAN# <13,34>
MINICAR_PME# Q6004B *2N7002KDW PCIE_WAKE# <4,28>

R6016 4.7K_5%_4 MINICAR_PME#
R6019 *10K_4 REQ_WLAN#

For EMI Suggestion

CLK_24M_DEBUG R6020 *0_4 EC6001 *33P/50V_4
PCIE_WAKE# EC6005 *220P/50V_4

REQ_WLAN# R124592 0_4 PCIE_CLKREQ_WLAN# <13,34>

100mils
C99125 0.01U/50V_4
C99126 0.1u/16V_4
C99124 10U/6.3VS_4

100mils
C6013 0.01U/50V_4
C6014 0.1u/16V_4
C6015 10U/6.3VS_4

WLAN

+3VPCU
R124593 10K_5%_4
R4451 10K_5%_4
R4454 200K_5%_4
Q20A 2N7002KDW
C4683 0.022u/25V_4
Q20B 2N7002KDW
<14> CNVi_EN#
R4456 75K_1%_4
<35,39,41,45> MAINON

+3VS5
Q19 PJA3415
100mils
+3V_AOCS

+3V_WLAN_P
C4684 *0.1u/6.3V_2

+3V_WLAN_P
R124635 *22_5%_8
+5VPCU
R124634 *1M_5%_4
Q20036A *2N7002KDW
R124636 *2M_1%_4
Q20036B *2N7002KDW

R124618 0_4
U4023 *NL17SZ08DFT2G
CNV_RF_RESET#_L
CNV_RF_RESET# <14>
R4467 *75K_1%_4
R4468 75K_1%_4
+1.8V_DEEP_SUS

R124617 0_4
U4022 *NL17SZ08DFT2G
MODEM_CLKREQ_L
MODEM_CLKREQ <14>
R4465 *71.5K_1%_4
R4466 71.5K_1%_4
+1.8V_DEEP_SUS

CN6002
NFSE0-S6710-TP48

NGFF EKEY

GND#3 USB_D+ USB_D- GND#4 SDIO CLK(O) SDIO CMD(IO) SDIO DAT0(IO) SDIO DAT1(IO) SDIO DAT2(IO) SDIO DAT3(IO) SDIO Wake(I) SDIO Reset

3.3Vaux#1 3.3Vaux#2 LED#1 PCM_CLK PCM_SYNC PCM_IN PCM_OUT LED#2 GND#13 UART Wake UART Rx

<12> USBP10+
<12> USBP10-

<13> CNV_WR_LANE1_DN
<13> CNV_WR_LANE1_DP
<13> CNV_WR_LANE0_DN
<13> CNV_WR_LANE0_DP
<13> CNV_WR_CLK_DN
<13> CNV_WR_CLK_DP

CNV_WR_LANE1_DN
CNV_WR_LANE1_DP
CNV_WR_LANE0_DN
CNV_WR_LANE0_DP
CNV_WR_CLK_DN
CNV_WR_CLK_DP

GND#5 PETp0 PETn0 GND#6 PERp0 PERn0 GND#7 REFCLKP0 REFCLKN0 GND#8 CLKREQ0# PEWake0# GND#9 PETp1 PETn1 GND#10 PERp1 PERn1 GND#11 Reserved1 Reserved2 GND#12

UART Tx UART RTS UART CTS Clink RESET CLink DATA CLink CLK COEX3 COEX2 COEX1 SUSCLK(32KHz) PERST# W_DISABLE2# W_DISABLE1# NFC_I2C_SM_DATA NFC_I2C_SM_CLK NFC_I2C_IRQ GPIO0_NFC_RESET# UIM_SWP/PERST1# UIM_POWER_SNK UIM_POWER_SRC 3.3Vaux#3 3.3Vaux#4

<12> PCIE_TXP5_WLAN
<12> PCIE_TXN5_WLAN
<12> PCIE_RXP5_WLAN
<12> PCIE_RXN5_WLAN
<13> CLK_PCIE_WLANP
<13> CLK_PCIE_WLANN

REQ_WLAN#
MINICAR_PME#

<13> CNV_WT_LANE1_DN
<13> CNV_WT_LANE1_DP
<13> CNV_WT_LANE0_DN
<13> CNV_WT_LANE0_DP
<13> CNV_WT_CLK_DN
<13> CNV_WT_CLK_DP

CNV_WT_LANE1_DN
CNV_WT_LANE1_DP
CNV_WT_LANE0_DN
CNV_WT_LANE0_DP
CNV_WT_CLK_DN
CNV_WT_CLK_DP

R6013 4.7K_5%_4 +3V_WLAN_P
WLAN_LED# R6014 *0_4/S
CNV_RF_RESET#_L
MODEM_CLKREQ_L
CNV_BRI_RSP_L R99161 22/F_4 CNV_BRI_RSP <14>

+1.8V_DEEP_SUS
R124589 20K_1%_4 CNV_BRI_RSP
R124590 20K_1%_4 CNV_RGI_RSP
R124598 *20K_1%_4 CNV_BRI_DT_L

CNV_RGI_DT_L R99160 33.2_1%_4 CNV_RGI_DT <14>
CNV_RGI_RSP_L R99162 22/F_4 CNV_RGI_RSP <14>
CNV_BRI_DT_L R99163 33.2_1%_4 CNV_BRI_DT <14>

+1.8V_DEEP_SUS
R124575 20K_1%_4 CNV_RGI_DT_L

SUSCLK_32KHZ R99164 *0_4/S SUSCLK_32K <13>
PLTRST# <4,19,28,32,33,34,35>
INT_BT_OFF#
INT_RF_OFF#
R6017 10K_5%_4
R6018 10K_5%_4 +3V_WLAN_P
LAD0_R R124601 0_4 LAD0 <10,32,35>
CLK_24M_DEBUG_R R124602 0_4 CLK_24M_DEBUG <10>
LFRAME#_R R124603 0_4 LFRAME# <10,32,35>
PULSAR_38P4M_REFCLK <13>
LAD1 LAD1 <10,32,35>
LAD2 LAD2 <10,32,35>
LAD3 LAD3 <10,32,35>

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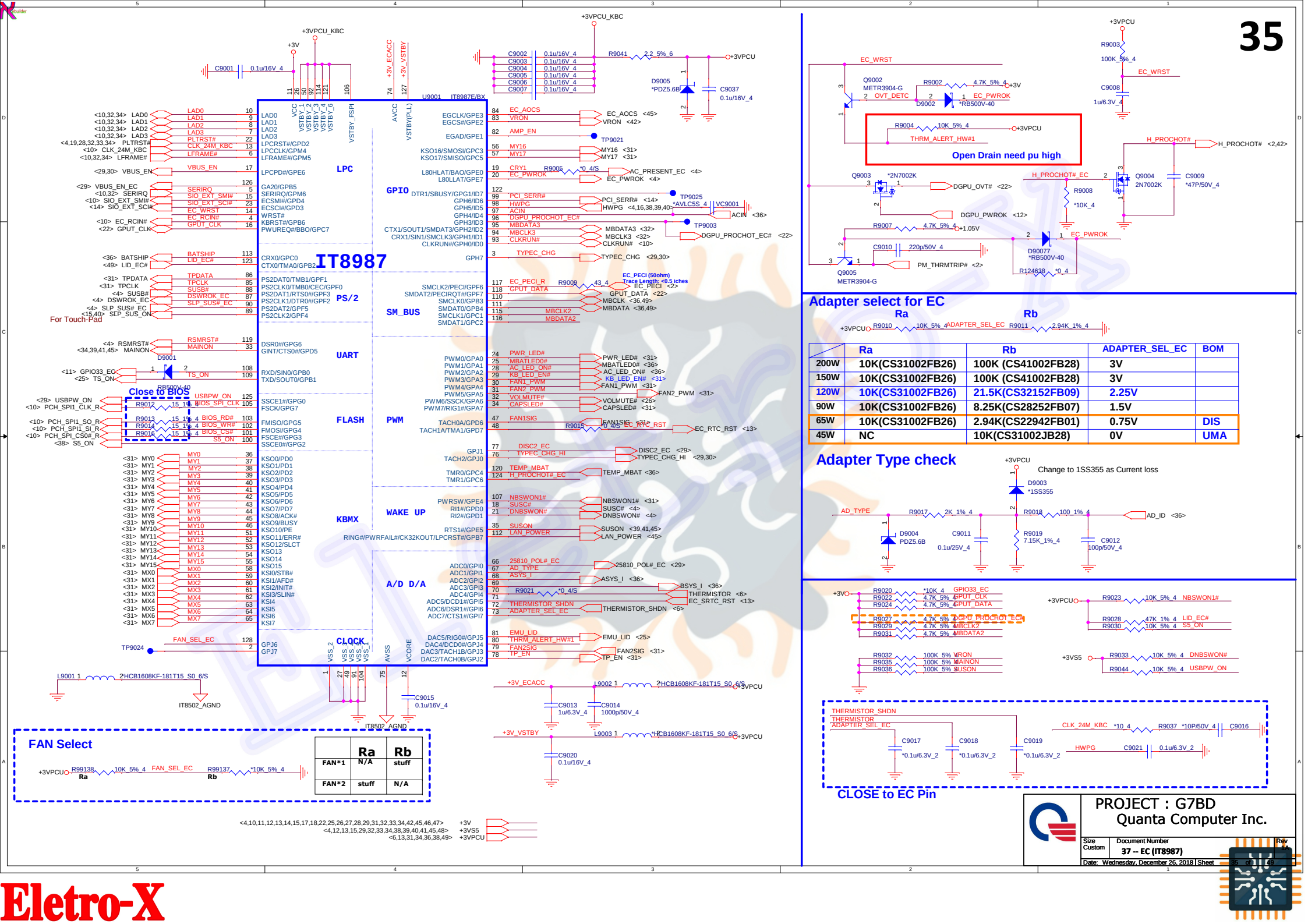

Adapter select for EC

	Ra	Rb	ADAPTER_SEL_EC	BOM
200W	10K(CS31002FB26)	100K (CS41002FB28)	3V	
150W	10K(CS31002FB26)	100K (CS41002FB28)	3V	
120W	10K(CS31002FB26)	21.5K(CS32152FB09)	2.25V	
90W	10K(CS31002FB26)	8.25K(CS28252FB07)	1.5V	
65W	10K(CS31002FB26)	2.94K(CS22942FB01)	0.75V	DIS
45W	NC	10K(CS31002JB28)	0V	UMA

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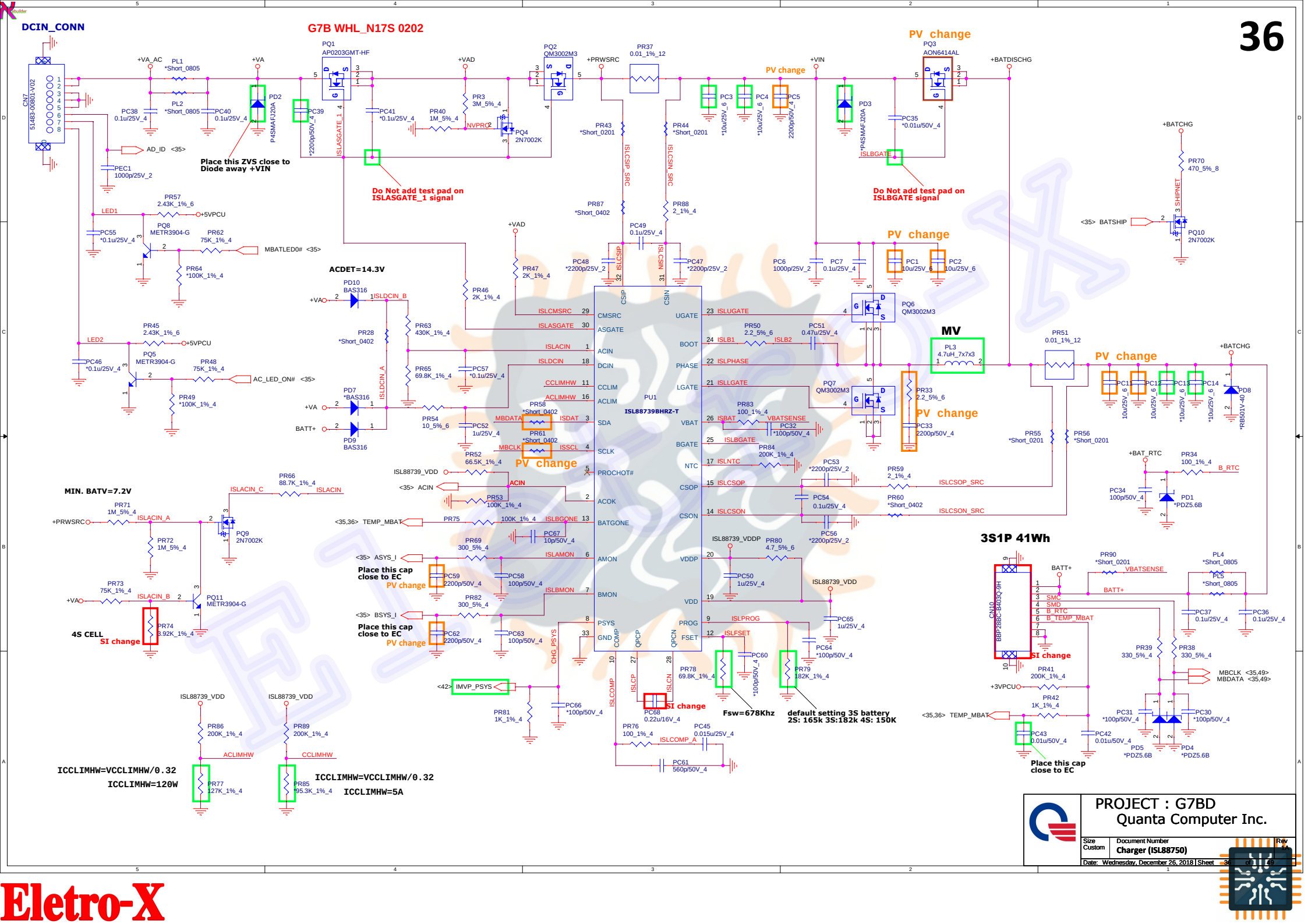
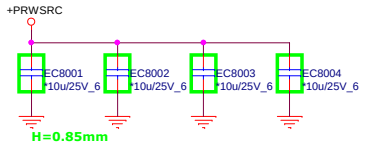
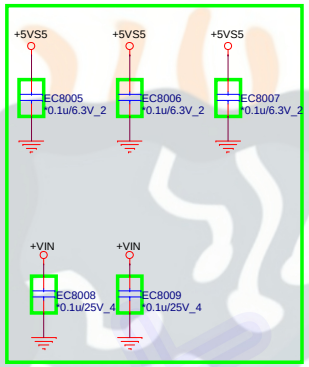

DCIN_CONN
G7B WHL_N17S 0202
PV change
MV
3S1P 41Wh
ACDET=14.3V
MIN. BATV=7.2V
4S CELL
SI change
Place this ZVS close to Diode away +VIN
Do Not add test pad on ISLASGATE_1 signal
Do Not add test pad on ISLBGATE signal
Place this cap close to EC
ISL88739BHRZ-T
PU1
PROJECT : G7BD
Quanta Computer Inc.
Charger (ISL88750)
Wednesday, December 26, 2018

Acoustic Solution



EMI suggestion to reserve



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DC/DC +3VS5/+5VS5

+VIN <25,31,36,37,39,40,43,44,46,47>
+3VS5 <4,12,13,15,29,32,33,34,35,39,40,41,45,48>
+5VS5 <4,26,29,30,32,33,37,39,40,41,42,43,45,46,47,48>
+3VPCU <6,13,31,34,35,36,49>
+5VPCU <26,34,36,45,48>

Do Not add test pad on LDO pin

PV change

+3.3 Volt +/- 5%
TDC:6A
EDP:9A

+5 Volt +/- 5%
TDC:7A
EDP:9A

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Quanta Computer Inc.

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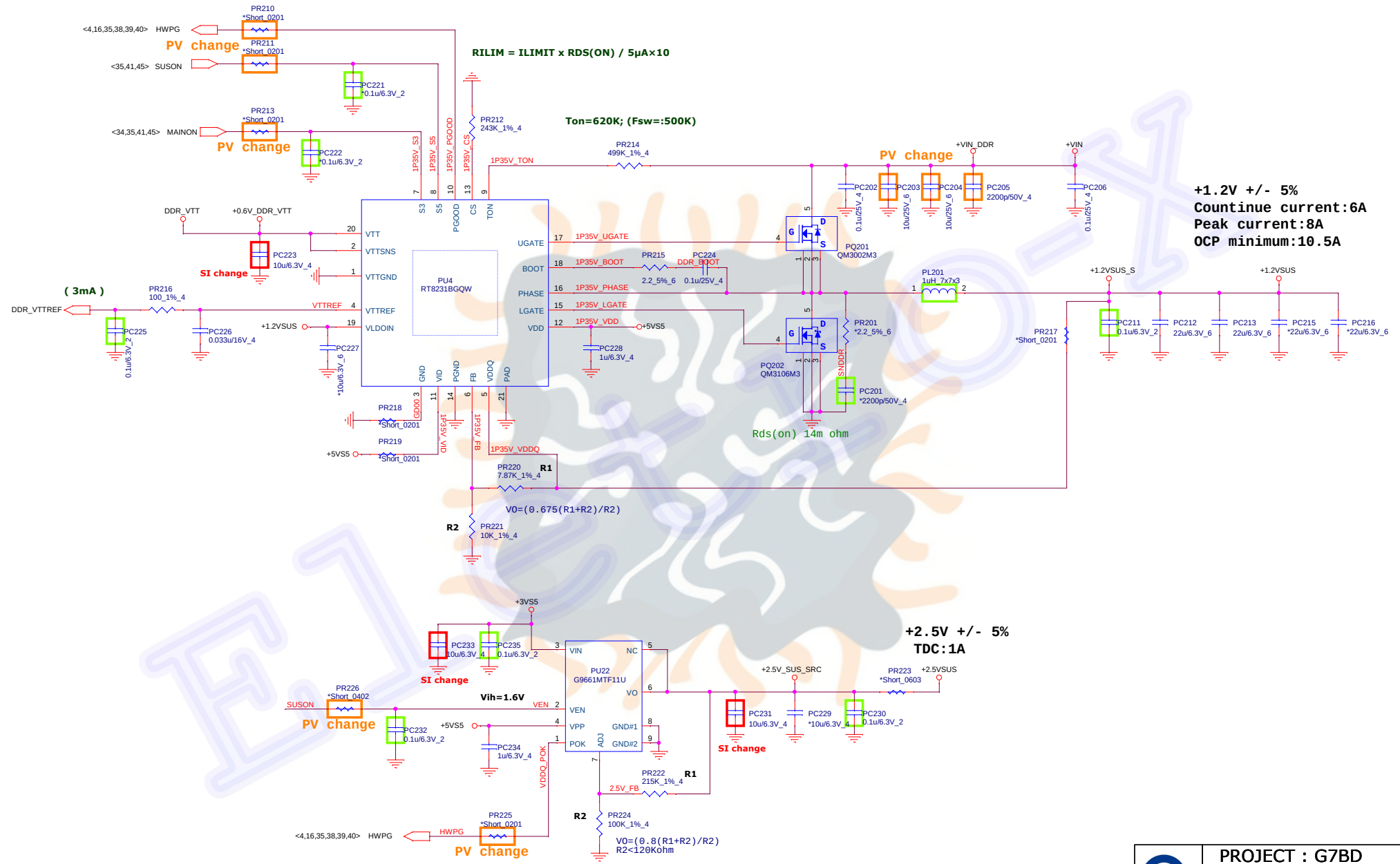
+VIN <25,31,36,37,38,40,43,44,46,47>
+2.5VSUS <17,18>
+1.2VSUS <3,6,17,18,41>
DDR_VTT <17,18>



PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR/2.5VSUS(RT8231B)	1A

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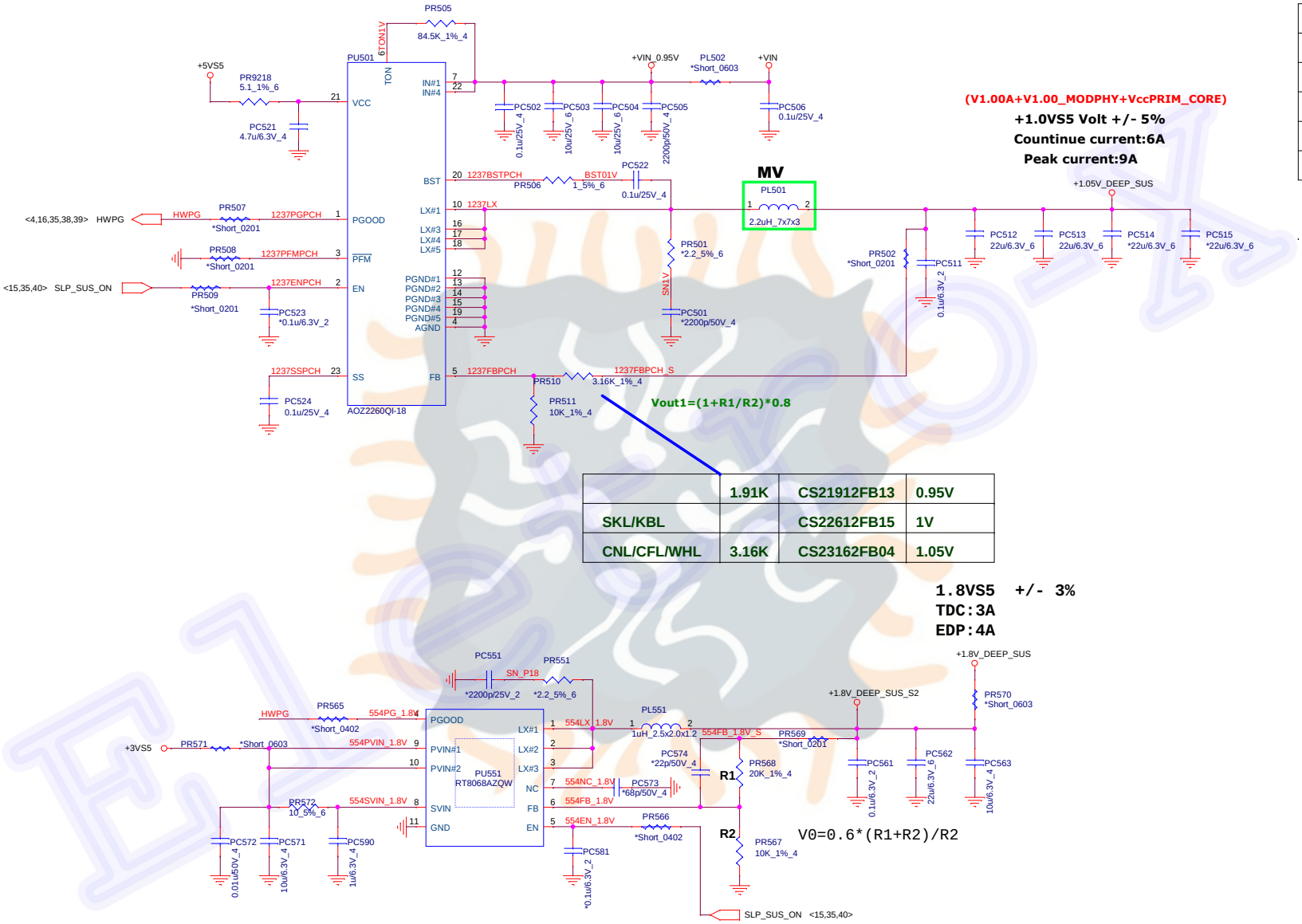
+VIN <25,31,36,37,38,39,43,44,46,47>
+3VS5 <4,12,13,15,29,32,33,34,35,38,39,41,45,48>
+5VS5 <4,26,29,30,32,33,37,38,39,41,42,43,45,46,47,48>
+1.05V_DEEP_SUS <9,15,33,41>
+1.8V_DEEP_SUS <13,15,29,34,45,48>
MAINON <34,35,39,41,45>
+1.5V

Vo	Rton
0.95V	82k
1V	84.5k
1.05V	95.3k
1.35V	113k
1.5V	127k



PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	+1.0V/+1.8V_DEEP_SUS	1A

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Volume Segment
SKY/KBY-U22/U42/U23e
KBY-G/WHL-U
Vcc_IO: 3.4A/1V
Stuff PU601

Volume Segment
SKY/KBY-H 22/42/44e
Vcc_IO: 5.5A/0.95V
Stuff PU601 & merge 1V_deep_sus

Volume Segment
CNL U22
Vcc_IO: 5.1A/0.95V
Vcc_IO: Can merge +1.05V_deep_sus
Unstuff PU603
Unstuff PU601

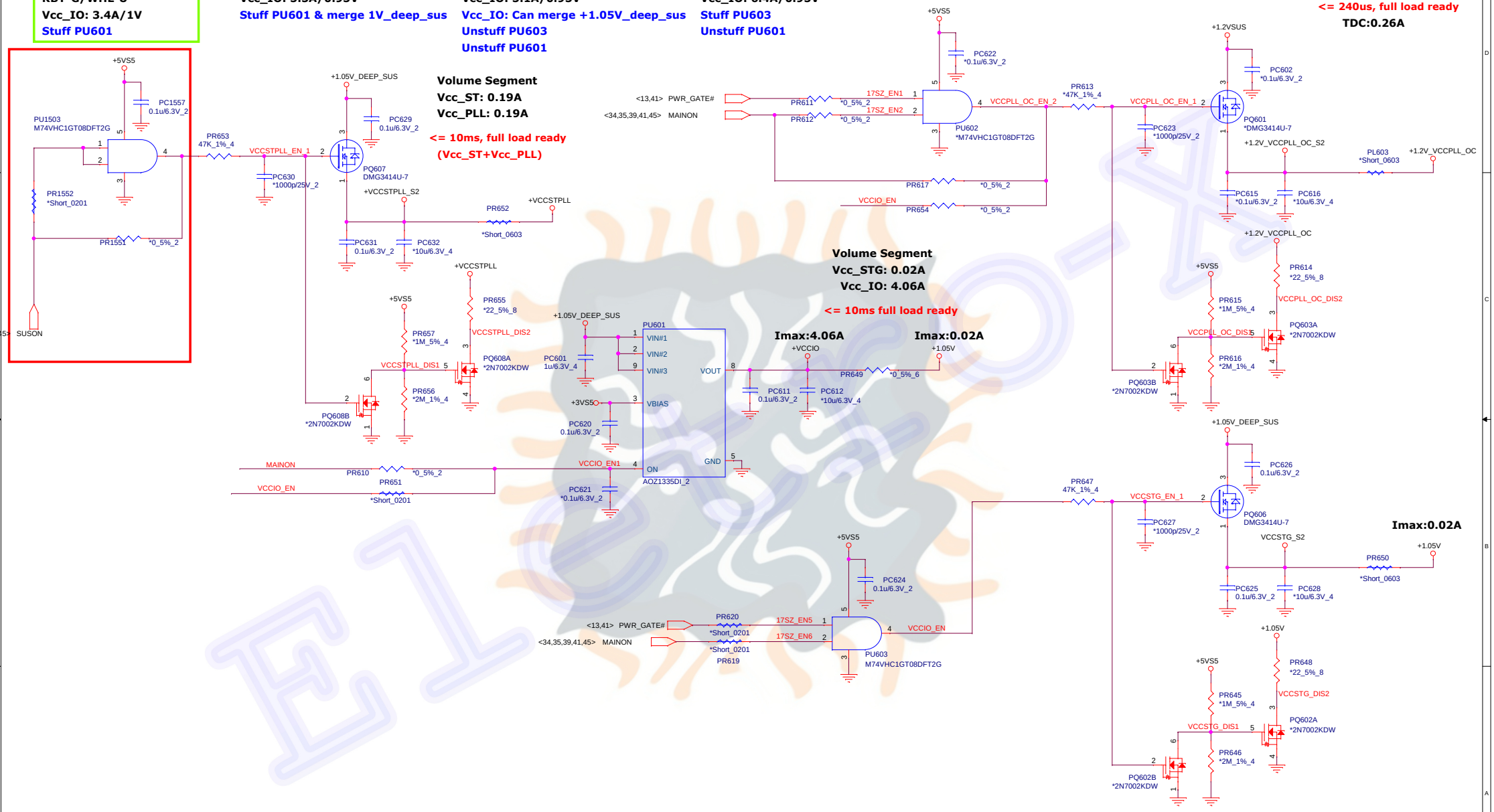
Default setting
Volume Segment
CFL H6/H4
Vcc_IO: 6.4A/0.95V
Stuff PU603
Unstuff PU601

Volume Segment
Vcc_ST: 0.19A
Vcc_PLL: 0.19A
<= 10ms, full load ready
(Vcc_ST+Vcc_PLL)

Volume Segment
Vcc_STG: 0.02A
Vcc_IO: 4.06A
<= 10ms full load ready

<= 240us, full load ready
TDC:0.26A

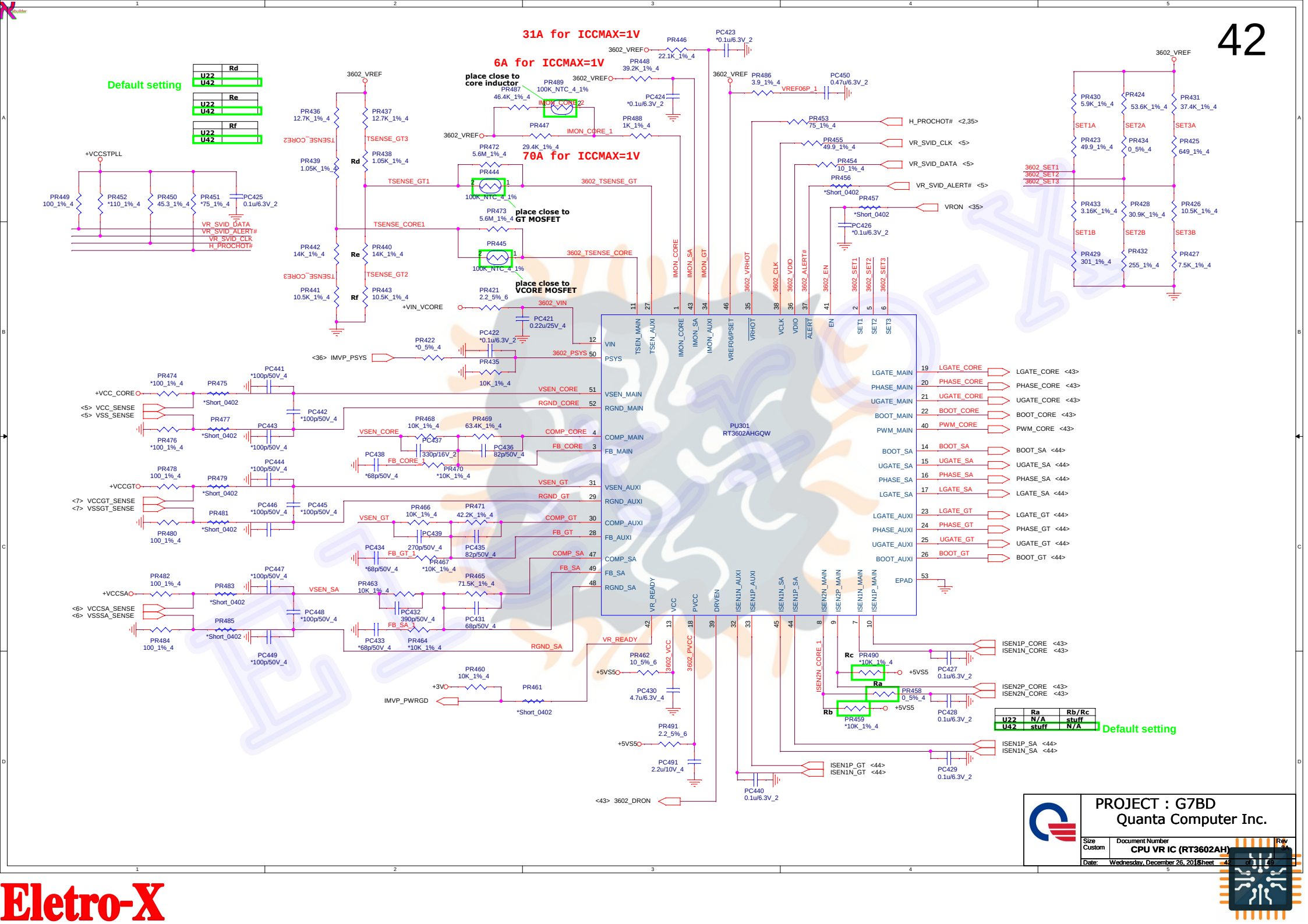
Imax:4.06A
Imax:0.02A
Imax:0.02A



PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	+1.0V/+VCCSTPLL	1A

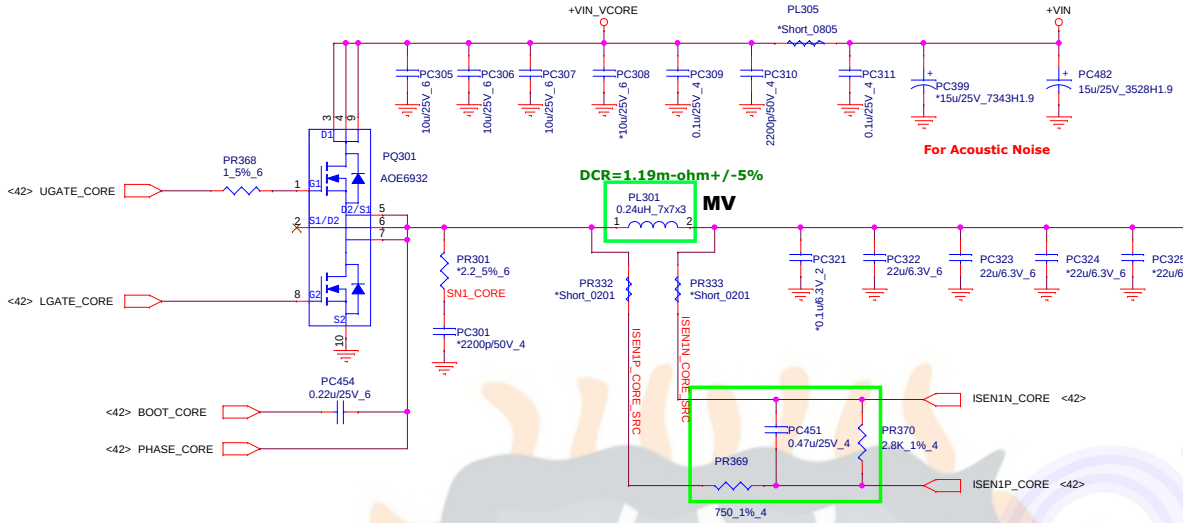
Date: Wednesday, December 26, 2018 | Sheet 47 of 70



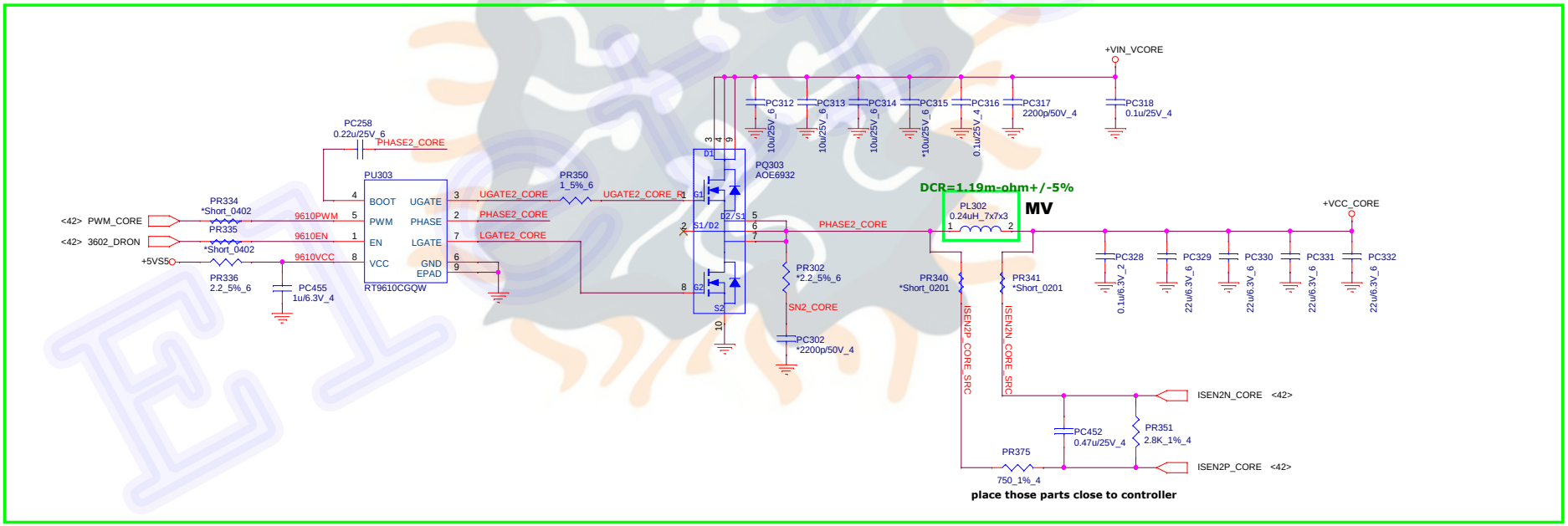
PROJECT : G7BD	
Quanta Computer Inc.	
Size: Custom	Document Number: CPU VR IC (RT3602AH)
Rev: 3A	
Date: Wednesday, December 26, 2018	Sheet 42 of 49

+VIN <25,31,36,37,38,39,40,44,46,47>
+5VS5 <4,26,29,30,32,33,37,38,39,40,41,42,45,46,47,48>

WHL (15W)
CPU CORE Volt
Countinue current:42A
Peak current:70A
OCP minimum:110A
LL= -1.8mV/A/TBD
VBOOT=0V
Address=00h



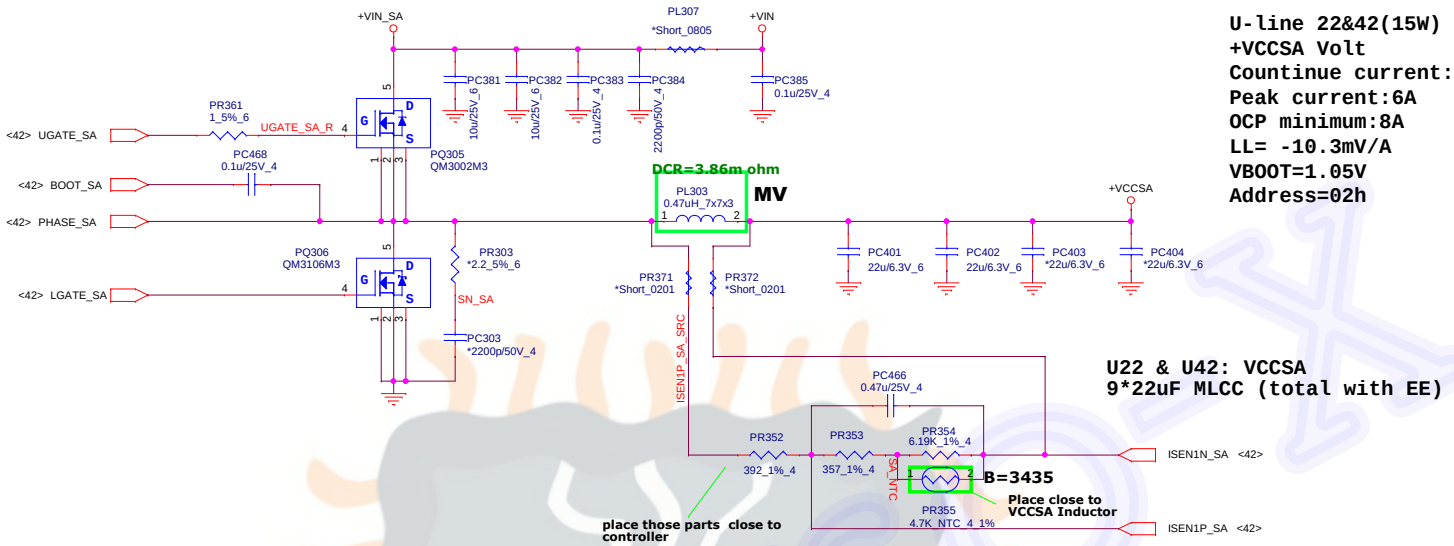
WHL U42: +VCC_CORE
2*330uF/9m+33*22uF MLCC (total with EE)



PROJECT : G7BD
Quanta Computer Inc.

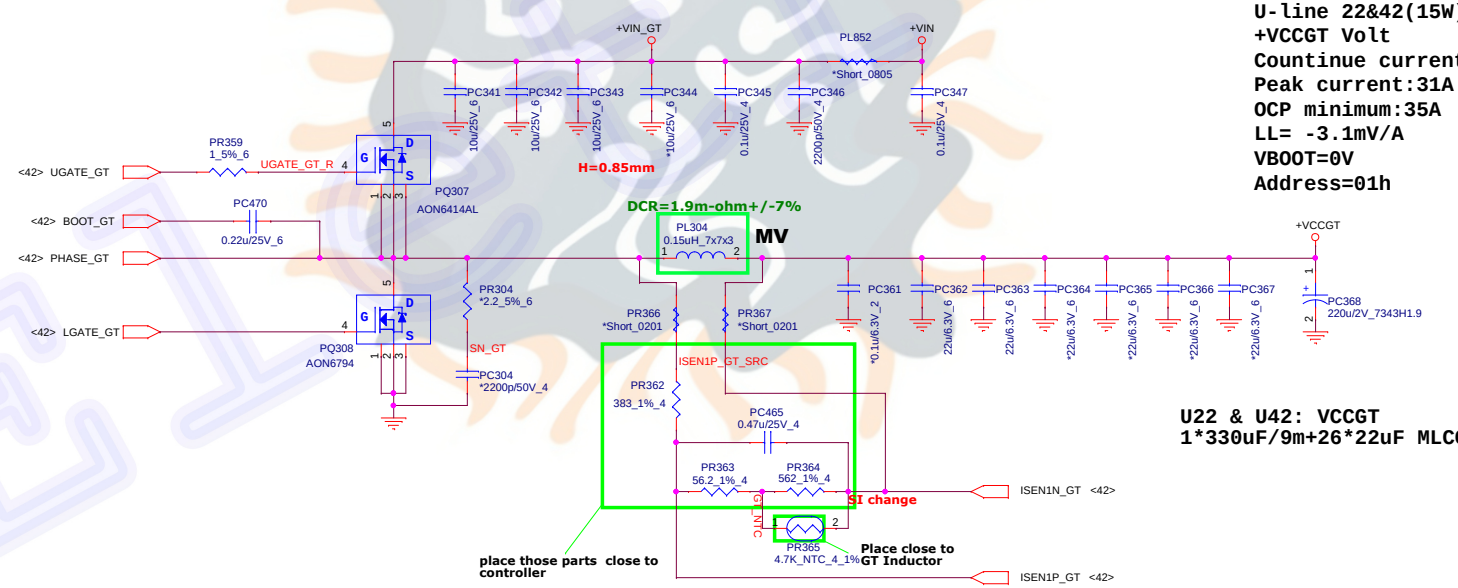
Size	Document Number	Rev
Custom	+VCCSA (NCP81253)	3A
Date: Wednesday, December 26, 2015	Sheet 43 of 140	

+VIN <25,31,36,37,38,39,40,43,46,47>
+5VS5 <4,26,29,30,32,33,37,38,39,40,41,42,43,45,46,47,48>
+VCCSA <6,42>
+VCCGT <7,42>



U-line 22&42(15W)
+VCCSA Volt
Countinue current:4A
Peak current:6A
OCP minimum:8A
LL= -10.3mV/A
VBOOT=1.05V
Address=02h

U22 & U42: VCCSA
9*22uF MLCC (total with EE)

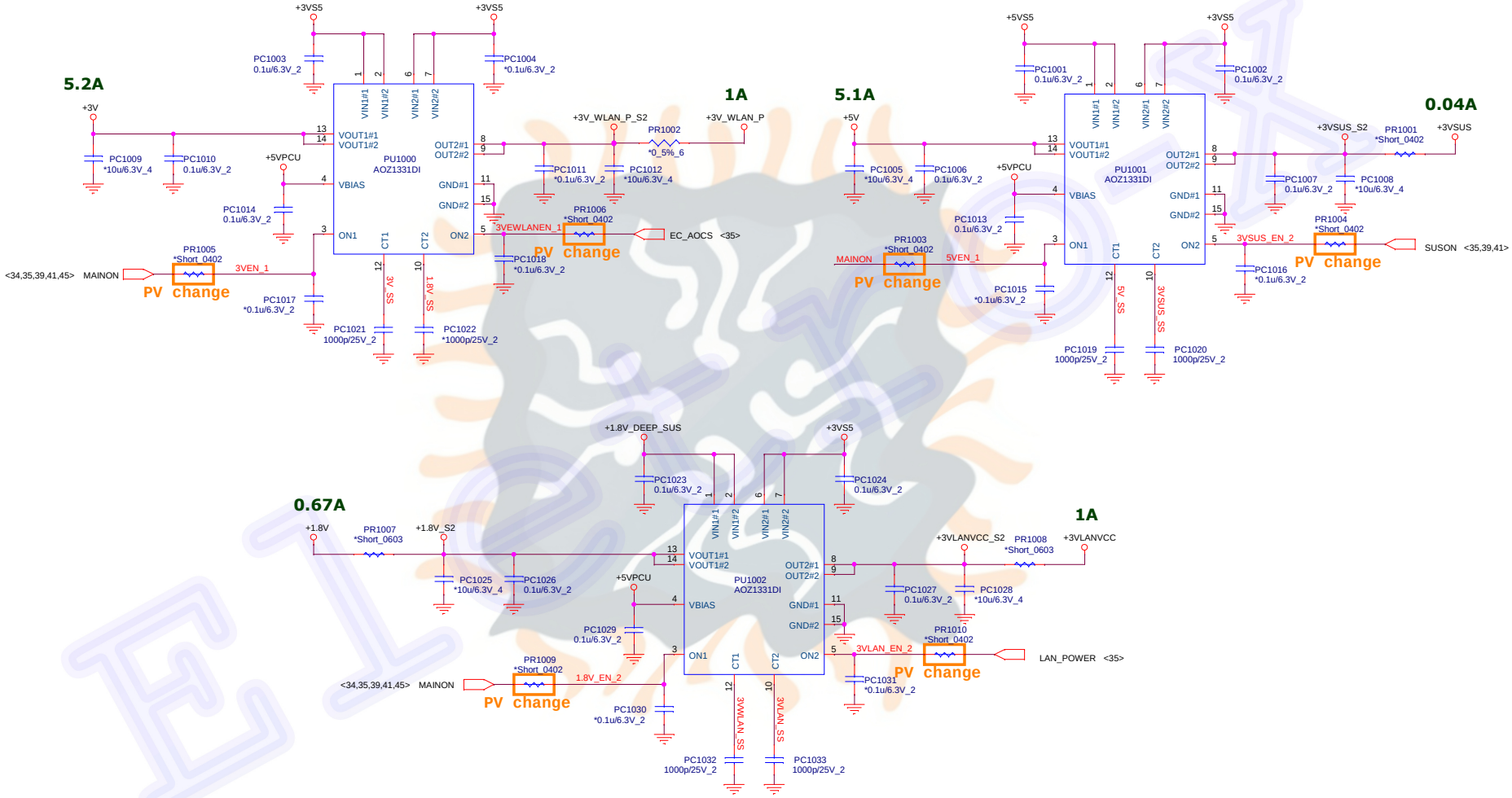


U-line 22&42(15W)
+VCCGT Volt
Countinue current:18A
Peak current:31A
OCP minimum:35A
LL= -3.1mV/A
VBOOT=0V
Address=01h

U22 & U42: VCCGT
1*330uF/9m+26*22uF MLCC (total with EE)

PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	+VCCSA (NCP81253)	3A
Date: Wednesday, December 26, 2018	Sheet 44 of 49	



PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
	Load switch IC(APL3523A)	1A

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VGA Core

+3V <4,10,11,12,13,14,15,17,18,22,25,26,27,28,29,31,32,33,34,35,42,45,47>
+VIN <25,31,36,37,38,39,40,43,44,47>
+5VS5 <4,26,29,30,32,33,37,38,39,40,41,42,43,45,47,48>
NVVDD <19>
1V8_AON <19,20,21,22,48>

PU701

PR720 1_5%_6 — +5VS5 — 8816PVCC — PVCC
PC763 2.2u/10V_4
PR723 10K_1%_4 — 1V8_AON — 8816PG — PGOOD
<22> NVVDDPG
+3V — PR725 *10K_1%_4
<22> NVVDD_CORE1_EN — PR750 *0_5%_4
SI change — PD701 RB500V-40 — 8816EN — EN
<22,48> 1V8_MAIN_EN — PR728 30K_1%_4
PC765 0.022u/16V_4
PV change
PR730 *Short_0402 — <22> PSI — 8816PSI — PSI
PSI >=1.6V for 2 pahse OP

PR731 *Short_0402 — <22> GPU_VID — 8816VID — VID
PV change
8816VREF — 8816VREF — VREF
PC767 0.1u/16V_4
PR732 20.5K_1%_4
PR733 6.19K_1%_4 — 8816REFADJ — REFADJ
PC768 *1500p/50V_4
PR735 4.32K_1%_4
8816REFIN — REFIN
PC769 1500p/50V_4
PR738 16.5K_1%_4
PR742 309_1%_4
PR721 1_5%_6 — +VIN
PR722 402K_1%_4 — 8816TON — TON
PC762 1u/25V_6
Fsw=: 400KHz

UGATE1 — 8816UGATE1 — PR724 1_5%_6 — 8816UGATE1_R
BOOT1 — 8816BOOT1 — PC761 0.22u/25V_6
PHASE1 — 8816PHASE1
LGATE1 — 8816LGATE1
PQ701 AON6414AL
PQ702 AON6794
PR701 *2.2_5%_6
PC701 *2200p/50V_4
PC775 *1000p/25V_2
PR726 *14.7K_1%_4
Max. Rds_on=4.6m-ohm
PL701 0.33uH_7x7x3

UGATE2 — 8816UGATE2 — PR9217 1_5%_6 — 8816UGATE2_R
BOOT2 — 8816BOOT2 — PC766 0.22u/25V_6
PHASE2 — 8816PHASE2
LGATE2 — 8816LGATE2
PQ703 AON6414AL
PQ704 AON6794
PR702 2.2_5%_6
PC702 2200p/50V_4
PC776 *1000p/25V_2
PL702 0.33uH_7x7x3

RGND — 8816RGDN — PC770 56p/50V_4
VSNS — 8816VSNS — PC772 56p/50V_4
PC771 *100p/50V_4
PR743 100_1%_4
PR739 100_1%_4
PR740 *Short_0402 — VSS_GSU_SENSE <19> — VGPU_CORE_SENSE <19>
PR741 *Short_0402 — NVVDD
routing in parallel
PV change

OCSET — 8816SS — Ra PR751 178K_1%_4 — PC777 *56p/50V_4
178K for OCP~68A
L-MOS Max. Rds_on=4.6m-ohm

GND — 21

RT8816BGQW

+VIN_GPU — PL853 *Short_0805 — +VIN
PC703 10u/25V_6 — PC704 10u/25V_6 — PC705 10u/25V_6 — PC706 *10u/25V_6 — PC707 0.1u/25V_4 — PC708 2200p/50V_4
PC729 *15u/25V_7343H1.9 — PC730 15u/25V_3528H1.9
For Acoustic Noise

PC709 10u/25V_6 — PC710 10u/25V_6 — PC711 10u/25V_6 — PC712 *10u/25V_6 — PC713 0.1u/25V_4 — PC714 2200p/50V_4

PC731 220u/2V_7343H1.9 — PC732 220u/2V_7343H1.0 — PC733 220u/2V_7343H1.9 — NVVDD

PC740 *22u/6.3V_6 — PC741 *22u/6.3V_6 — PC742 *22u/6.3V_6 — PC743 *22u/6.3V_6 — PC744 *22u/6.3V_6 — PC745 *22u/6.3V_6 — NVVDD

N17S-G1 (25W)

EDP: 29.7A
EDP peak: 59.2A
OCP minimum 68A

PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	+VGACORE (RT8813A)	3A
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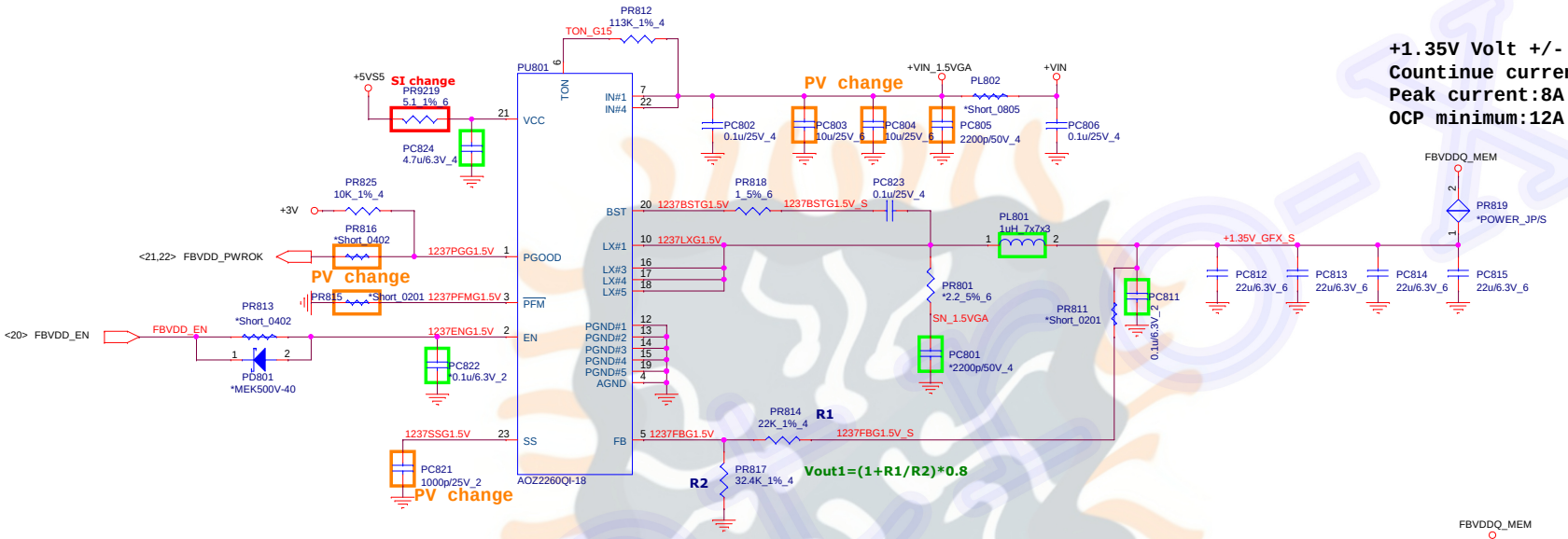
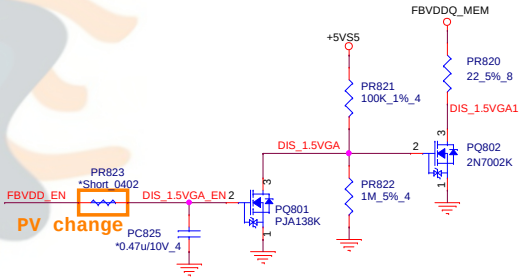
+VIN <25,31,36,37,38,39,40,43,44,46>
+5VS5 <4,26,29,30,32,33,37,38,39,40,41,42,43,45,46,48>
FBVDDQ_MEM <20,21,23>





+1.35V Volt +/- 5%
Countinue current:6A
Peak current:8A
OCP minimum:12A

Vo	Rton
0.95V	82k
1V	84.5k
1.05V	95.3k
1.35V	113k
1.5V	127k

PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	+1.35V_VGA(AOZ1237)	1A

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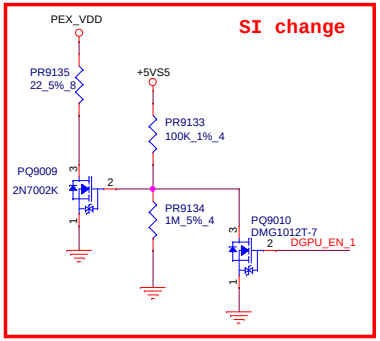
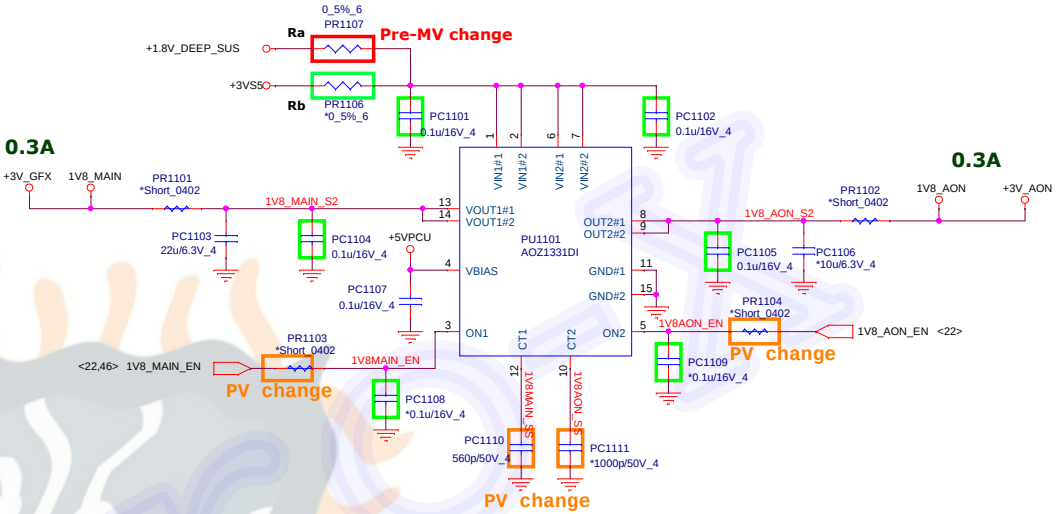
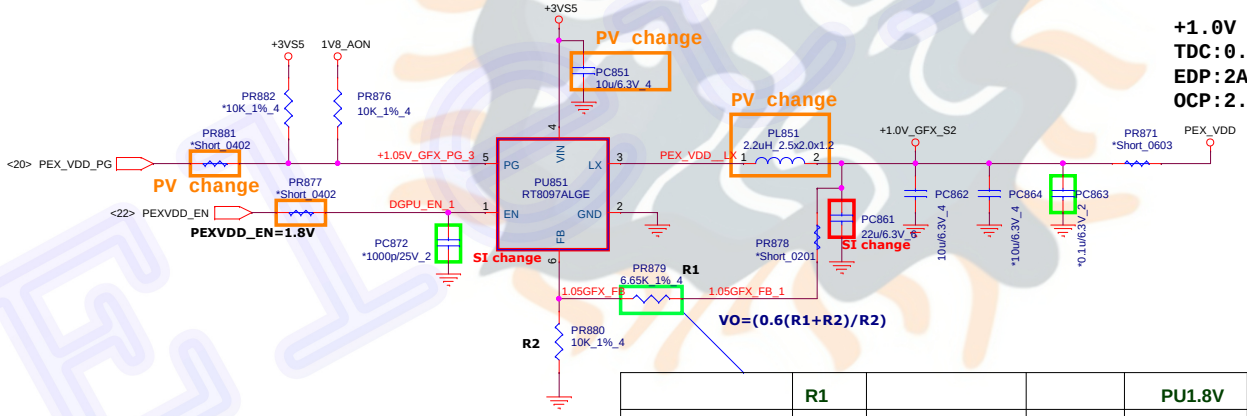
+3VS5 <4,12,13,15,29,32,33,34,35,38,39,40,41,45>
+5VS5 <4,26,29,30,32,33,37,38,39,40,41,42,43,45,46,47>
1V8_MAIN <19,21,22>
1V8_AON <19,20,21,22,46>
+1.2VSUS <3,6,17,18,39,41>
PEX_VDD <19,21>
MAINON <34,35,39,41,45>

N17S stuff Ra & N/A Rb
N16S stuff Rb & N/A Ra





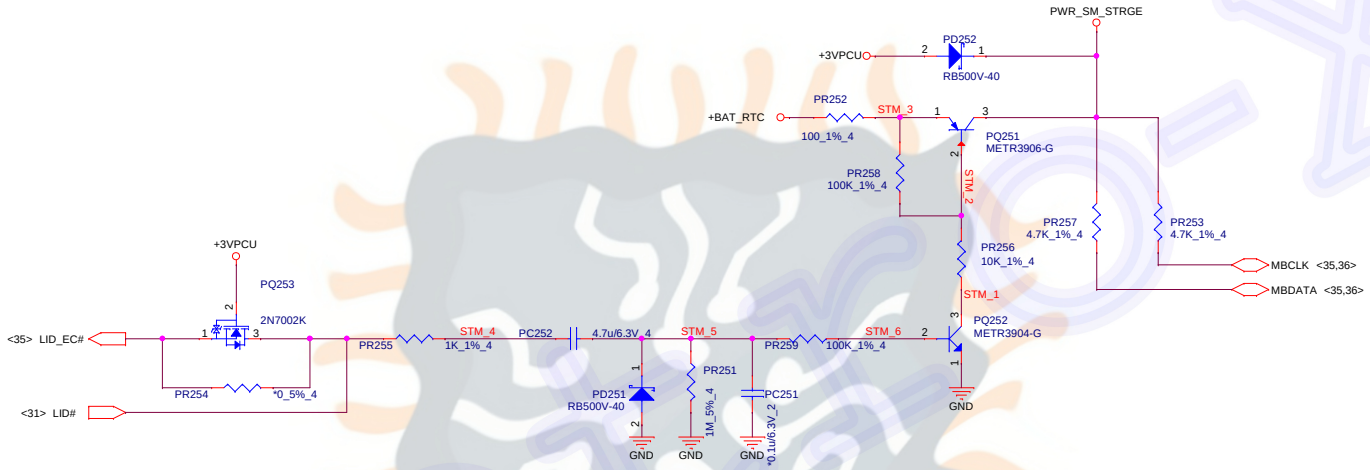


+1.0V +/- 5%
TDC:0.79A
EDP:2A
OCP:2.5A

	R1			PU1.8V	Rc	Rd
N17P N17S	6.65K	CS26652FB06	1V	Unstuff	Unstuff	Stuff
N16S GTR	7.5K	CS27502FB11	1.05V	Unstuff	Stuff	Unstuff

PROJECT : G7BD
Quanta Computer Inc.

Size	Document Number	Rev
Custom	1.05V_VGA/3V_VGA	1A
Date: Wednesday, December 26, 2018	Sheet 40 of 40	



PROJECT : G7BD
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Size	Document Number	Rev
Custom	STORAGE MODE	1A

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