PCB STACK UP

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

BLOCK DIAGRAM

Note :DP means Display Port Interface

FAN /THERMAL
EMC2103-2
Page32

Discharge Page37
Charge (BQ24737) Page38
DDR3/0.75V (TPS51216) Page40
3V/5V (TPS51123ARGER) Page39
+1.1V_DUAL & 1.1V (TPS511211) Page41
+1.2V_VDDPR/+2.5 Page42
VDD/+VDDNB_CORE (ISL6277HRTZ-T) Page43
DGPU (ISL6277HRTZ-T) Page44
1.8V Page45
GPU Page46

Note :DDR3 1.35V support 1066~1333 MHz
DDR3 1.5V support 1066~1600 MHz

DDR III
SO-DIMM 0
SO-DIMM 1
Memory size MAX is 16GB per channel
Page12, 13

Dual Channel
1333/1600 MHz

DDR SYSTEM MEMORY

AMD
Support 45W/ 35W TDP
Socket FS1r2-Trinity
APU (CPU + GPU)
uPGA 722 pin

DP0/TXPN[0:3]
DP2/TXPN[0:3]
GPP PCIEX1
GPP PCIEX1
Page02,03,04,05,06
UMI
DP1/TXPN[0:3]

DP0 → ANX3111 Page25 → LVDS → LVDS Page26
DP to LVDS
DP2 → HDMI Page23
PEGX16 → Seymour XT Page14~Page22

RealTek
(10/100 and 1G LAN)
RTL8105E-VD-CG/
RTL8111F-CG
Page27

X'TAL 25MHz

PCIEx1
GPP PCIE2
2.5GT/s
PCI-Express Gen1

LVI
Transformer Page27
RJ45 Page27

PCI-Express Gen1
2.5GT/s
PCIEx1
GPP PCIE3

Mini Card
Wlan/WiFi
Page30

USB 2.0

X4 UMI interface
2.5GT/s
DP1

AMD
FCH
Hudson-M3
FCBGA 656 pin
Page07,08,09,10,11

UMI
DP to VGA
VGA → VGA Page24

HDD (SATA) Page29
ODD (SATA) Page29
SATA0 6Gbit/s
SATA1 6Gbit/s
SATA Gen3
SATA Gen3
SATA Gen2

USB3.0/USB2.0 COMBO Page31
USB 3.0
USB 2.0
USB3.0
USB2.0
USB2.0

RTC
X'TAL 32.768KHz
PCI-E

USB 2.0 X2 Page31, 34
Bluetooth Page33
CCD Page33
Card Reader
RTS5131-GR Page34
USB 2.0

Azalia (HDA bus)
HDA
LPC
SPI
LPC

Audio CODEC
ALC269Q-VC2-GR
Page28

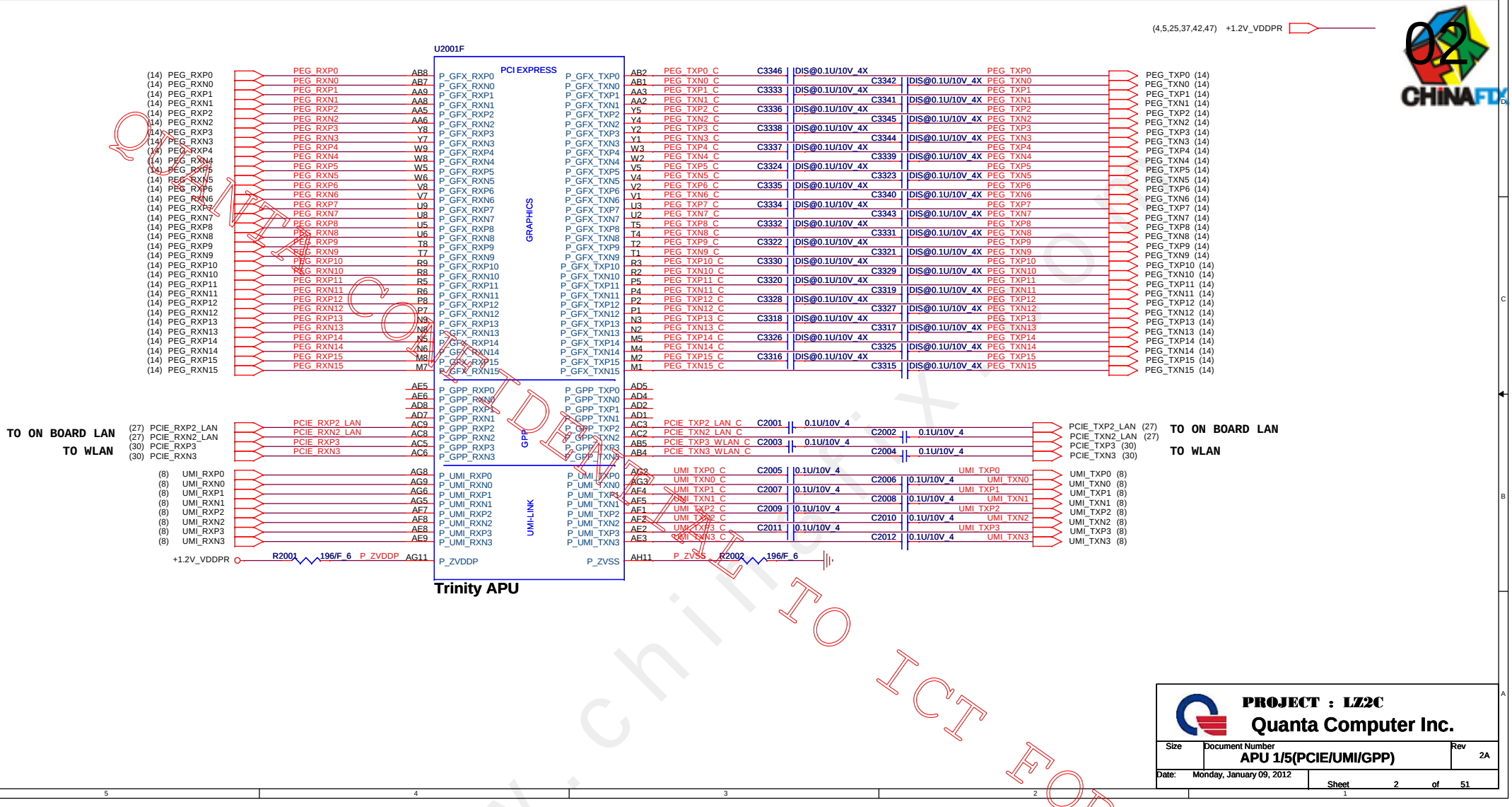
SPI ROM
8M Page09

(IT8518 HX) Page35
X'TAL 32.768KHz

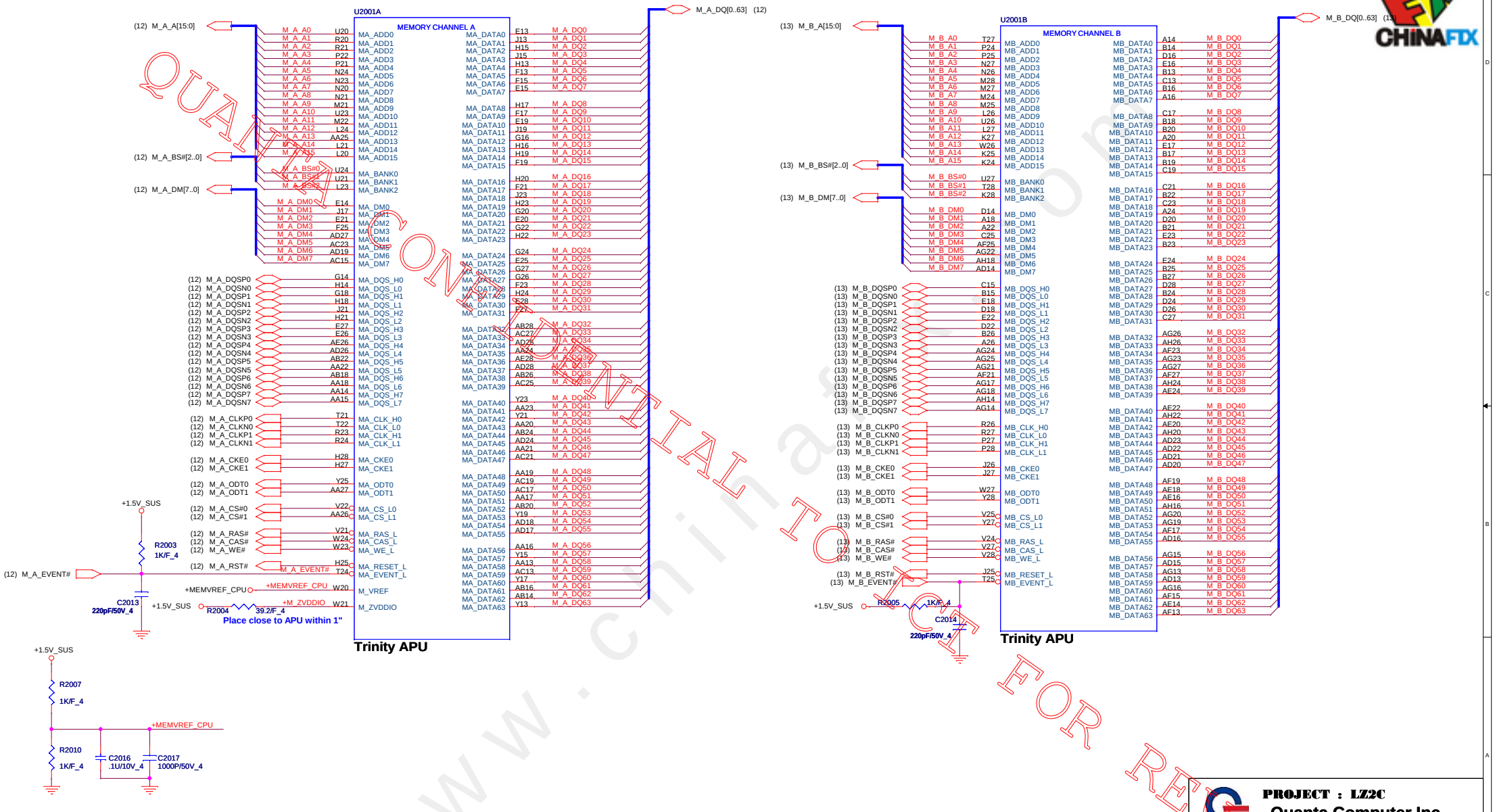
5-IN-1
SD/MMC/MS/XD

HP Jack
MIC Jack
SPK Page28
DMIC Page28
SPI ROM Page35
Touch Pad Page34
Keyboard Page34

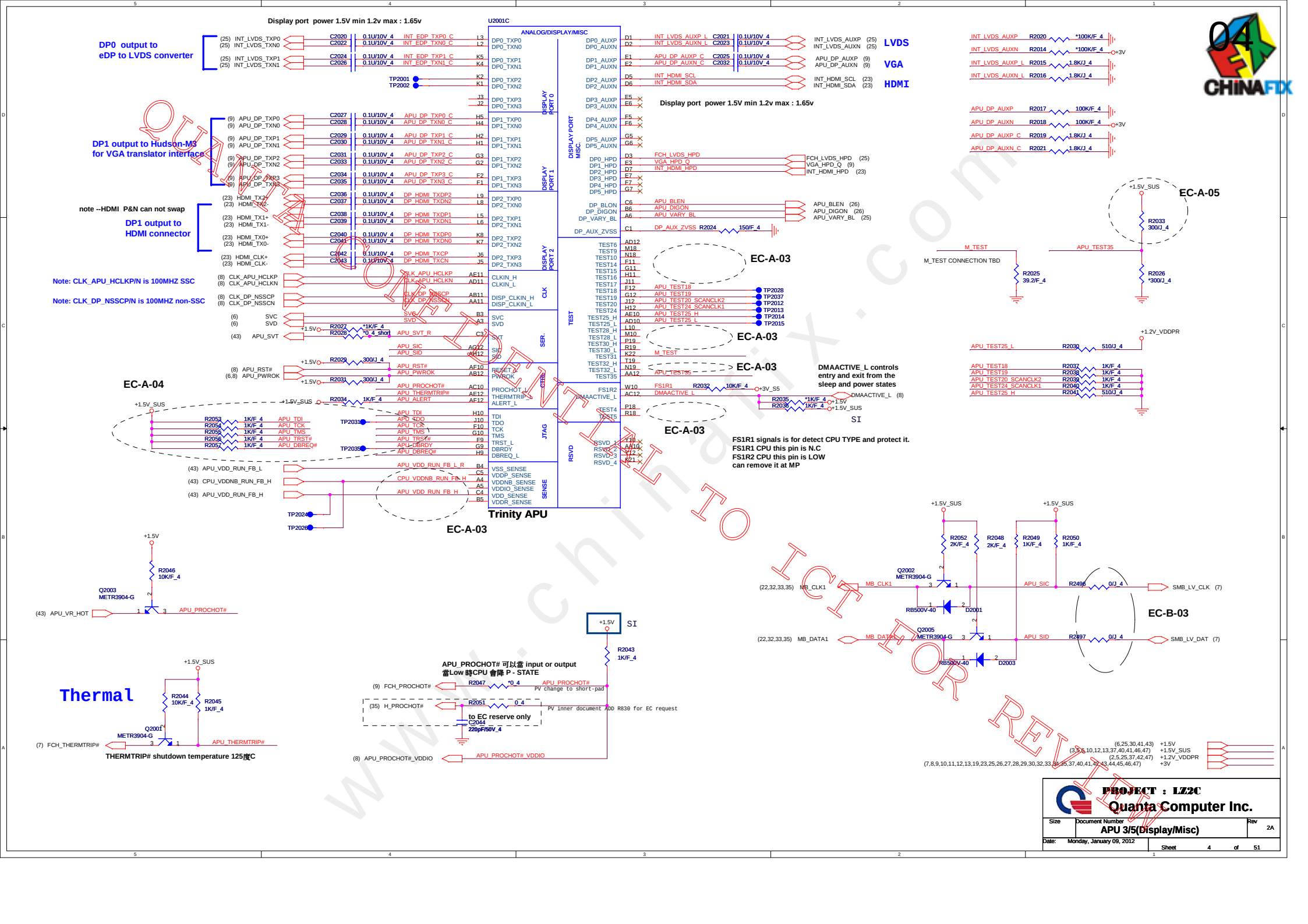
PROJECT : LZ2C
Quanta Computer Inc.
Size | Document Number: System Block Diagram | Rev: 2A
Date: Monday, January 09, 2012 | Sheet 1 of 51



PROJECT :	LZ2C
Quanta Computer Inc.	
Size	Document Number: APU 1/5(PCIE/UMI/GPP) Rev: 2A
Date: Monday, January 09, 2012	Sheet 2 of 51



PROJECT : LZ2C		
Quanta Computer Inc.		
Size	Document Number: APU 2/5(DDR3 MEM I/F)	Rev: 2A
Date: Monday, January 09, 2012	Sheet 3 of 51	


Display port power 1.5V min 1.2v max : 1.65v
U2001C
ANALOG/DISPLAY/MISC
DP0 output to eDP to LVDS converter
DP1 output to Hudson-M3 for VGA translator interface
note --HDMI P&N can not swap
DP1 output to HDMI connector
Note: CLK_APU_HCLKP/N is 100MHZ SSC
Note: CLK_DP_NSSCP/N is 100MHZ non-SSC
LVDS
VGA
HDMI
Display port power 1.5V min 1.2v max : 1.65v
EC-A-03
EC-A-04
EC-A-05
EC-B-03
Trinity APU
DMAACTIVE_L controls entry and exit from the sleep and power states
FS1R1 signals is for detect CPU TYPE and protect it.
FS1R1 CPU this pin is N.C
FS1R2 CPU this pin is LOW
can remove it at MP
Thermal
THERMTRIP# shutdown temperature 125度C
APU_PROCHOT# 可以當 input or output
當Low 時CPU 會降 P - STATE
to EC reserve only
PROJECT : LZ2C
Quanta Computer Inc.
APU 3/5(Display/Misc)
Monday, January 09, 2012
Sheet 4 of 51

APU POWER TABLE

PIN NAME	NET NAME	VOLTAGE
VDD	+VCC_CORE	+1.1V
VDDNB	+VDDNB_CORE	??
VDDIO	+1.5VSUS	+1.5V
VDDP	+1.2V_VDDP	+1.2V
VDDR	+1.2V_VDDR	+1.2V
VDDA	+2.5V_VDDA	+2.5V

SI EMI

05

CHINAFDX

+VDD_CORE
C2046 *470P/50V_4
C2047 *470P/50V_4
C2048 *470P/50V_4

PV ADD 470pF on C388 for EMI suggestion

EC-A-10

+VDDNB_CORE
C2118 22U/6.3VS_8
C2116 22U/6.3VS_8
C2052 22U/6.3VS_8
C2065 22U/6.3VS_8
C2060 10U/6.3V_8
C2117 10U/6.3VS_8
C2056 0.22U/6.3V_4
C2067 0.22U/6.3V_4
C2062 180P/50V_4
C2057 180P/50V_4
C2068 180P/50V_4

+VDDNB_CAP
C2074 22U/6.3VS_8
C2075 22U/6.3VS_8
C2076 180P/50V_4

+VDD_CORE
U2001D

F8	VDD_1	VDD_33	R11
H6	VDD_2	VDD_34	T10
J1	VDD_3	VDD_35	H8
J14	VDD_4	VDD_36	G1
P6	VDD_5	VDD_37	U11
P10	VDD_6	VDD_38	W11
J16	VDD_7	VDD_39	W13
J18	VDD_8	VDD_40	W15
J9	VDD_9	VDD_41	W17
K19	VDD_10	VDD_42	W19
K3	VDD_11	VDD_43	AB3
K17	VDD_12	VDD_44	AD3
M3	VDD_13	VDD_45	AD6
K6	VDD_14	VDD_46	AE1
V10	VDD_15	VDD_47	L1
V18	VDD_16	VDD_48	Y6
V3	VDD_17	VDD_49	M6
F3	VDD_18	VDD_50	N11
L18	VDD_19	VDD_51	N1
V6	VDD_20	VDD_52	T3
W1	VDD_21	VDD_53	T6
T18	VDD_22	VDD_54	U19
Y14	VDD_23	VDD_55	U1
AA1	VDD_24	VDD_56	Y16
AB6	VDD_25	VDD_57	Y18
AC1	VDD_26	VDD_58	Y3
R1	VDD_27	VDD_59	D4
P3	VDD_28	VDD_60	F4
K10	VDD_29	VDD_61	AF6
H3	VDD_30	VDD_62	AF3
M19	VDD_31	VDD_63	L11

36A
Maximum IDDspike 50A

C2049 22U/6.3VS_8
C2050 22U/6.3VS_8
C2063 22U/6.3VS_8
C2051 22U/6.3VS_8
C2064 22U/6.3VS_8
C2053 22U/6.3VS_8
C2054 22U/6.3VS_8
C2061 22U/6.3VS_8
C2066 22U/6.3VS_8
C2055 22U/6.3VS_8
C2069 0.22U/6.3V_4
C2058 0.22U/6.3V_4
C2070 180P/50V_4
C2071 180P/50V_4
C2072 0.01U/25V_4
C2073 0.01U/25V_4
C2059 0.01U/25V_4

18A
Maximum IDDNBspike 22.5A

+VDDNB_CORE

C8	VDDNB_1	VDDNB_13	C11
D10	VDDNB_2	VDDNB_14	C12
B8	VDDNB_3	VDDNB_15	D9
B12	VDDNB_4	VDDNB_16	D8
C9	VDDNB_5	VDDNB_17	D12
A9	VDDNB_6	VDDNB_18	D11
A10	VDDNB_7	VDDNB_19	B11
A8	VDDNB_8	VDDNB_20	A12
A11	VDDNB_9	VDDNB_21	B10
E10	VDDNB_10	VDDNB_22	E12
E11	VDDNB_11	VDDNB_23	B9
C10	VDDNB_12		
		VDDNB_CAP	K13
		VDDNB_CAP	K12

+VDDNB_CAP

DECOUPLING between PROCESSOR and DIMMs
Across VDDIO and VSS split

+1.5V_SUS
C2077 0.22U/6.3V_4
C2078 0.22U/6.3V_4
C2079 180P/50V_4
C2080 180P/50V_4
C2115 180P/50V_4

4A Up to DDR3-1333 @ 1.50V VDDIO

+1.5V_SUS
C2081 0.22U/6.3V_4
C2082 0.22U/6.3V_4
C2083 0.22U/6.3V_4
C2084 0.22U/6.3V_4
C2085 0.22U/6.3V_4
C2086 0.22U/6.3V_4
C2095 180P/50V_4

H26	VDDIO_1	VDDIO_19	T23
K20	VDDIO_2	VDDIO_20	T26
J28	VDDIO_3	VDDIO_21	U22
K23	VDDIO_4	VDDIO_22	U25
K26	VDDIO_5	VDDIO_23	U28
L22	VDDIO_6	VDDIO_24	Y26
L25	VDDIO_7	VDDIO_25	T20
L28	VDDIO_8	VDDIO_26	R28
M20	VDDIO_9	VDDIO_27	R25
M23	VDDIO_10	VDDIO_28	R22
M26	VDDIO_11	VDDIO_29	V20
N22	VDDIO_12	VDDIO_30	V23
N25	VDDIO_13	VDDIO_31	V26
N28	VDDIO_14	VDDIO_32	W22
P20	VDDIO_15	VDDIO_33	W25
P23	VDDIO_16	VDDIO_34	W28
P26	VDDIO_17	VDDIO_35	Y24
AA28	VDDIO_18	VDDIO_36	G28

+1.5V_SUS
C2087 22U/6.3VS_6
C2088 22U/6.3VS_6
C2089 22U/6.3VS_6
C2090 22U/6.3VS_6
C2091 4.7U/6.3V_6
C2092 4.7U/6.3V_6
C2093 4.7U/6.3V_6
C2094 4.7U/6.3V_6

If the VSS plane is cut to create a VDDIO plane, ceramic capacitors are connected across the VDDIO and VSS plane split as follows

VDDP_A + VDDP_B = 3.5A

+1.2V_VDDPR
R2063 *0_8_short
+1.2V_VDDPR_R
C2096 22U/6.3VS_6
C2097 10U/6.3V_6
C2098 10U/6.3V_6
C2099 10U/6.3V_6
C2103 0.22U/6.3V_4
C2104 0.22U/6.3V_4
C2105 180P/50V_4
C2106 180P/50V_4

AH6	VDDP
AH5	VDDP
AH4	VDDP
AH3	VDDP
AH7	VDDP

VDDA= 0.75A

+2.5V_VDDA
L2001 HCB1608KF-221T20(220,2A)_8
+2.5V_VDDA_R
C2112 4.7U/6.3V_6
C2113 0.22U/6.3V_4
C2114 3300P/50V_4

AB10	VDDA

Trinity APU

VDDR = 3A (Up to DDR3-1333 @ 1.5V)

AG10	VDDR
AH8	VDDR
AH9	VDDR
AH10	VDDR

+1.2V_VDDPR
+1.2V_VDDR_B
R2064 *0_8_short
C2100 10U/6.3V_6
C2101 10U/6.3V_6
C2102 10U/6.3V_6
C2107 0.22U/6.3V_4
C2108 0.22U/6.3V_4
C2109 1000P/50V_4
C2110 180P/50V_4
C2111 180P/50V_4

U2001E

J20	VSS_1	VSS_75	A19
L4	VSS_2	VSS_76	A21
R7	VSS_3	VSS_77	A23
W18	VSS_4	VSS_78	A25
A15	VSS_5	VSS_79	A7
AB17	VSS_6	VSS_80	AA4
AC22	VSS_7	VSS_81	AA7
AE21	VSS_8	VSS_82	AB13
AF24	VSS_9	VSS_83	AB15
AH23	VSS_10	VSS_84	AB19
AH25	VSS_11	VSS_85	AB21
B7	VSS_12	VSS_86	AB23
C14	VSS_13	VSS_87	AB25
C16	VSS_14	VSS_88	AB27
C2	VSS_15	VSS_89	AB9
C20	VSS_16	VSS_90	AC14
C22	VSS_17	VSS_91	AC16
C24	VSS_18	VSS_92	AC18
C26	VSS_19	VSS_93	AC20
C28	VSS_20	VSS_94	AC24
D13	VSS_21	VSS_95	AC26
D15	VSS_22	VSS_96	AC28
D17	VSS_23	VSS_97	AC4
D19	VSS_24	VSS_98	AC7
D23	VSS_25	VSS_99	AD9
D25	VSS_26	VSS_100	AE13
D27	VSS_27	VSS_101	AE15
E4	VSS_28	VSS_102	AE17
E9	VSS_29	VSS_103	M9
F14	VSS_30	VSS_104	N10
F16	VSS_31	VSS_105	N4
F18	VSS_32	VSS_106	N7
F20	VSS_33	VSS_107	R10
F22	VSS_34	VSS_108	R4
F26	VSS_35	VSS_109	T11
F28	VSS_36	VSS_110	T9
G13	VSS_37	VSS_111	U10
G15	VSS_38	VSS_112	U18
G17	VSS_39	VSS_113	U4
G19	VSS_40	VSS_114	U7
G21	VSS_41	VSS_115	V11
G23	VSS_42	VSS_116	AE19
G25	VSS_43	VSS_117	AE23
G4	VSS_44	VSS_118	AE25
J22	VSS_45	VSS_119	AE27
J24	VSS_46	VSS_120	AE4
J4	VSS_47	VSS_121	AE7
J7	VSS_48	VSS_122	AF14
K11	VSS_49	VSS_123	AF16
K14	VSS_50	VSS_124	AF18
K9	VSS_51	VSS_125	AF20
AC11	VSS_52	VSS_126	AF22
L19	VSS_53	VSS_127	AF26
L7	VSS_54	VSS_128	AF28
M11	VSS_55	VSS_129	AF9
AF11	VSS_56	VSS_130	AG4
V19	VSS_57	VSS_131	AG7
V9	VSS_58	VSS_132	AH13
W16	VSS_59	VSS_133	AH15
W4	VSS_60	VSS_134	AH17
W7	VSS_61	VSS_135	AH19
Y11	VSS_62	VSS_136	AH21
Y20	VSS_63	VSS_137	P9
Y22	VSS_64	VSS_138	C18
Y9	VSS_65	VSS_139	D21
A17	VSS_66	VSS_140	W14
A13	VSS_68	VSS_141	P11
K16	VSS_67	VSS_142	C7
F24	VSS_69	VSS_143	E8
G8	VSS_70	VSS_144	K18
H7	VSS_71	VSS_145	W12
J8	VSS_72		

Trinity APU

(43,47) +VDD_CORE
(43) +VDDNB_CORE
+VDDNB_CAP
(2,4,8,10,12,13,37,40,41,46,47) +1.5V_SUS
(2,4,25,37,42,47) +1.2V_VDDPR
(37,42) +2.5V_VDDA

PROJECT : LZ2C
Quanta Computer Inc.

Size	Document Number	Rev
	APU 4/5(POWER/GND)	2A

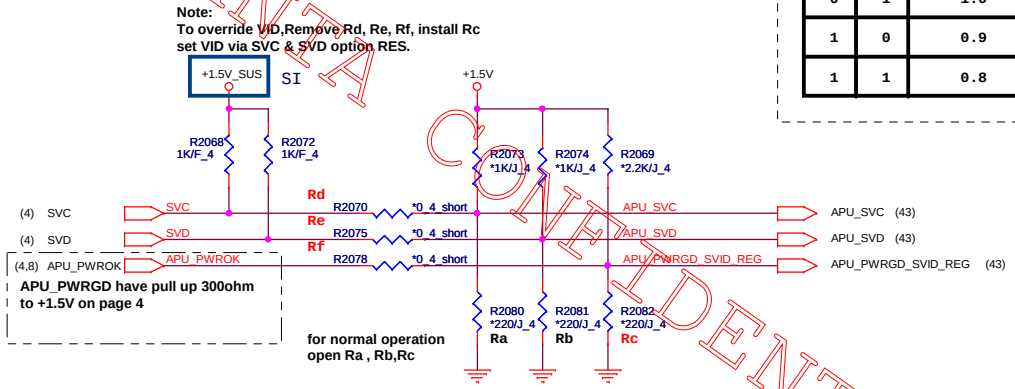
Date: Monday, January 09, 2012 Sheet 5 of 51

(4,25,30,41,43) +1.5V
(3,4,5,10,12,13,37,40,41,46,47) +1.5V_SUS

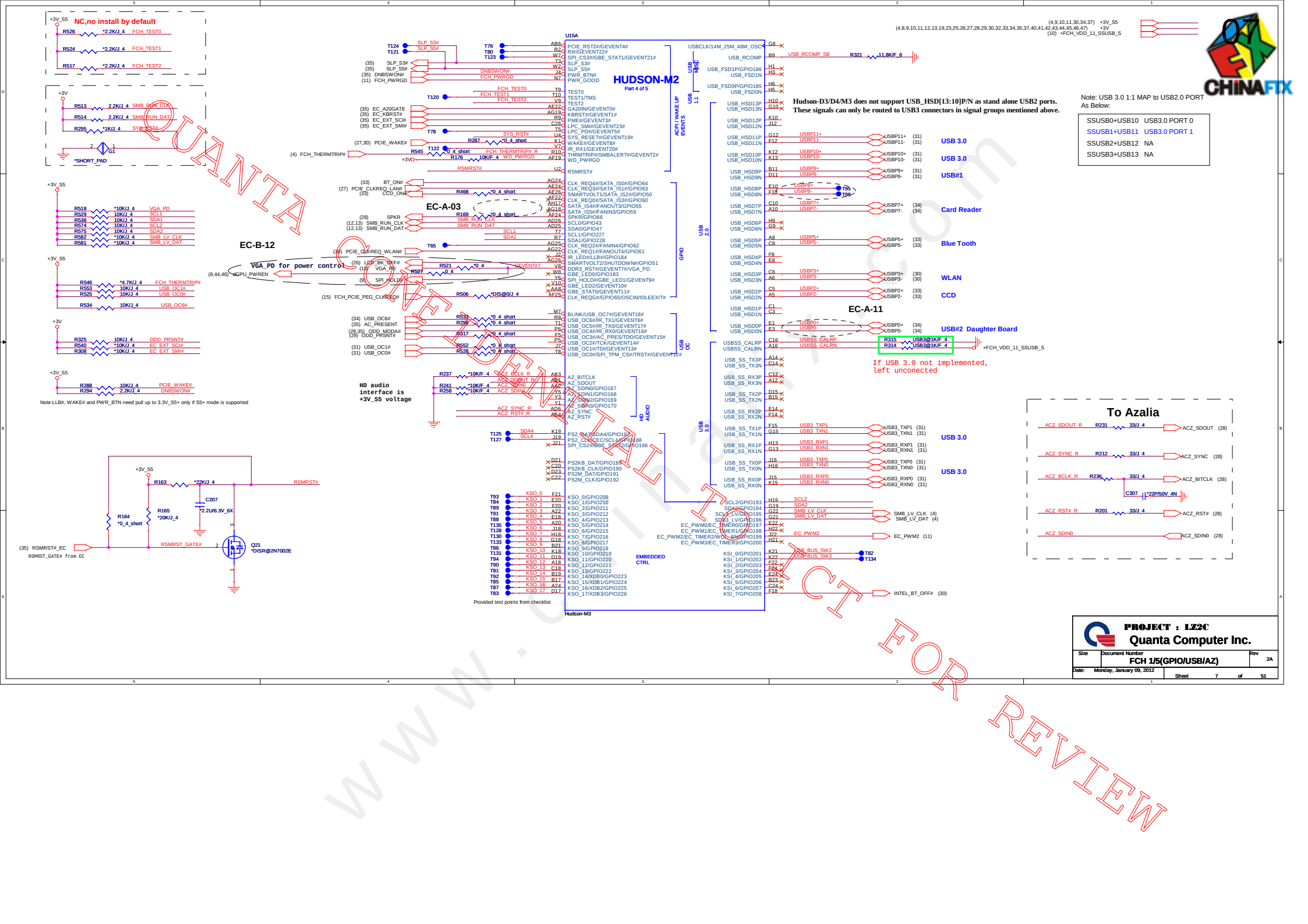
06

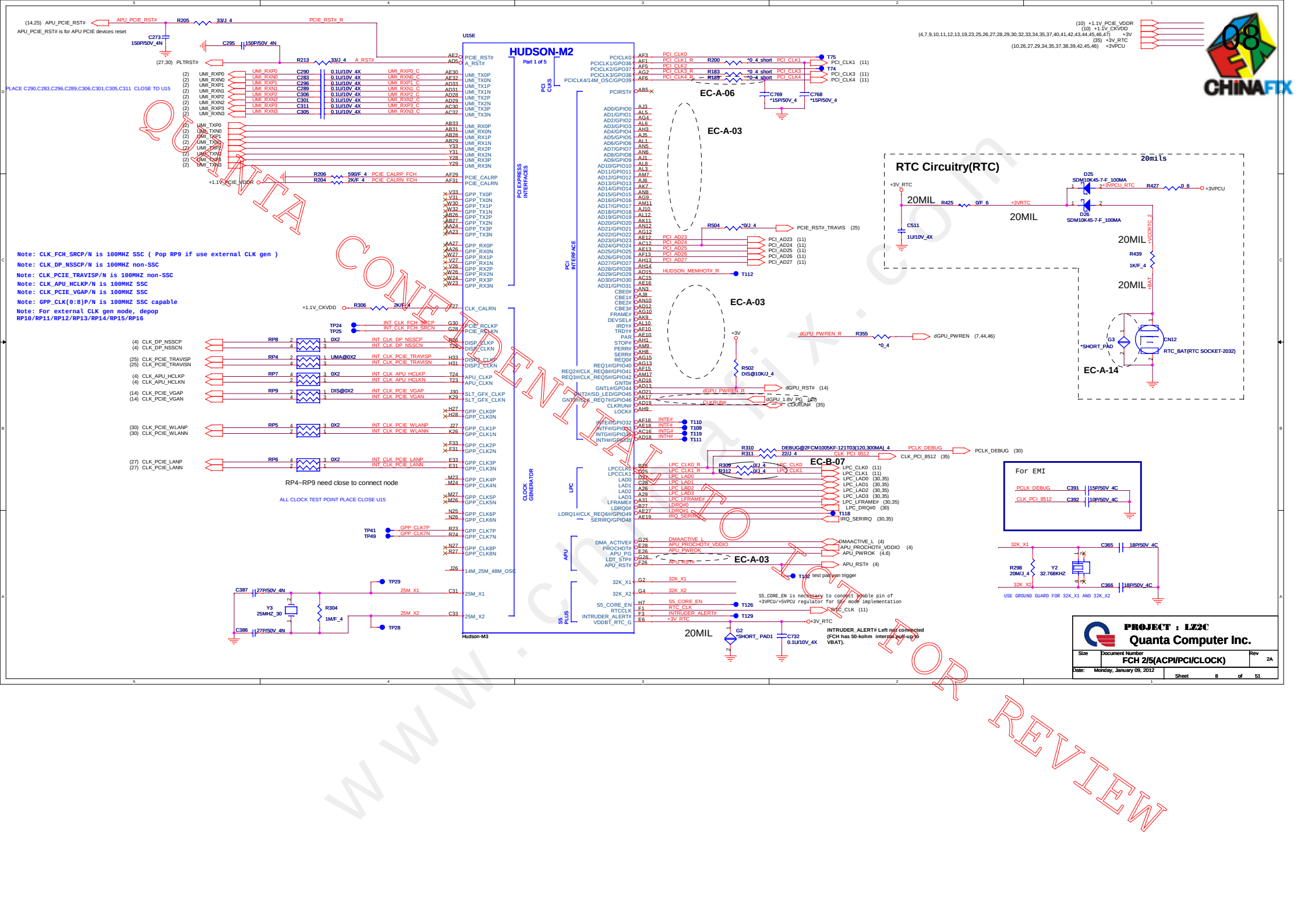
VID Override Circuit

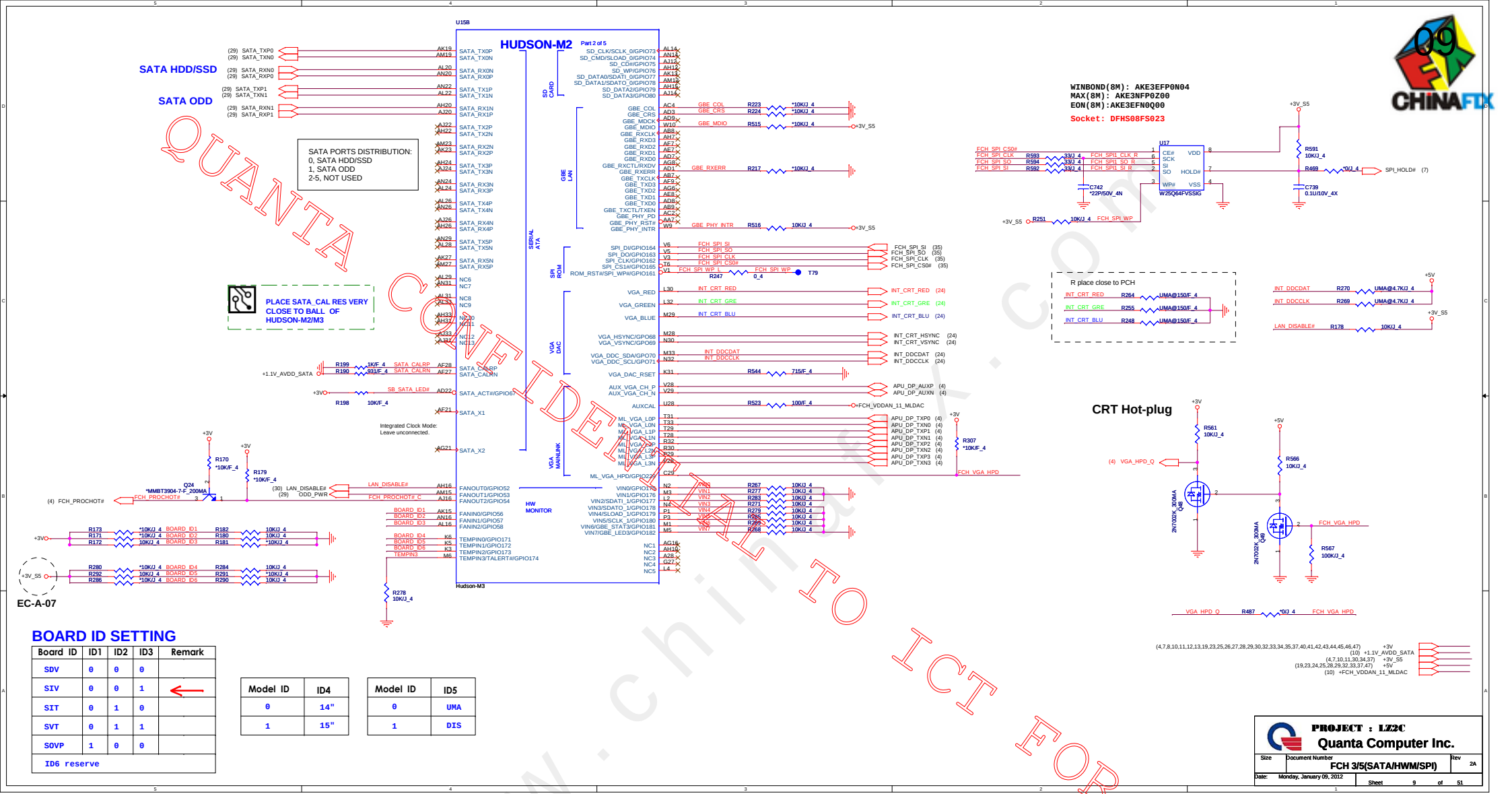
		BOOT VOLTAGE	
SVC	SVD	VFIX_+VDD =VCC/GND	VFIX_+VDD =OPEN
0	0	1.1	1.1
0	1	1.0	1.2
1	0	0.9	1.0
1	1	0.8	0.8



PROJECT : LZ2C		
Quanta Computer Inc.		
Size	Document Number: APU 5/5(Other)	Rev: 2A
Date: Monday, January 09, 2012	Sheet 6 of 51	




HUDSON-M2
Part 1 of 5
U15E
Hudson-M3
RTC Circuitry(RTC)
EC-A-06
EC-A-03
EC-A-14
EC-B-07
Note: CLK_FCH_SRCP/N is 100MHZ SSC (Pop RP9 if use external CLK gen)
Note: CLK_DP_NSSCP/N is 100MHZ non-SSC
Note: CLK_PCIE_TRAVISP/N is 100MHZ non-SSC
Note: CLK_APU_HCLKP/N is 100MHZ SSC
Note: CLK_PCIE_VGAP/N is 100MHZ SSC
Note: GPP_CLK(0:8)P/N is 100MHZ SSC capable
Note: For external CLK gen mode, depop
RP10/RP11/RP12/RP13/RP14/RP15/RP16
RP4~RP9 need close to connect node
ALL CLOCK TEST POINT PLACE CLOSE U15
PLACE C290,C283,C296,C289,C306,C301,C305,C311 CLOSE TO U15
For EMI
PROJECT : LZ2C
Quanta Computer Inc.
FCH 2/5(ACPI/PCI/CLOCK)
Monday, January 09, 2012
Sheet 8 of 51
08
CHINAFIX
QUANTA COMPUTER CONFIDENTIAL
www.chinafix.com
REVIEW



BOARD ID SETTING

Board ID	ID1	ID2	ID3	Remark
SDV	0	0	0	
SIV	0	0	1	←
SIT	0	1	0	
SVT	0	1	1	
SOVP	1	0	0	
ID6 reserve				

Model ID	ID4
0	14"
1	15"

Model ID	ID5
0	UMA
1	DIS

PROJECT :	LZ2C
Quanta Computer Inc.	
Size	Document Number: FCH 3/5(SATA/HWM/SPI) Rev: 2A
Date: Monday, January 09, 2012	Sheet 9 of 51

PLACE ALL THE DECOUPLING CAPS ON THIS SHEET CLOSE TO SB AS POSSIBLE.

VDDQ--3.3V I/O power

VDD-- S/B CORE power

CKVDD_1.1V-- Internal clock Generator I/O power

PCIE_VDDR--PCIE I/O power

AVDD_SATA--SATA phy power

S5_3.3--3.3V standby power

S5_1.1V--1.1V standby power

S5 plus mode

HUDSON-M2 Part 3 of 5

HUDSON-M2 Part 5 of 5

Hudson-M3

EC-B-01

62 mA Max

233 mA Max

Checklist request one 1uF capacitor

VGA_PD is generated from FCH

PROJECT : LZ2C

Quanta Computer Inc.

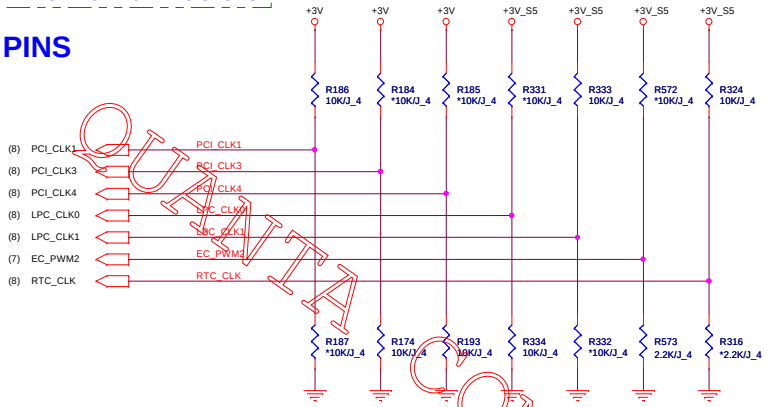
Size	Document Number	Rev
	FCH 4/5(POWER/GND)	2A

Date: Monday, January 09, 2012 Sheet 10 of 51

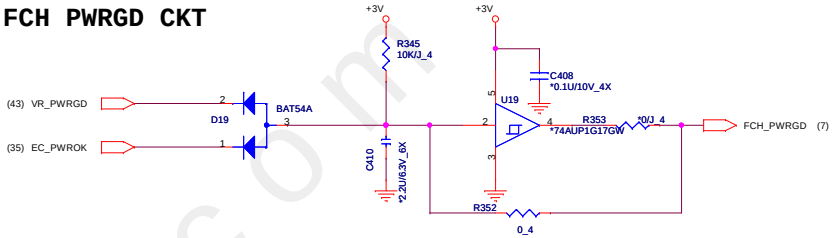
OVERLAP COMMON PADS WHERE POSSIBLE FOR DUAL-OP RESISTORS.

(4,7,8,9,10,12,13,19,23,25,26,27,28,29,30,32,33,34,35,37,40,41,42,43,44,45,46,47) +3V
(4,7,9,10,30,34,37) +3V_S5

STRAPS PINS



FCH PWRGD CKT

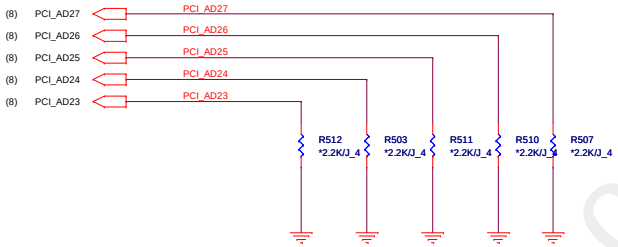


REQUIRED STRAPS

	--------	PCI_CLK1	--------	PCI_CLK3	PCI_CLK4	LPC_CLK0	LPC_CLK1	EC_PWM2	RTC_CLK
PULL HIGH	--------	ALLOW PCIE Gen2 DEFAULT	--------	USE DEBUG STRAP	non_Fusion CLOCK MODE	EC ENABLED	CLKGEN ENABLED DEFAULT	LPC ROM	S5 PLUS MODE DISABLED DEFAULT
PULL LOW	--------	FORCE PCIE Gen1	--------	IGNORE DEBUG STRAP DEFAULT	FUSION CLOCK MODE DEFAULT	EC DISABLED DEFAULT	CLKGEN DISABLED	SPI ROM DEFAULT	S5 PLUS MODE ENABLED

DEBUG STRAPS

FCH HAS 15K INTERNAL PU FOR PCI_AD[27:23]

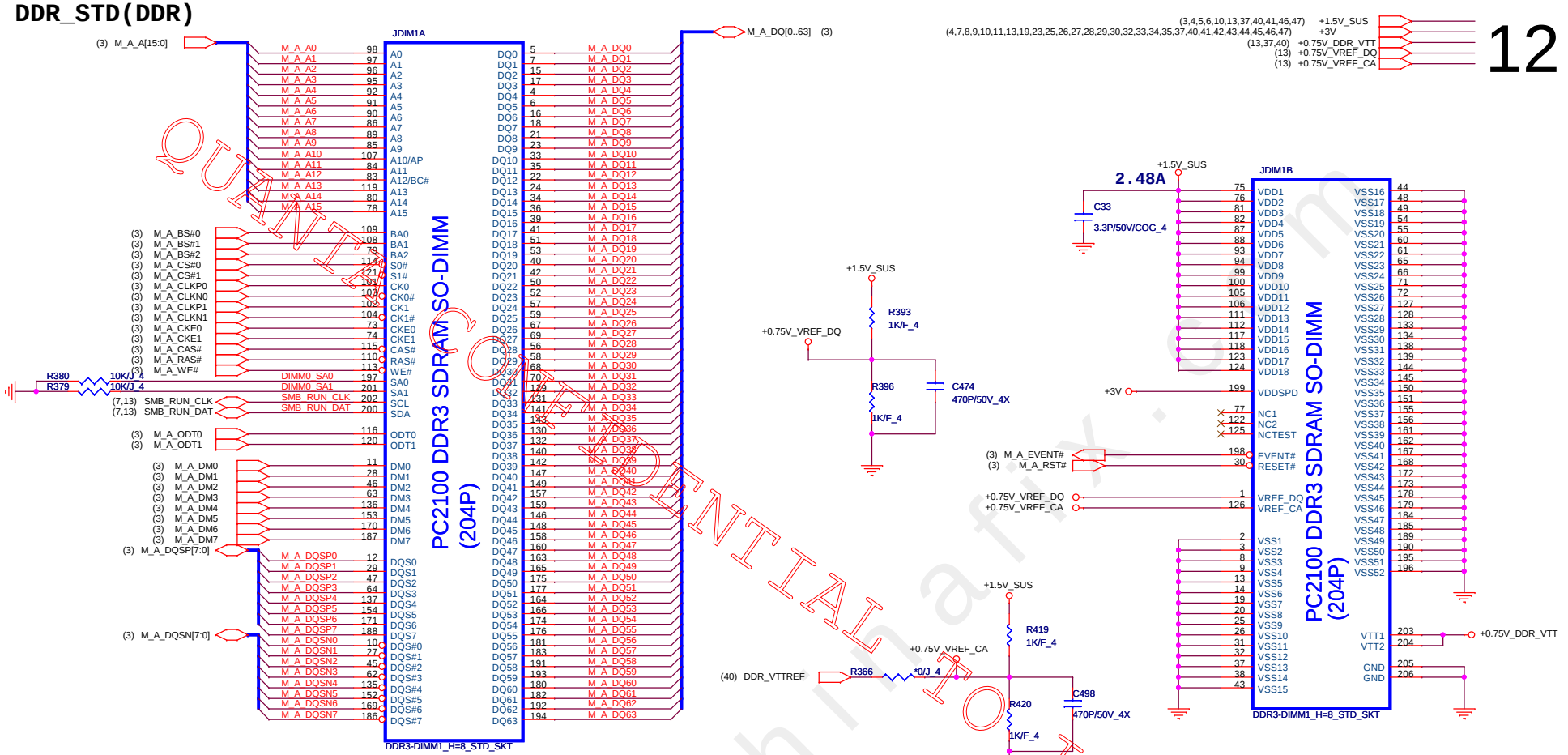


	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE PCI PLL DEFAULT	DISABLE ILA AUTORUN DEFAULT	USE FC PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	DISABLE PCI MEM BOOT DEFAULT
PULL LOW	BYPASS PCI PLL	ENABLE ILA AUTORUN	BYPASS FC PLL	USE EEPROM PCIE STRAPS	ENABLE PCI MEM BOOT

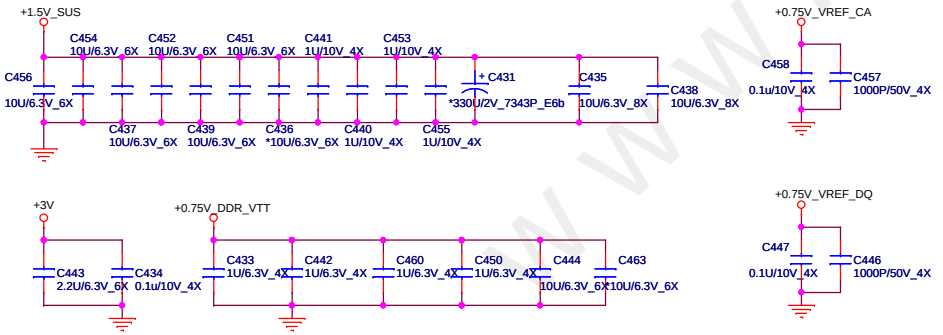
PROJECT : LZ2C
Quanta Computer Inc.

Size	Document Number	Rev
	FCH 5/5(Strap & PWRGD)	2A
Date: Monday, January 09, 2012	Sheet 11 of 51	

DDR_STD(DDR)

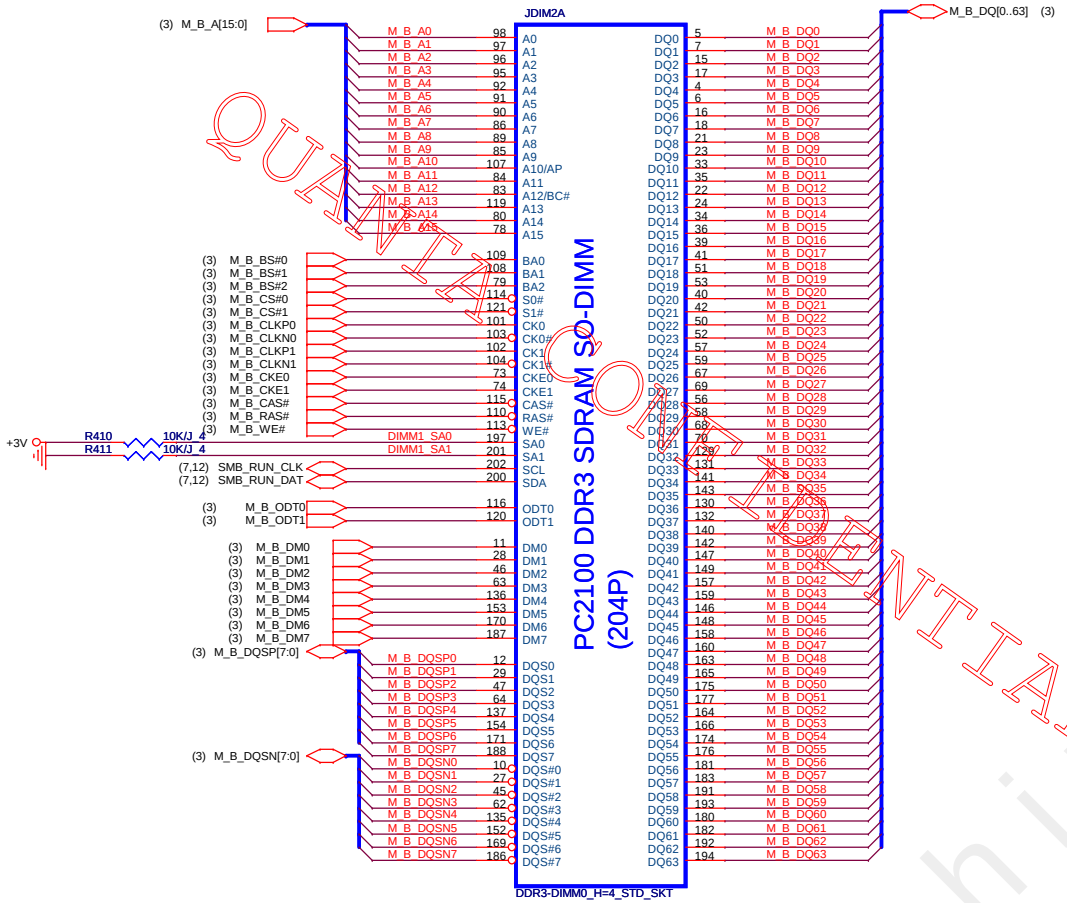


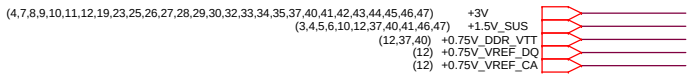
Place these Caps near So-Dimm0.

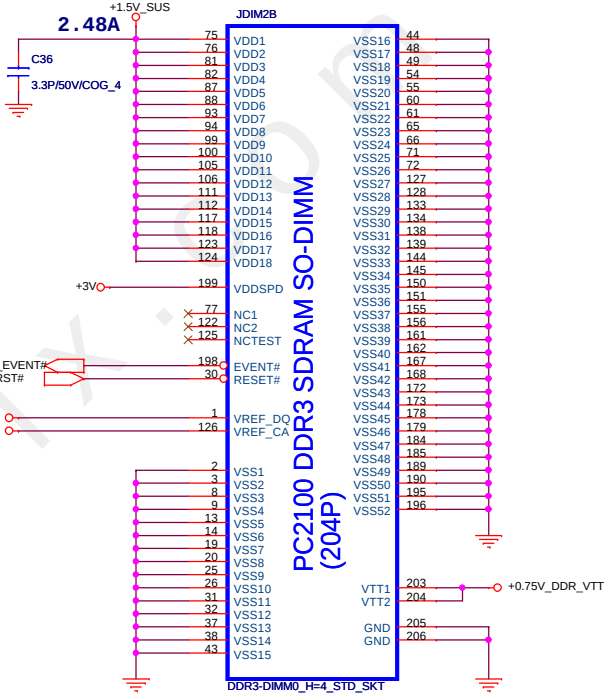


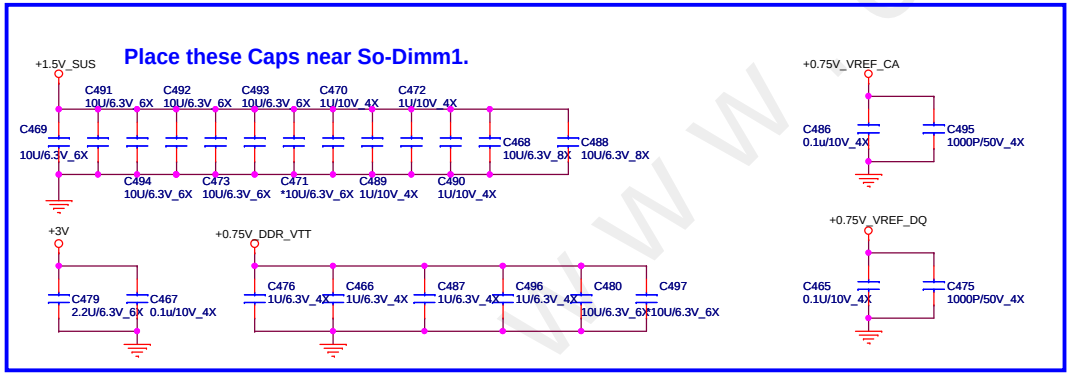
PROJECT : LZ2C		
Quanta Computer Inc.		
Size	Document Number: DDRIII SO-DIMM-0	Rev: 2A
Date: Monday, January 09, 2012	Sheet 12 of 51	

DDR_STD(DDR)

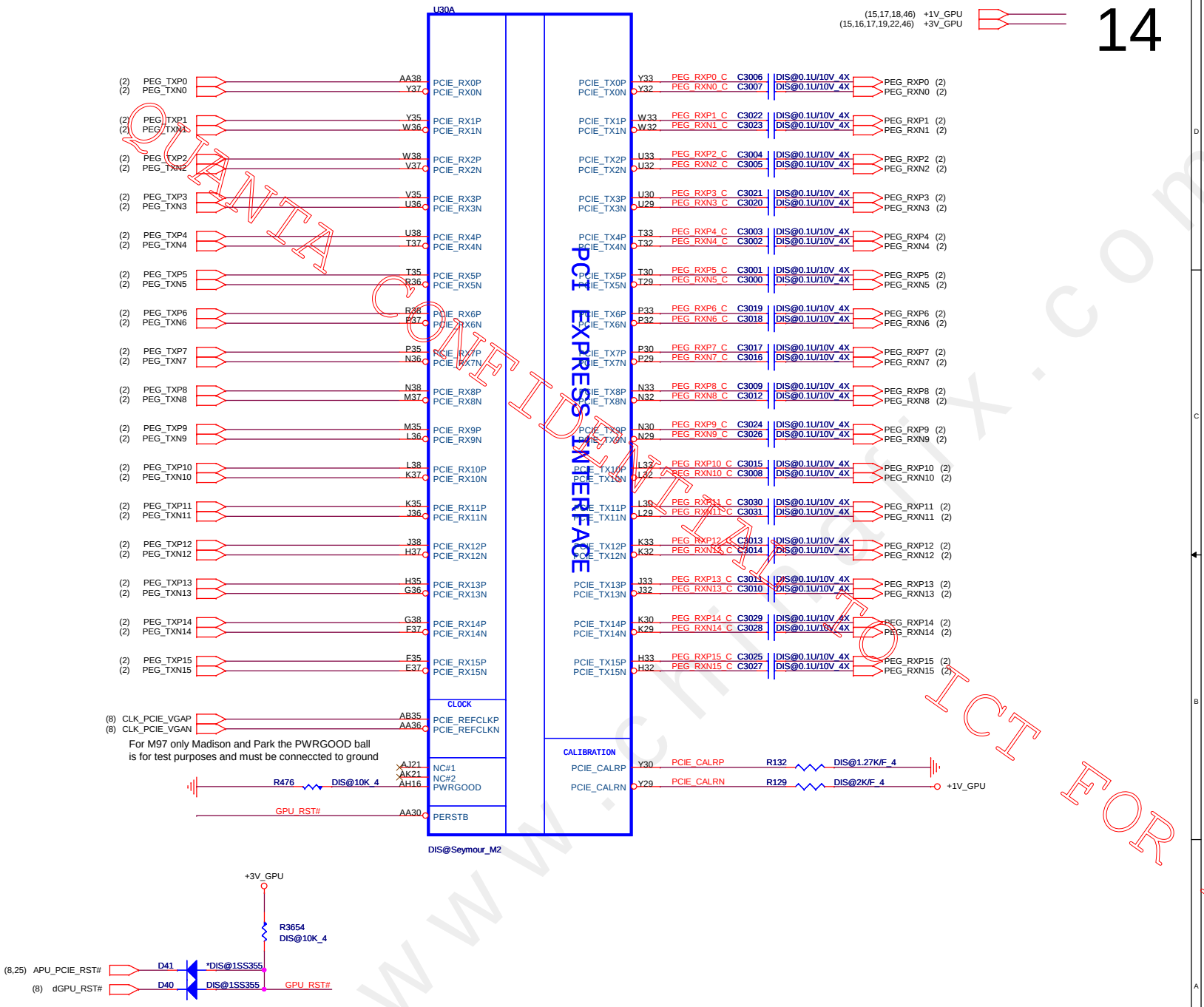






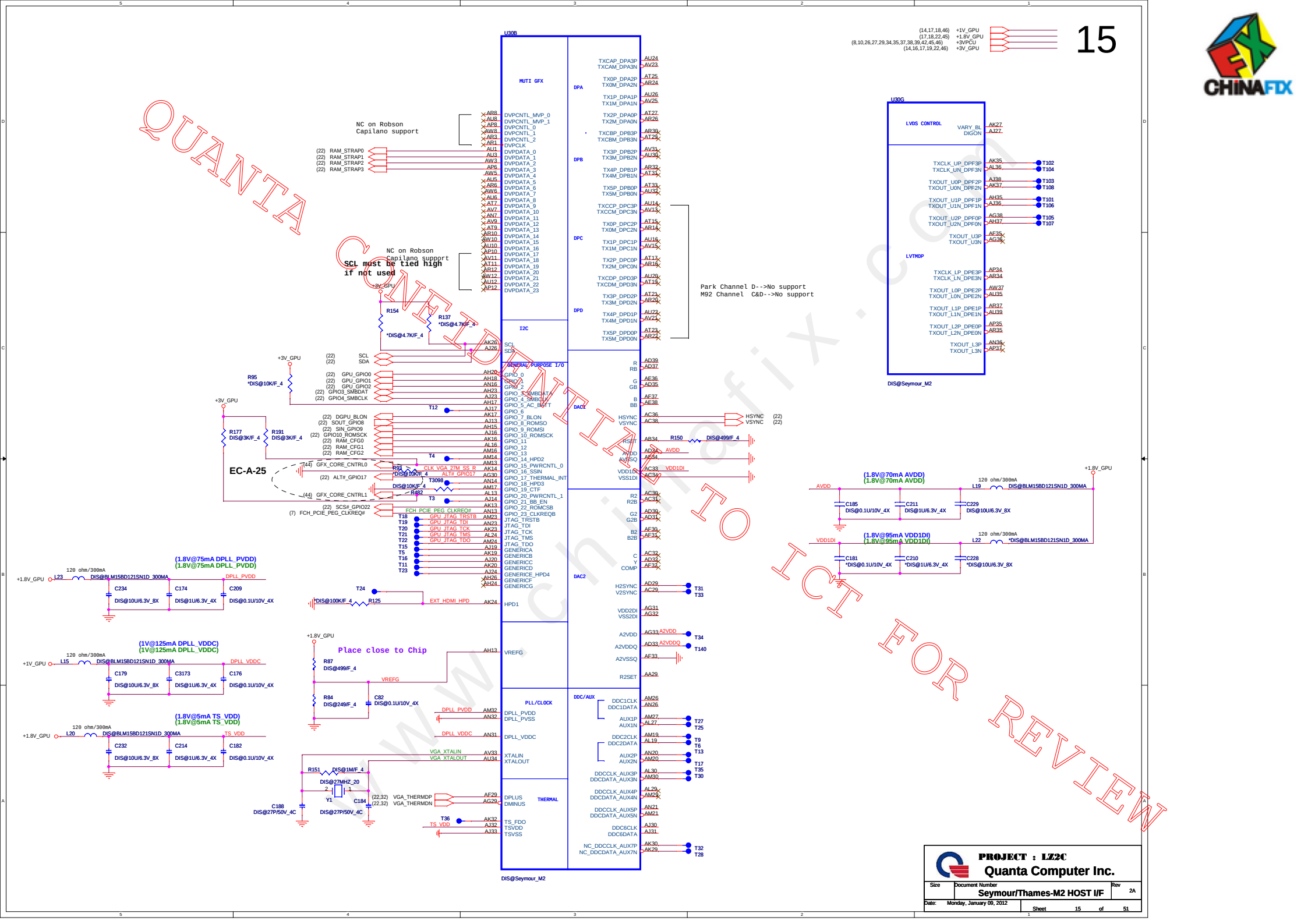


PROJECT : LZ2C		
Quanta Computer Inc.		
Size	Document Number: DDRIII SO-DIMM-1	Rev: 2A
Date: Monday, January 09, 2012	Sheet 13 of 51	

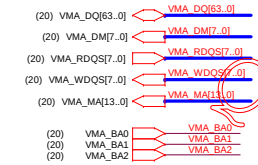


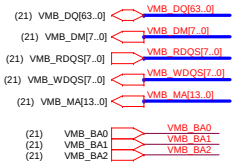
14

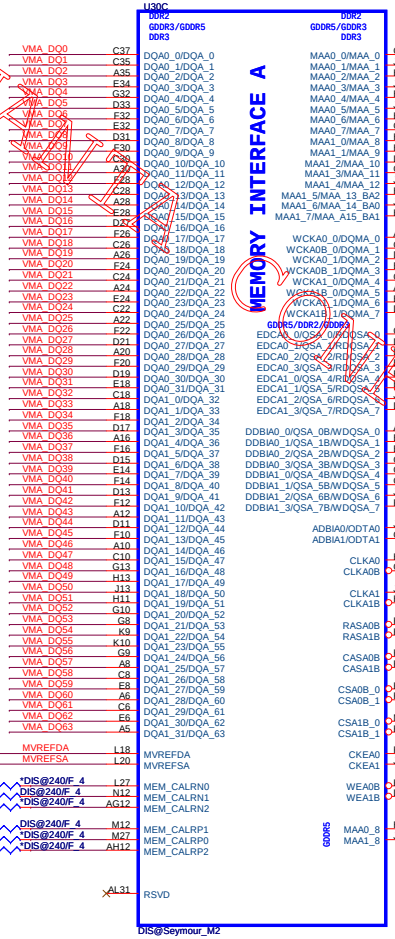
PROJECT : LZ2C		
Quanta Computer Inc.		
Size	Document Number: Seymour/Thames-M2 PCIE I/F	Rev: 2A
Date: Monday, January 09, 2012	Sheet 14 of 51	

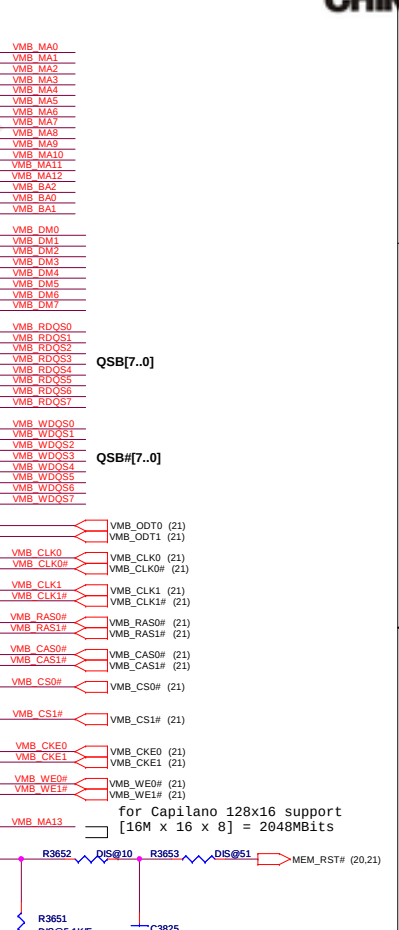


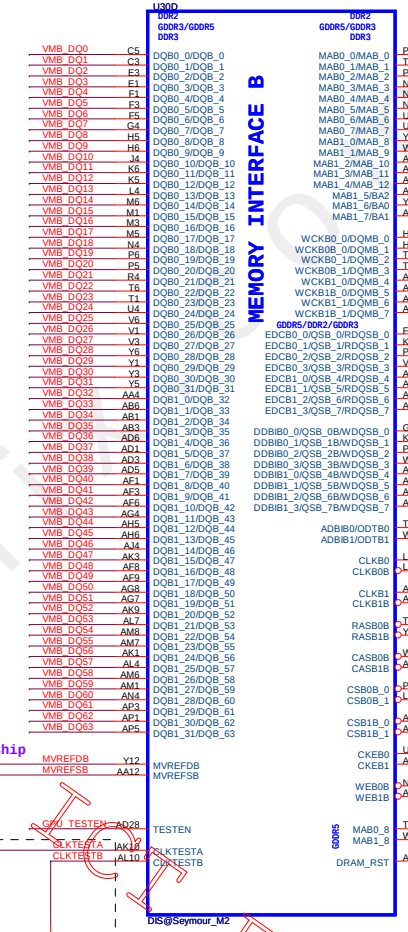
Seymour XT use Memory Group

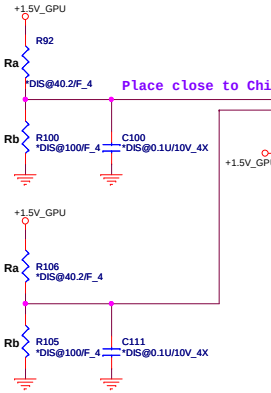


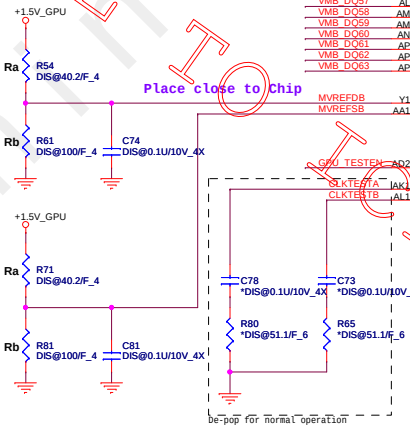


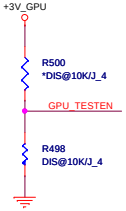












DDR3/GDDR3 Memory Stuff Option

Robson/Capilano	DDR3
MVDDQ	1.5V
Ra	40.2R
Rb	100R

Ball Name	Seymour M2	Thames M2
MVREFDA	NC	V
MVREFSA	NC	V
MVREFDB	V	V
MVREFSB	V	V
MEM_CALRN0	NC	V
MEM_CALRN1	V	V
MEM_CALRN2	NC	V
MEM_CALRP0	NC	V
MEM_CALRP1	V	V
MEM_CALRP2	NC	V

TESTEN	Description
0	Internal Debug use only
1	JTAG signals enable

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Quanta Computer Inc.

Size	Document Number	Rev
	Seymour/Thames-M2 MEM I/F	2A
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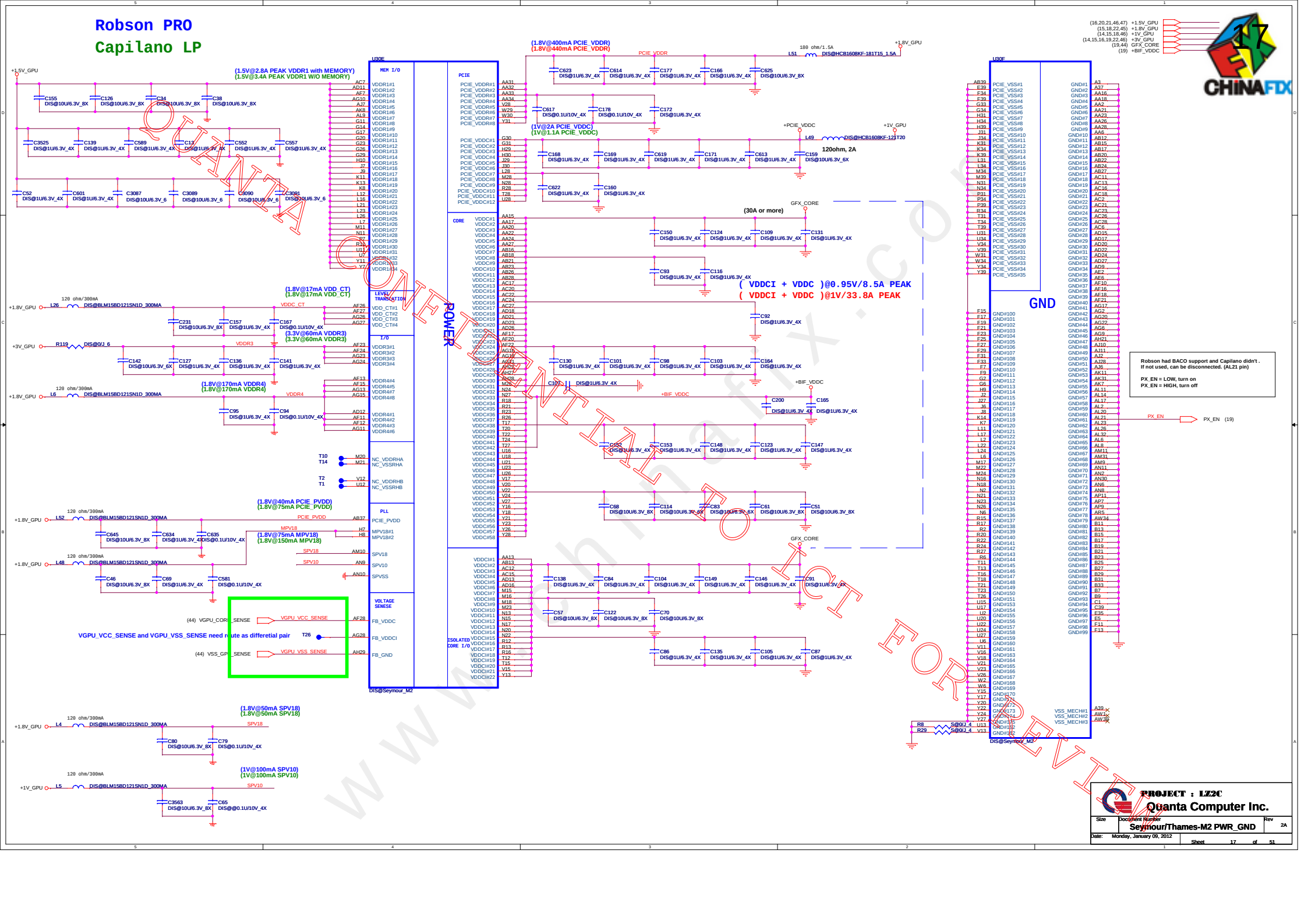
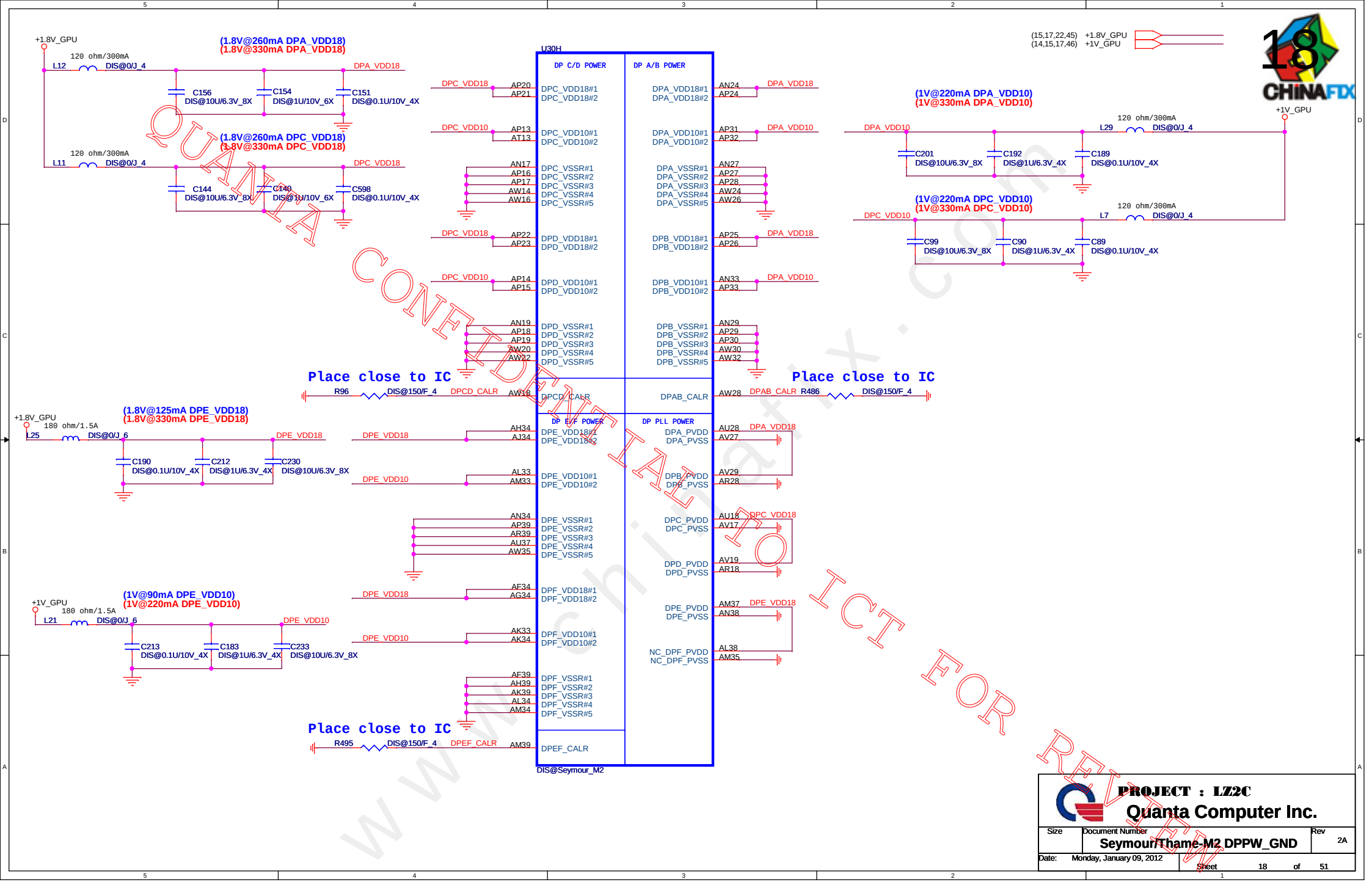
Robson PRO
Capilano LP





PROJECT : LZ2C		
Quanta Computer Inc.		
Size	Document Number: Seymour/Thame-M2 DPPW_GND	Rev: 2A
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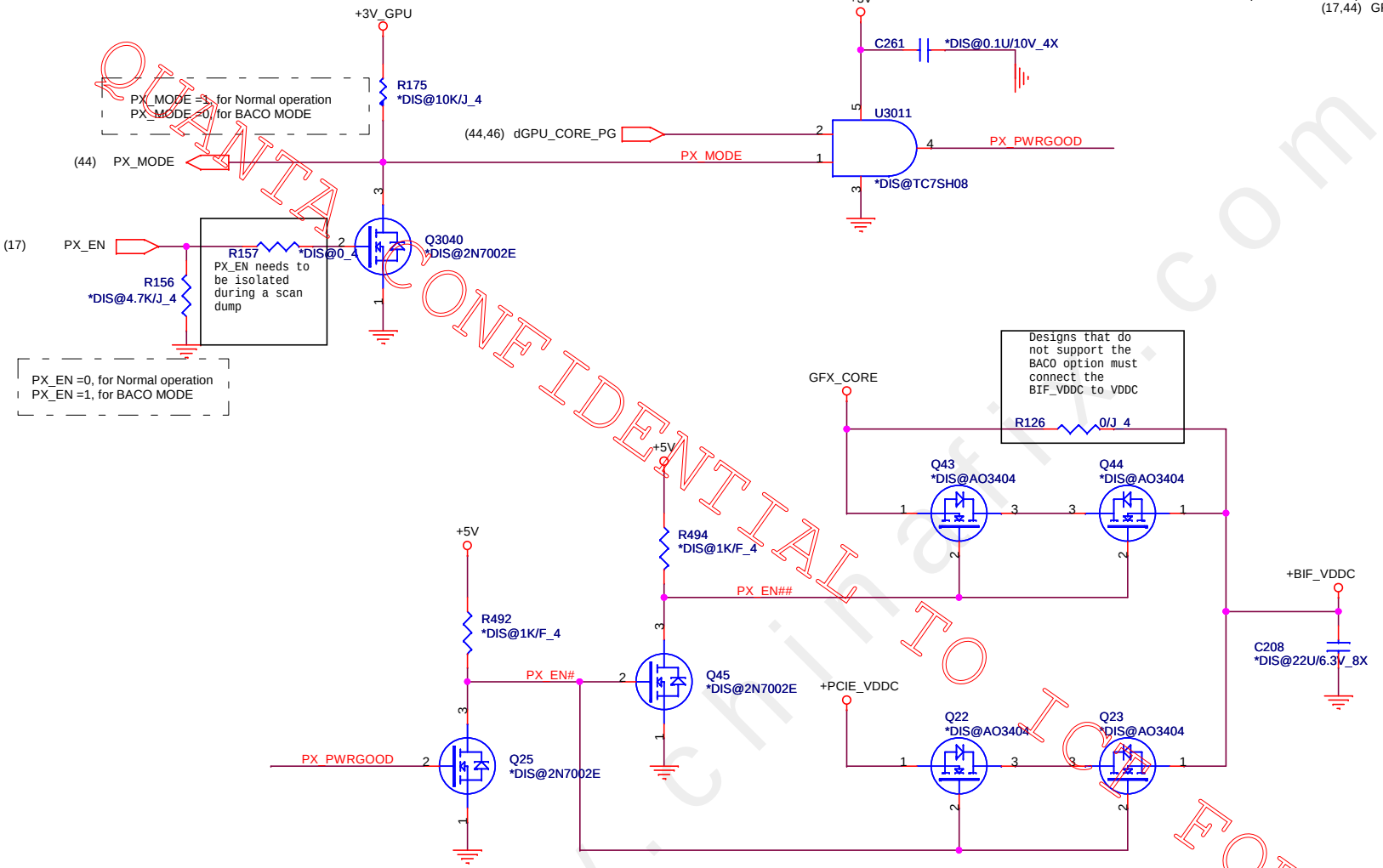
EC-B-08

(4,7,8,9,10,11,12,13,23,25,26,27,28,29,30,32,33,34,35,37,40,41,42,43,44,45,46,47) +3V
(9,23,24,25,28,29,32,33,37,47) +5V
(17) +PCIE_VDDC
(14,15,16,17,22,46) +3V_GPU
(17,44) GFX_CORE



PROJECT : LZ2C
Quanta Computer Inc.

Size	Document Number	Rev
	Seymour -M2 BACO	2A
Date: Monday, January 09, 2012	Sheet 19 of 51	

CHANNEL A: 512MB DDR3 (64M*16*4pcs)

(16,17,21,46,47) +1.5V_GPU

(16) VMA_DQ[63..0] — VMA_DM[7..0] — VMA_RDQS[7..0] — VMA_WDQS[7..0] — VMA_MA[13..0]

QSA[7..0]

QSA#[7..0]

TOP Left

BOT Left

BOT Right

TOP Right

Group-A0 VREF

Group-A1 VREF

MEM_A0 CLK

Group-A0 decoupling CAP

Group-A1 decoupling CAP

MEM_A1 CLK

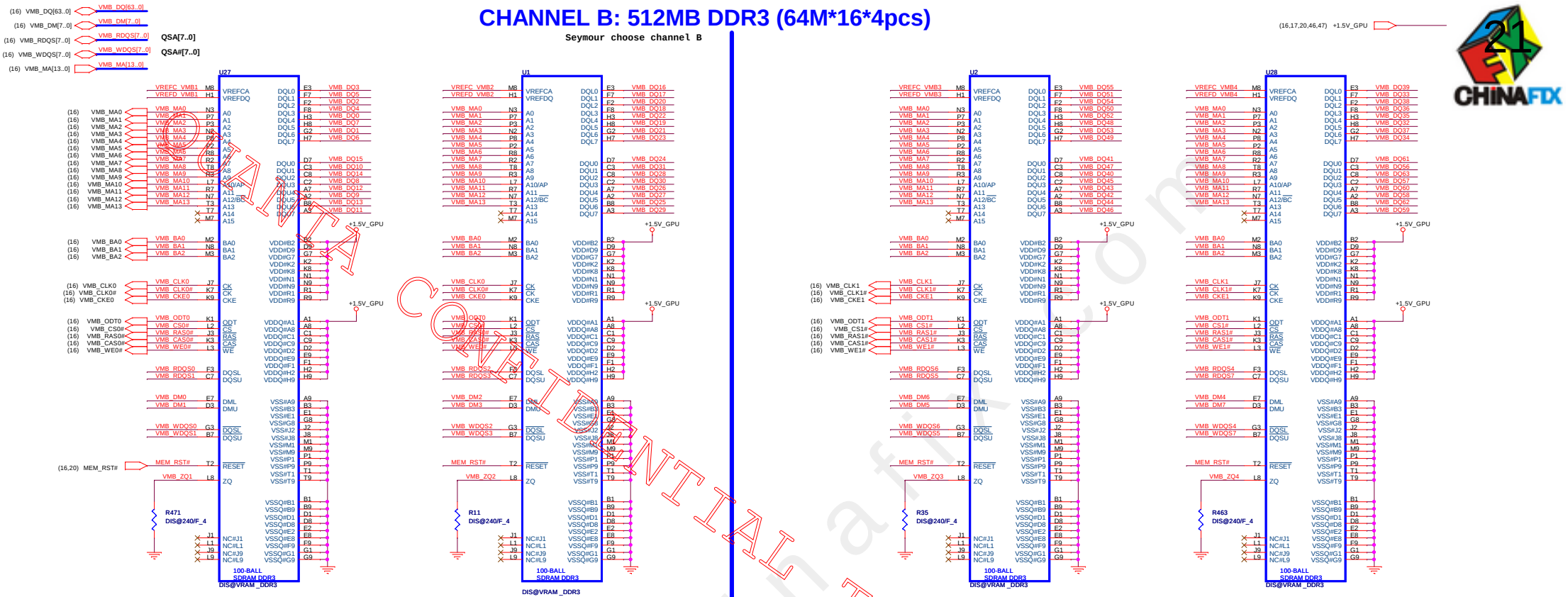
Put close to VRAM

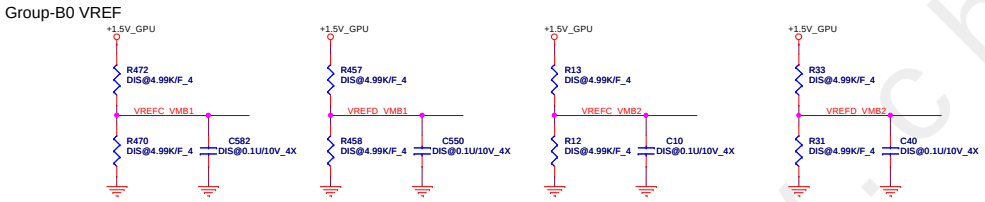
Put close to VRAM

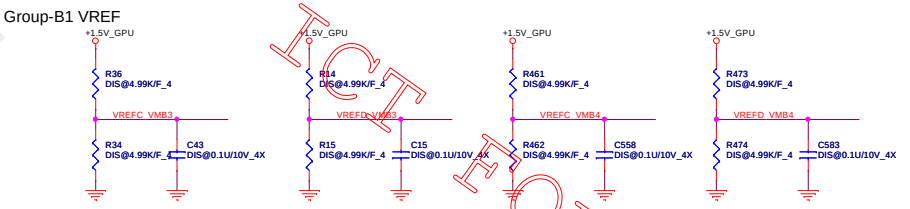
PROJECT : LZ2C			
Quanta Computer Inc.			
Size	Document Number		Rev
	VRAM_A:DDR3		2A
Date: Monday, January 09, 2012		Sheet 20 of 51	

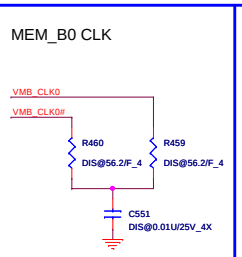
CHANNEL B: 512MB DDR3 (64M*16*4pcs)

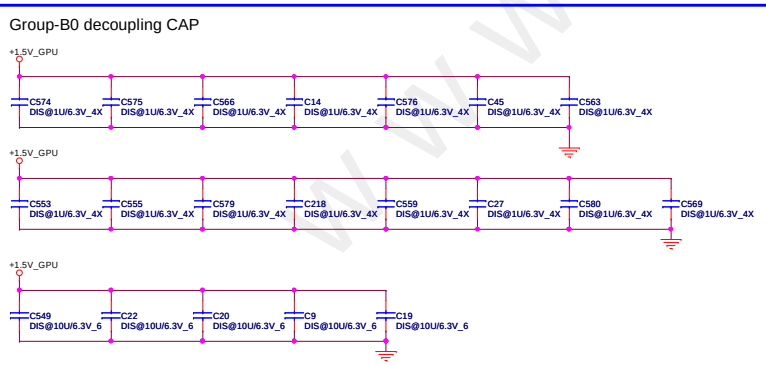
Seymour choose channel B

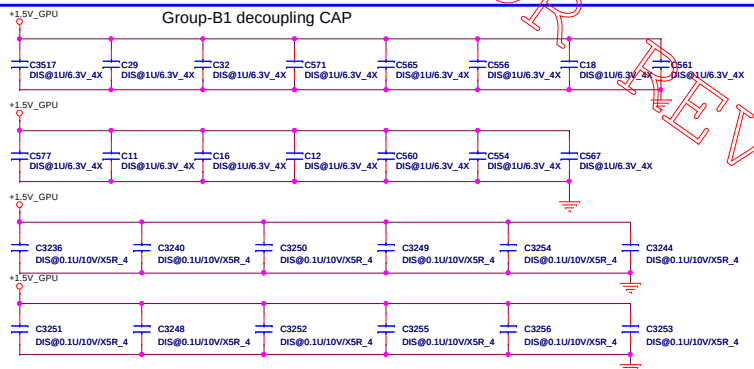


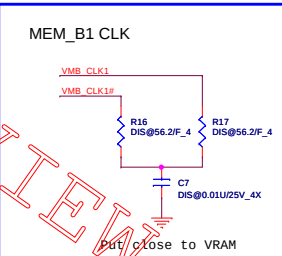












PROJECT : LZ2C		
Quanta Computer Inc.		
Size	Document Number	Rev
	VRAM_B: DDR3-64M*16*4PCS	2A
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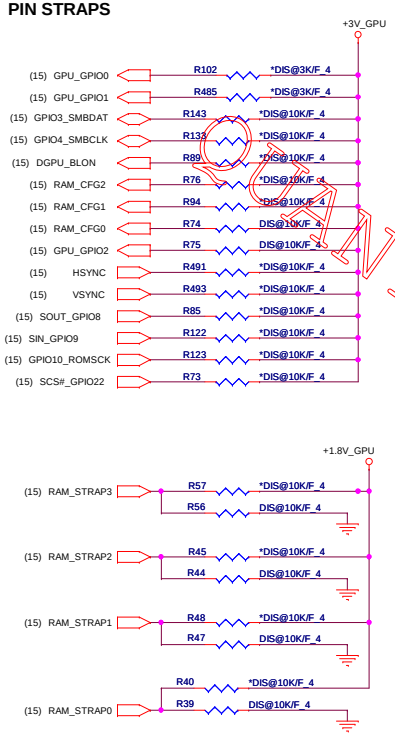
PIN STRAPS



Memory Aperture size	
RAM_CFG[2:0]	Size
000	128MB
001	256MB
010	64MB
011	32MB

ROM Table		
HSYNC	VSYNC	Discription
0	0	No Audio
0	1	Any one by dectec
1	0	DP only
1	1	Both DP & HDMI

VRAM Memory TYPE

Vendor	Vendor P/N	STN B/S P/N	Size	RAM_STRAP3 DVPDATA_3	RAM_STRAP2 DVPDATA_2	RAM_STRAP1 DVPDATA_1	RAM_STRAP0 DVPDATA_0
Hynix	H5TQ1G63DFR-11C	AKD5LZWTW02 (64M*16-1Gb)	1GB	0	0	1	0
	H5TQ2G63BFR-11C	AKD5MGWTW00 (128M*16-1Gb)	2GB	0	0	0	0
	H5TQ2G63DFR-11C	AKD5MGWTW16 (128M*16-1Gb)	2GB	0	1	0	0
Samsung	K4W1G1646G-BC11	AKD5EGGT500 (64M*16-1Gb)	1GB	0	0	1	1
	K4W2G1646C-HC11	AKD5MGWT500 (128M*16-1Gb)	2GB	0	0	0	1

CONFIGURATION STRAPS

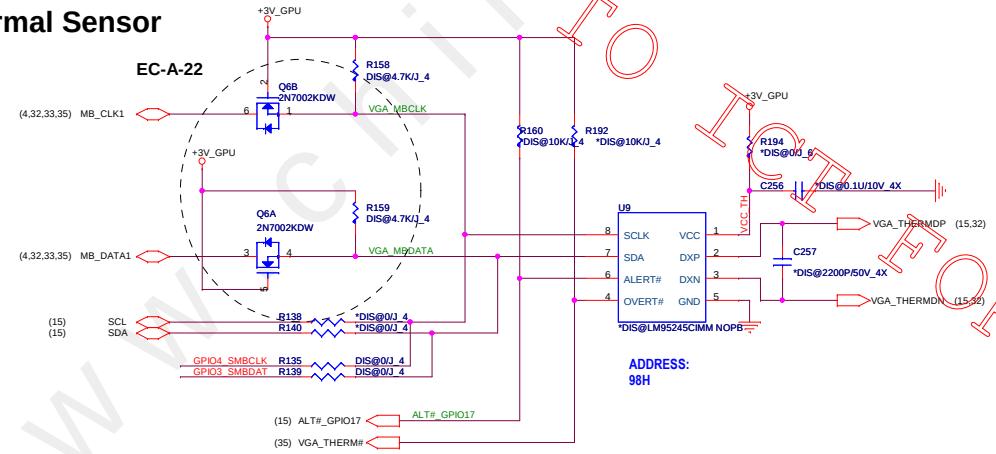
ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET

STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	DEFAULT	REMARK
TX_PWRS_ENB	GPIO0	0 = 50% TX OUTPUT SWING 1 = FULL TX OUTPUT SWING	0	
TX_DEEMPH_EN	GPIO1	PCIE TRANSMITTER DE-EMPHASIS ENABLED 0 = TX DE-EMPHASIS DISABLED 1 = TX DE-EMPHASIS ENABLED	0	
BIOS_ROM_EN	GPIO_22_ROMCSB	ENABLE EXTERNAL BIOS ROM (Only for GDDR5) 0 = DISABLE 1 = ENABLE	0	
ROMIDCFG(2:0)	GPIO[13:11]	SERIAL ROM TYPE OR MEMORY APERTURE SIZE SELECT NUMONYX M25P10A : 101	000	See ROM table
BIF_GEN2_EN_A	GPIO2	0 = PCIE DEVICE AS 2.5GT/S CAPABLE 1 = PCIE DEVICE AS 5GT/S CAPABLE	1	
GPIO_8_ROMSO H2SYNC GPIO_21_BB_EN	GPIO8 H2SYNC GPIO21	Reserved Only	0	
AUD[1] AUD[0]	HSYNC VSYNC	AUD[1:0] 00: NO AUDIO FUNCTION. 01: AUDIO FOR DISPLAYPORT AND HDMI IF ADAPTER IS DETECTED. 10: AUDIO FOR DISPLAYPORT ONLY. 11: AUDIO FOR BOTH DISPLAYPORT AND HDMI.	11	See Audio table
GPIO_9_ROMSI	GPIO9	0 = VGA controller capacity enable	0	
VIP_DEVICE_STRAP_ENA VIP: Video Capture Port Interface	V2SYNC	0 = DRIVER would ignore the value sample on VHAD_0 during RESET.	0	

(15,17,18,45) +1.8V_GPU
(14,15,16,17,19,46) +3V_GPU

Thermal Sensor

EC-A-22



PROJECT : LZ2C
Quanta Computer Inc.

Size	Document Number	Rev
	Memory strip/Thermal	2A
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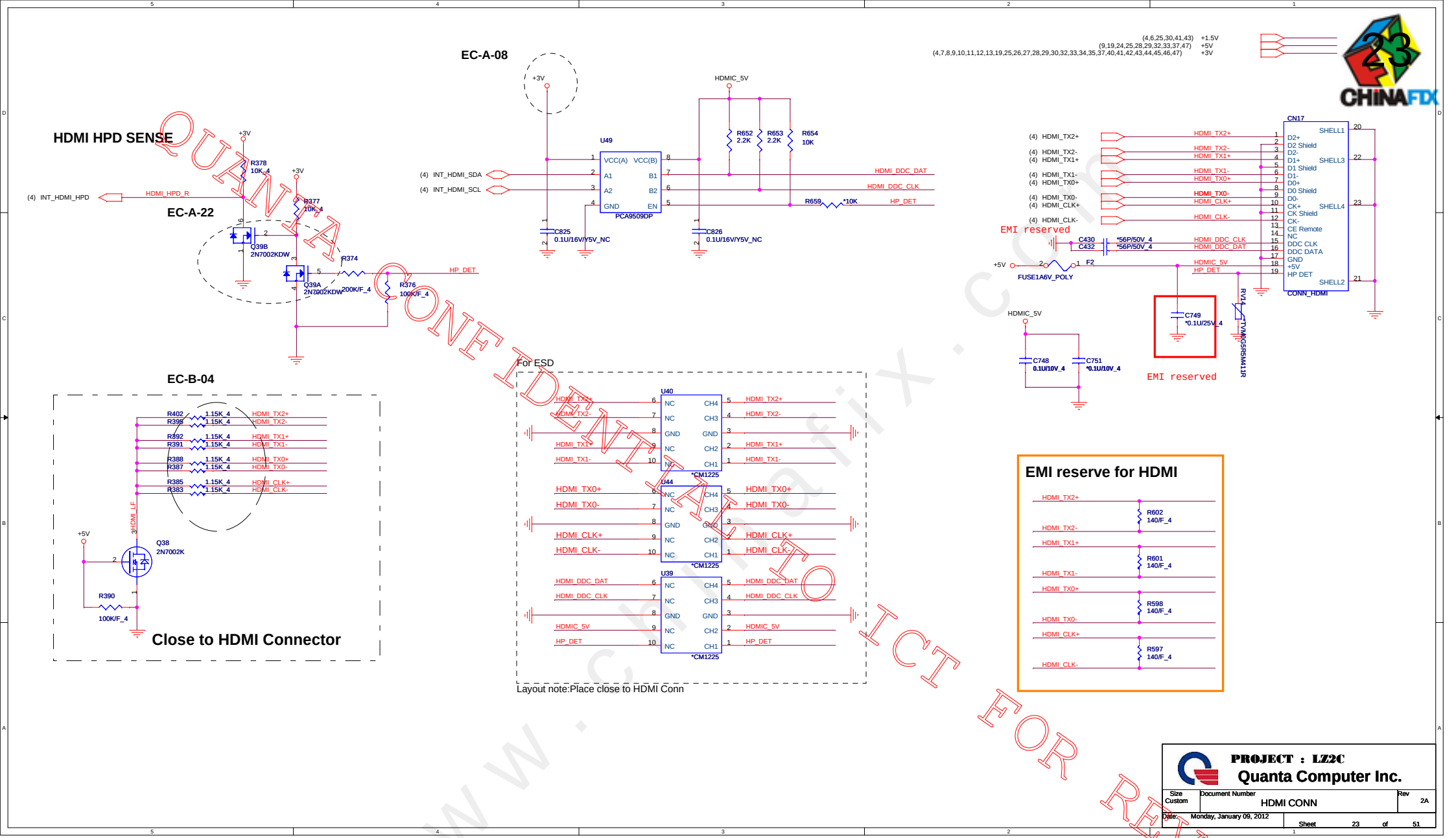

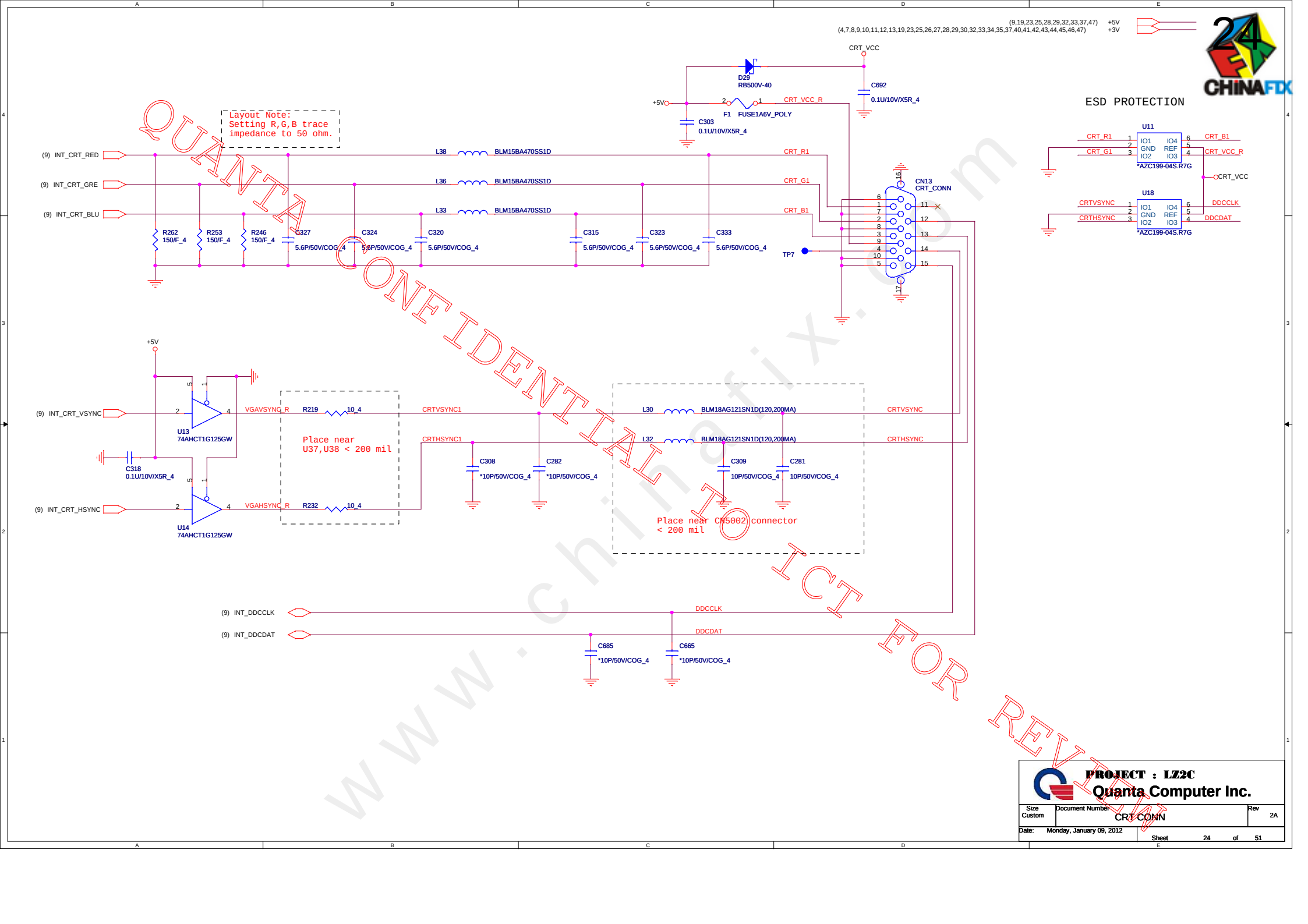
(9,19,23,25,28,29,32,33,37,47) +5V
(4,7,8,9,10,11,12,13,19,23,25,26,27,28,29,30,32,33,34,35,37,40,41,42,43,44,45,46,47) +3V
CRT_VCC
D29
RB500V-40
C692
0.1U/10V/X5R_4
+5V
CRT_VCC_R
F1 FUSE1A6V_POLY
C303
0.1U/10V/X5R_4
ESD PROTECTION
U11
CRT_R1
CRT_G1
CRT_B1
CRT_VCC_R
*AZC199-04S.R7G
U18
CRTVSYNC
CRTHSYNC
DDCCLK
DDCDAT
*AZC199-04S.R7G
Layout Note:
Setting R,G,B trace
impedance to 50 ohm.
(9) INT_CRT_RED
(9) INT_CRT_GRE
(9) INT_CRT_BLU
L38 BLM15BA470SS1D
L36 BLM15BA470SS1D
L33 BLM15BA470SS1D
CRT_R1
CRT_G1
CRT_B1
R262 150/F_4
R253 150/F_4
R246 150/F_4
C327 5.6P/50V/COG_4
C324 5.6P/50V/COG_4
C320 5.6P/50V/COG_4
C315 5.6P/50V/COG_4
C323 5.6P/50V/COG_4
C333 5.6P/50V/COG_4
TP7
CN13
CRT_CONN
+5V
(9) INT_CRT_VSYNC
(9) INT_CRT_HSYNC
U13
74AHCT1G125GW
U14
74AHCT1G125GW
C318
0.1U/10V/X5R_4
VGAVSYNC_R
VGAHSYNC_R
R219 10_4
R232 10_4
Place near
U37,U38 < 200 mil
CRTVSYNC1
CRTHSYNC1
L30 BLM18AG121SN1D(120,200MA)
L32 BLM18AG121SN1D(120,200MA)
CRTVSYNC
CRTHSYNC
C308 *10P/50V/COG_4
C282 *10P/50V/COG_4
C309 10P/50V/COG_4
C281 10P/50V/COG_4
Place near CN5002 connector
< 200 mil
(9) INT_DDCCLK
(9) INT_DDCDAT
DDCCLK
DDCDAT
C685 *10P/50V/COG_4
C665 *10P/50V/COG_4
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ICT FOR REVIEW
PROJECT : LZ2C
Quanta Computer Inc.
Size Custom
Document Number CRT CONN
Rev 2A
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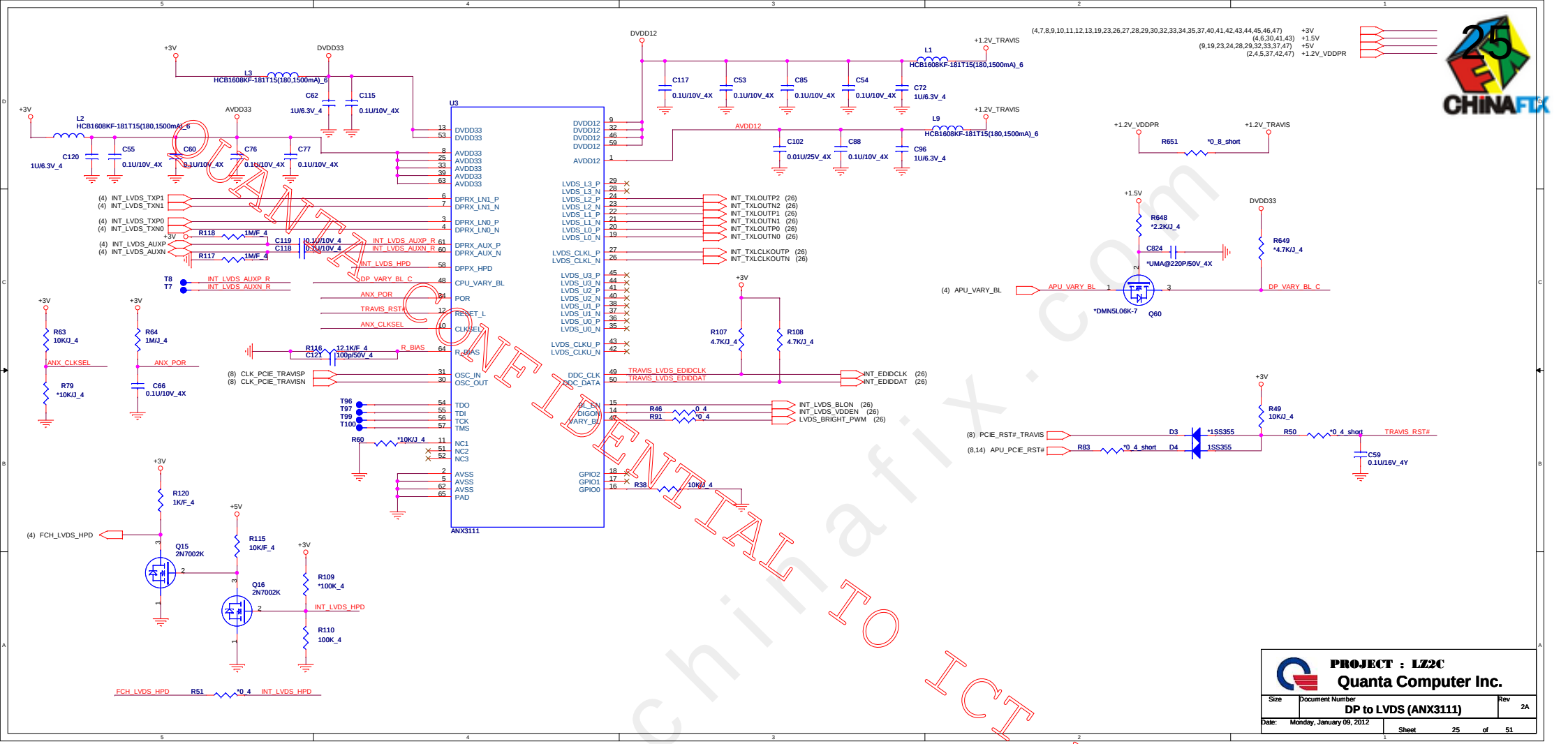
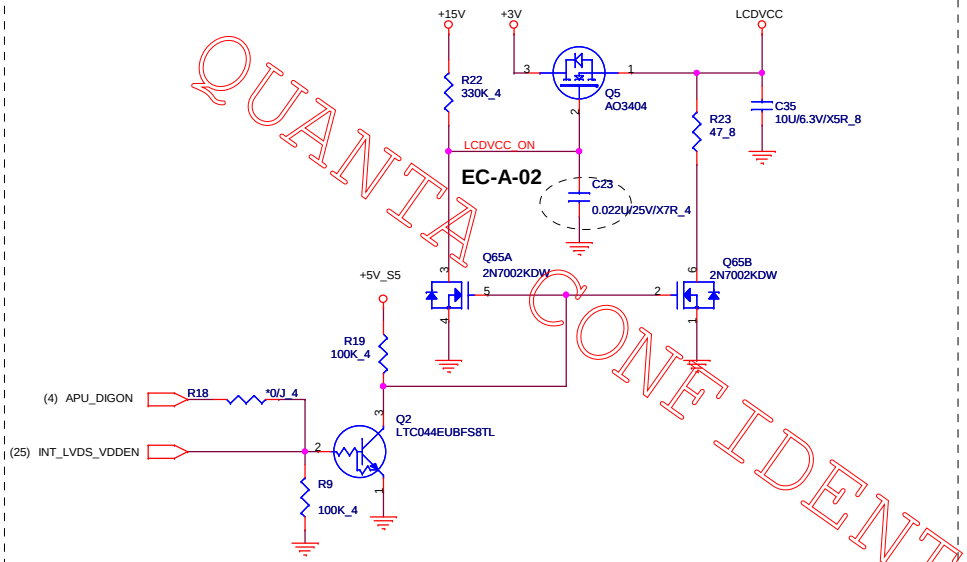
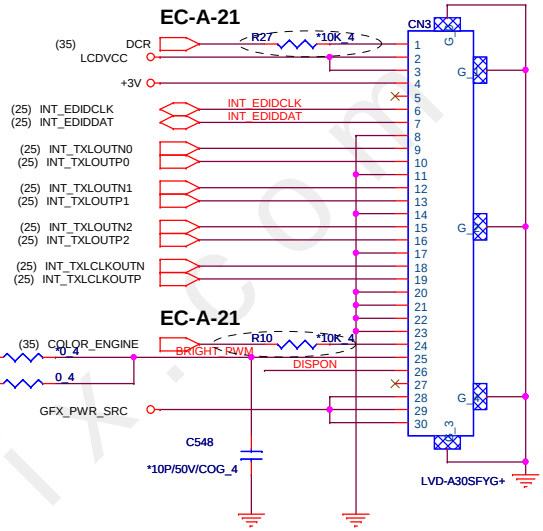


(4,7,8,9,10,11,12,13,19,23,25,27,28,29,30,32,33,34,35,37,40,41,42,43,44,45,46,47) +3V
(10,29,33,37,39,41,46) +15V
(31,34,37,47) +5V_S5
(8,10,27,29,34,35,37,38,39,42,45,46) +3VPCU

LCDVCC

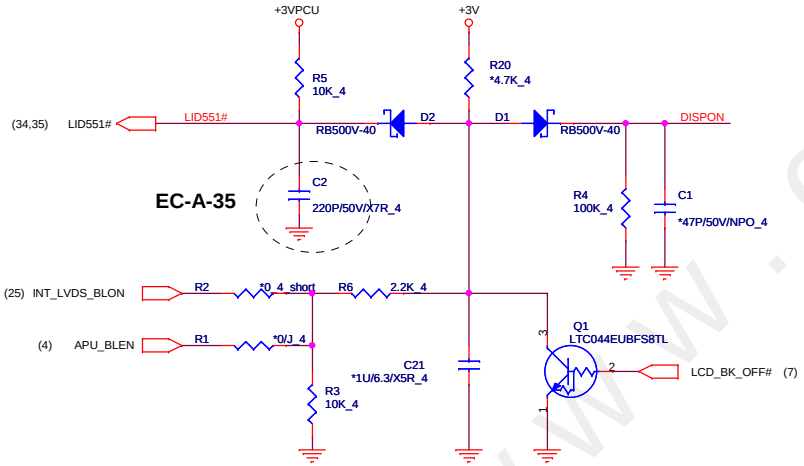


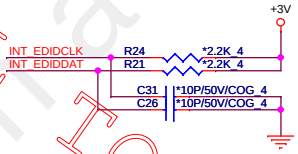
EC-A-21

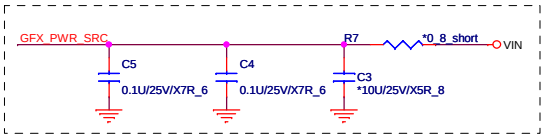


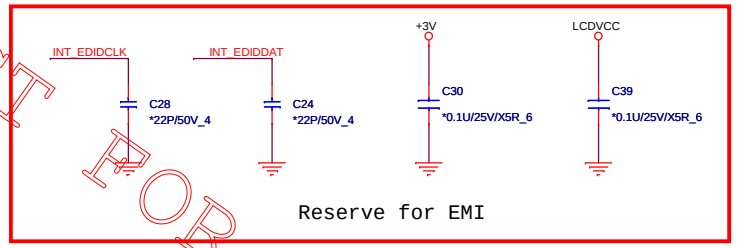
EC-A-21

back light



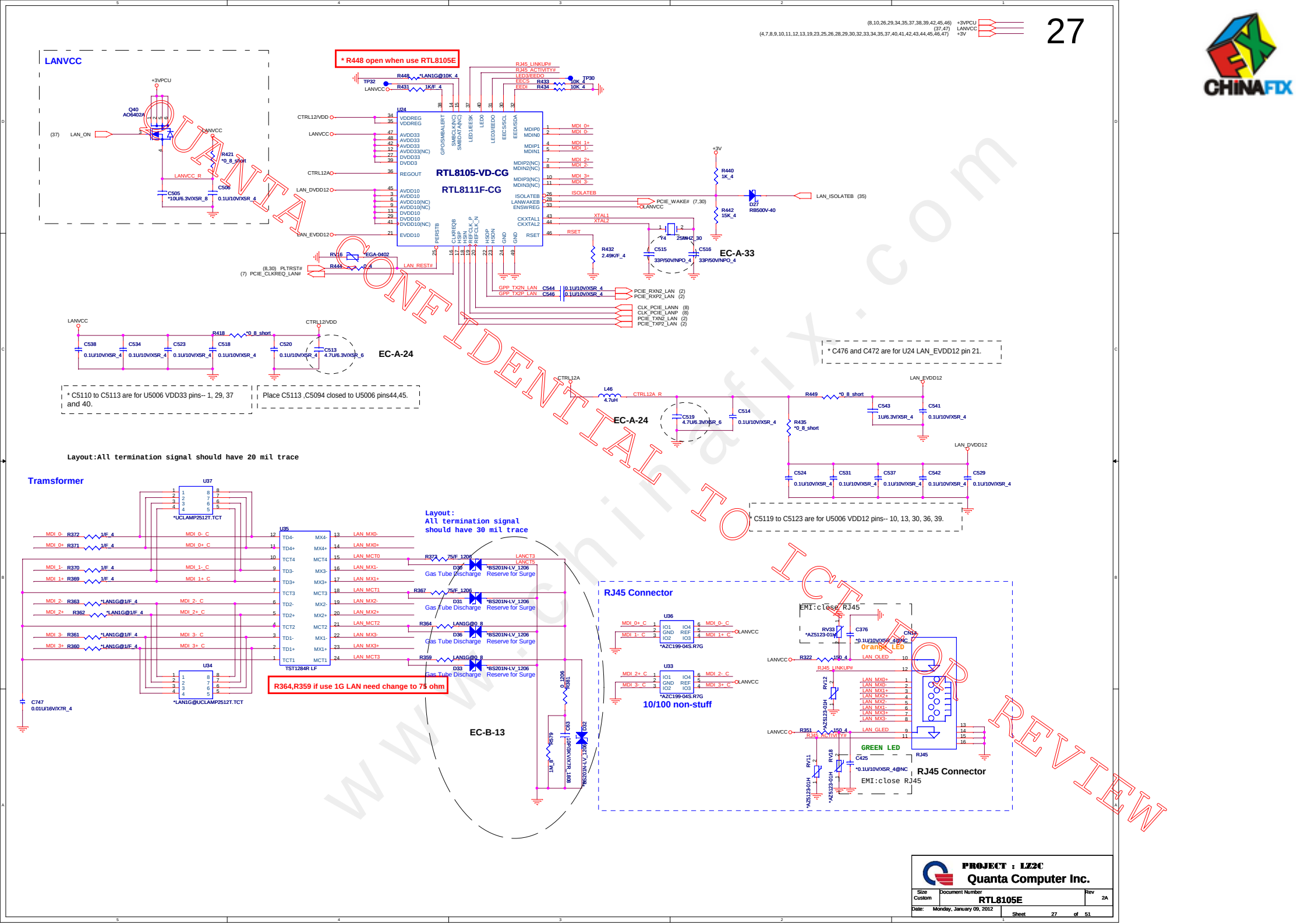




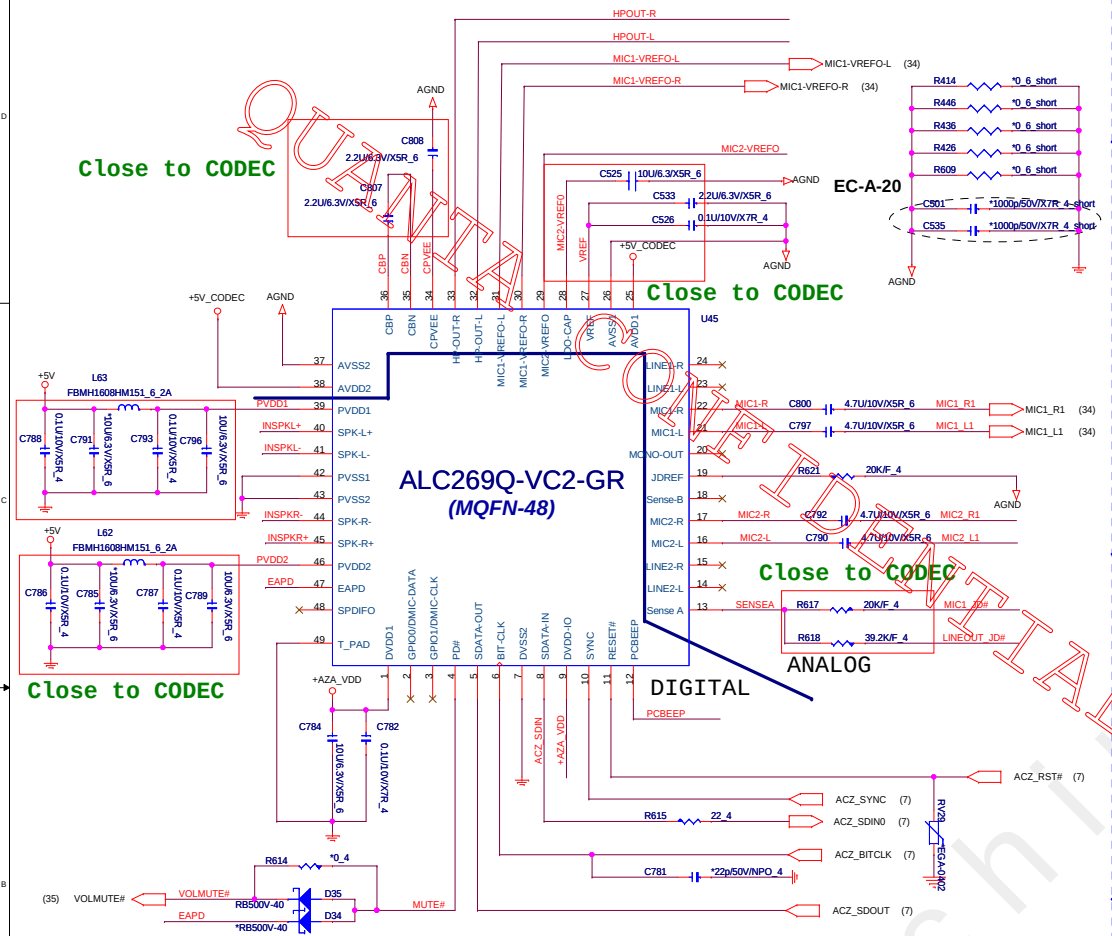


PROJECT : LZ2C
Quanta Computer Inc.

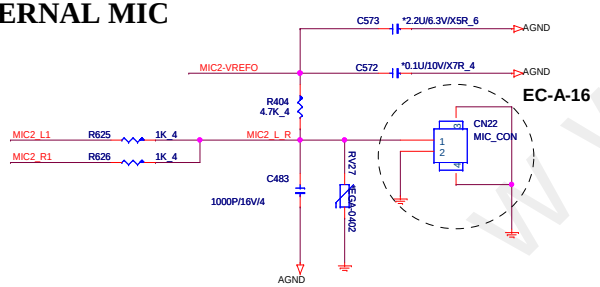
Size	Document Number	Rev
Custom	LCD CONN	2A
Date: Monday, January 09, 2012	Sheet 26 of 51	



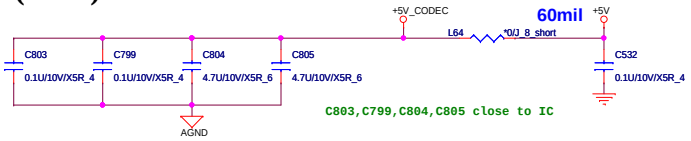
CODEC(ADO)



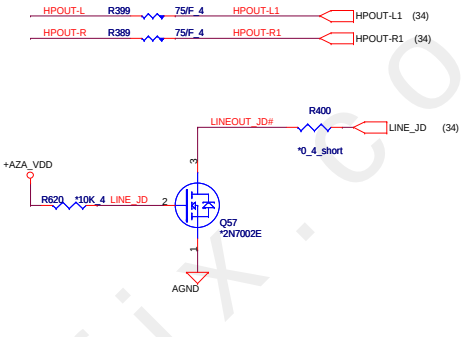
INTERNAL MIC



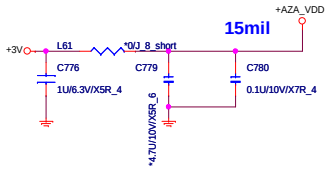
Codec Power(ADO)



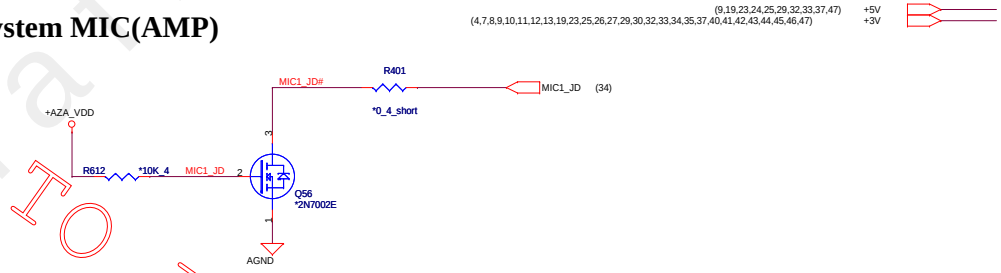
Earphone(AMP)



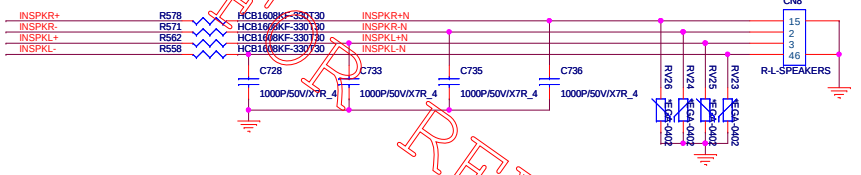
HDA Power(ADO)



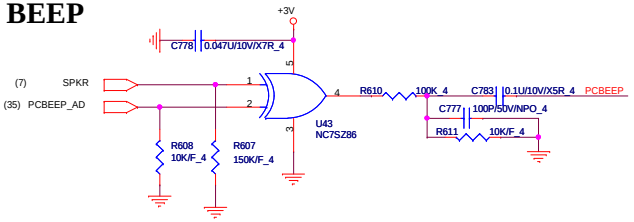
System MIC(AMP)



Speaker(AMP)



PC BEEP



PROJECT : LZ2C			
Quanta Computer Inc.			
Size: Custom	Document Number: ALC269/MIC/Line out		Rev: 2A
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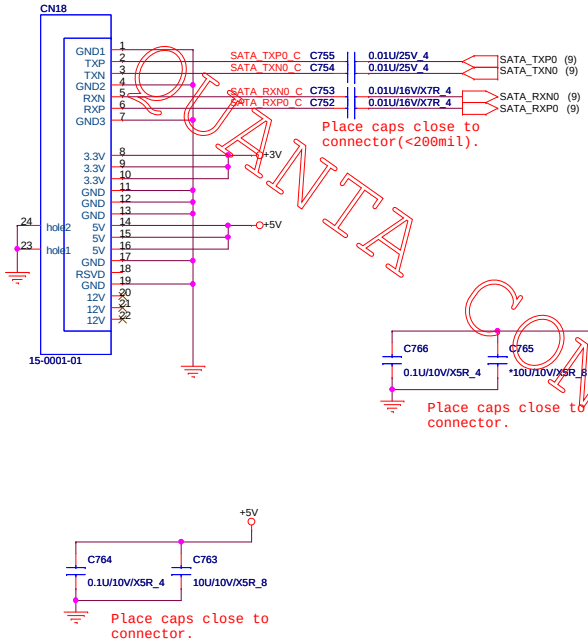
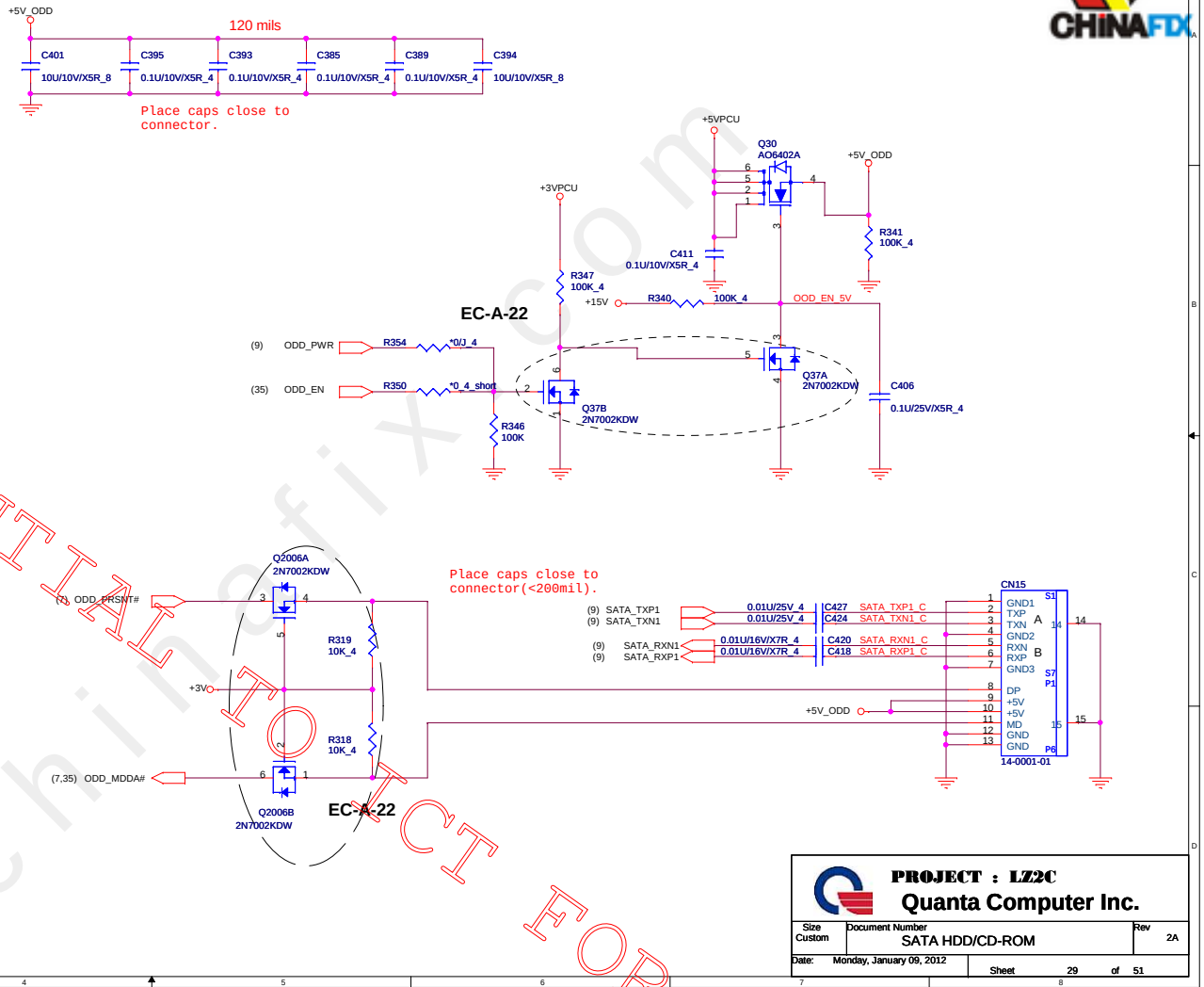
SATA HDD Connector.



SATA ODD Connector.

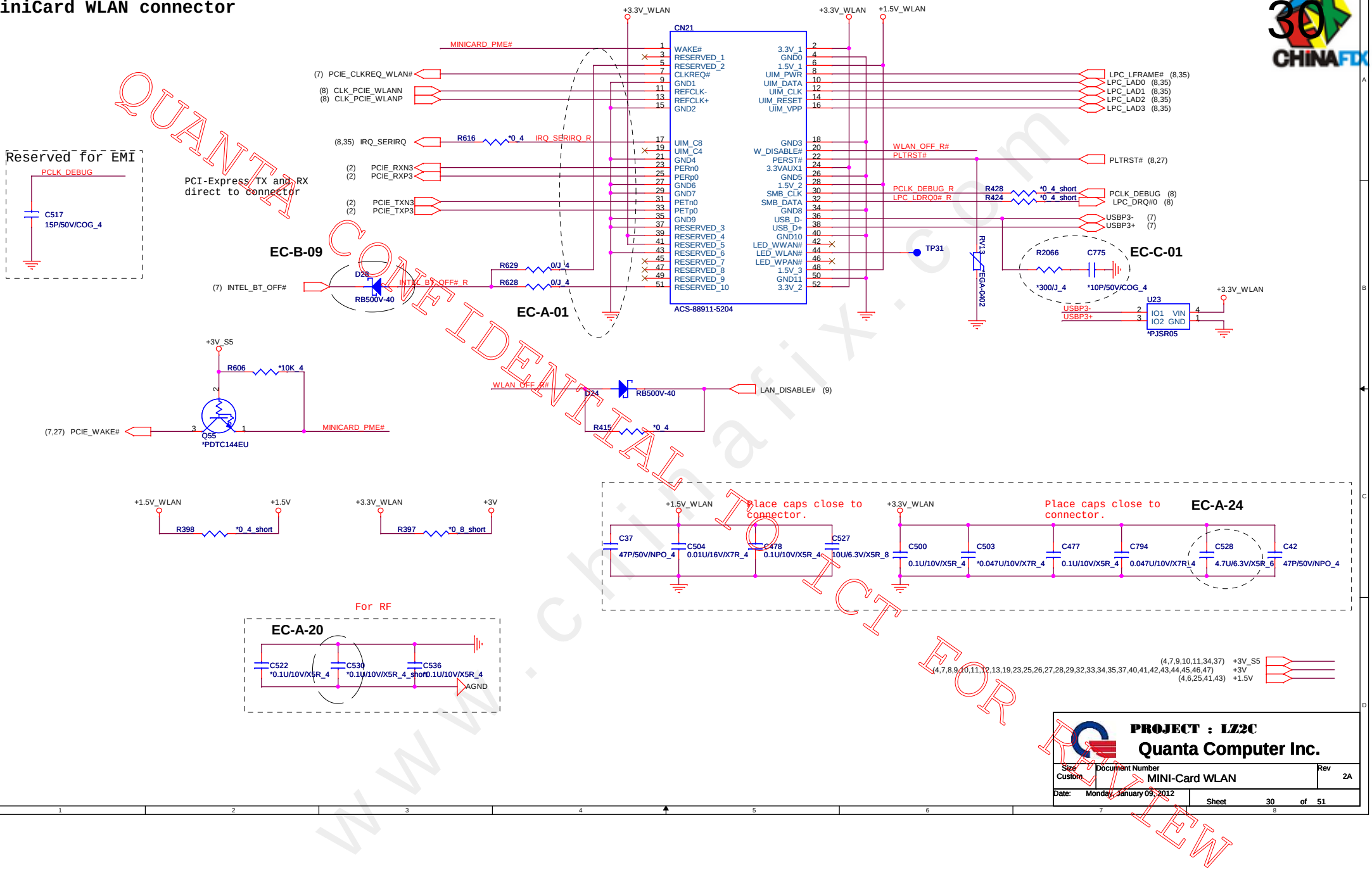


PROJECT : LZ2C

Quanta Computer Inc.

Size	Document Number	Rev
Custom	SATA HDD/CD-ROM	2A
Date: Monday, January 09, 2012	Sheet 29 of 51	

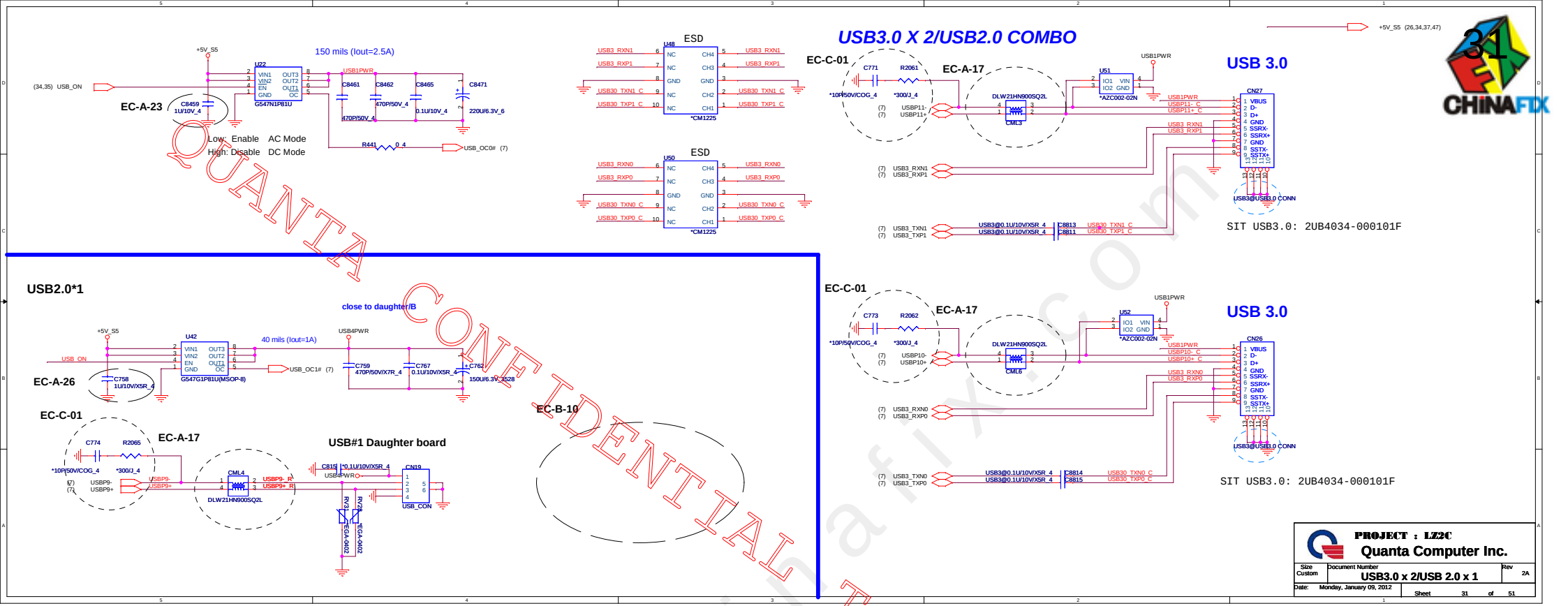
MiniCard WLAN connector



PROJECT : LZ2C

Quanta Computer Inc.

Size	Document Number	Rev
Custom	MINI-Card WLAN	2A
Date: Monday, January 09, 2012	Sheet 30 of 51	



PROJECT : LZ2C
Quanta Computer Inc.
Size: Custom | Document Number: USB3.0 x 2/USB 2.0 x 1 | Rev: 2A
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FAN CONTROL

(4,7,8,9,10,11,12,13,19,23,25,26,27,28,29,30,33,34,35,37,40,41,42,43,44,45,46,47) +3V
(9,19,23,24,25,28,29,33,37,47) +5V

32

EC-A-28

NOTE: Place C750 near Q54
NOTE: Place C817 near Q58
NOTE: Place C75 near U5
NOTE: Place C730 near Q51
NOTE: Place C67 near U5

(15,22) VGA_THERMDP
(15,22) VGA_THERMDN
R142 DIS@0/J_4
R145 DIS@0/J_4
Q54 METR3904-G
Q58 *SST3904
C750 *100P/50V/NPO_4
C817 *100P/50V/NPO_4
C75 2200P/50V/X7R_4
DDR3
WLAN-ONFI
R86 2.05K_4
R595 *0_8_short
+5V_FAN
C743 1U/10V/X7R_6
C746 0.1U/10V/X5R_4
FAN_PWM_R (35)
FANSIG_R (35)
R622 *0_4
R619 *0_4
R88 6.8K/F_4
R66 10K_4
R82 10K_4
R90 10K_4
R97 10K_4
R101 10K_4
R98 10K_4
R112 10K_4
C744 *100P/50V/NPO_4
C745 220P/50V/X7R_4
CN16
FAN_CON
D6 RB500V-40
C730 *100P/50V/NPO_4
C67 2200P/50V/X7R_4
Q51 METR3904-G
CPU
U5 EMC2103-2
T_PAD DP2/DN3 DN2/DP3 TRIP_SET SHDN_SEL
DN DP VDD GPIO1 GPIO3 ALERT# SYS_SHDN# SMDATA SMCLK GND PWM TACH
R55 22_4 +3V_FAN
C64 0.1U/10V/X5R_4
Q14 2N7002
MB_CLK1 (4,22,33,35)
Q11 2N7002
MB_DATA1 (4,22,33,35)
Q10 2N7002
SYS_SHDN# (39)
RV3 *EGA-0402
D5 *DIS@RB500V-40
VGA_OVT# (35)
MB_ALRET#
R62 *0_4
TEMP_ALERT# (35)

PROJECT : LZ2C
Quanta Computer Inc.

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Custom	FAN /THERMAL	2A
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CCD BOARD

EC-C-01

R2059 C726

*300/J_4 *10P/50V/COG_4

EC-A-15

R8407 0_4 *DLW21SN121SQ2L

(7) USBP2-
(7) USBP2+

L47

R8411 0_4

+3V R455 *0/J_6 +3V_CCD

C562 *0.1U/10V/X5R_4

USBP2- R
USBP2+ R

CN1

GCD_CON

RV22 EGA-0402 *EGA-0402 RV21

FOR ESD

+3V C578 0.1U/10V/X5R_4

+15V R467 1M/F_6

Q62 AO3404

20 mils

+3V_CCD

(7) CCD_ON#

Q63 LTC044EUBFS8TL

+3V U54

USBP2- R
USBP2+ R

IO1 VIN
IO2 GND

*AZC002-02N

BLUETOOTH

+3V C499 0.1U/10V/X5R_4

+15V R417 1M/F_6

Q41 2N7002

20 mils

BT_VCC

(7) BT_ON#

Q42 LTC044EUBFS8TL

EC-C-01

R2060 C770

*300/J_4 *10P/50V/COG_4

CN11

BT_VCC

USBP5- (7)
USBP5+ (7)

BT_CON

C4027 0.1U/10V_4

MMB

+3V Q2007A 2N7002KDW

(4,22,32,35) MB_CLK1

+3V Q2007B 2N7002KDW

(4,22,32,35) MB_DATA1

MB_CLK1_MMB
MB_DATA1_MMB

CN20

MMB CONN

+3V R296 *0_6_short
+5V R293 *0_6_short
(35) MMB_ID R281 *0_4

C820 C351 C355 C353 RV17 RV15

0.1U/10V/X5R_4
0.1U/10V/X5R_4
220P/50V/X7R_4
220P/50V/X7R_4
*EGA-0402
*EGA-0402

EC-A-36

(4,7,8,9,10,11,12,13,19,23,25,26,27,28,29,30,32,34,35,37,40,41,42,43,44,45,46,47) +3V
(10,26,29,37,39,41,46) +15V
(9,19,23,24,25,28,29,32,37,47) +5V

PROJECT : LZ2C

Quanta Computer Inc.

Size	Document Number	Rev
	BT/USB2.0*2	2A

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KEYBOARD

For EMI request

EC-A-18

EC-B-11

EC-B-11

EC-A-32

KB_ID	
14''	1
15''	0

POWER BOARD

EC-A-34

Touch pad

Touch Pad CONN

LED

Battery

Power/suspend LED

CAPS LED

Card reader B to B

close to card reader B to B

EC-A-26

EC-C-01

EC-A-19

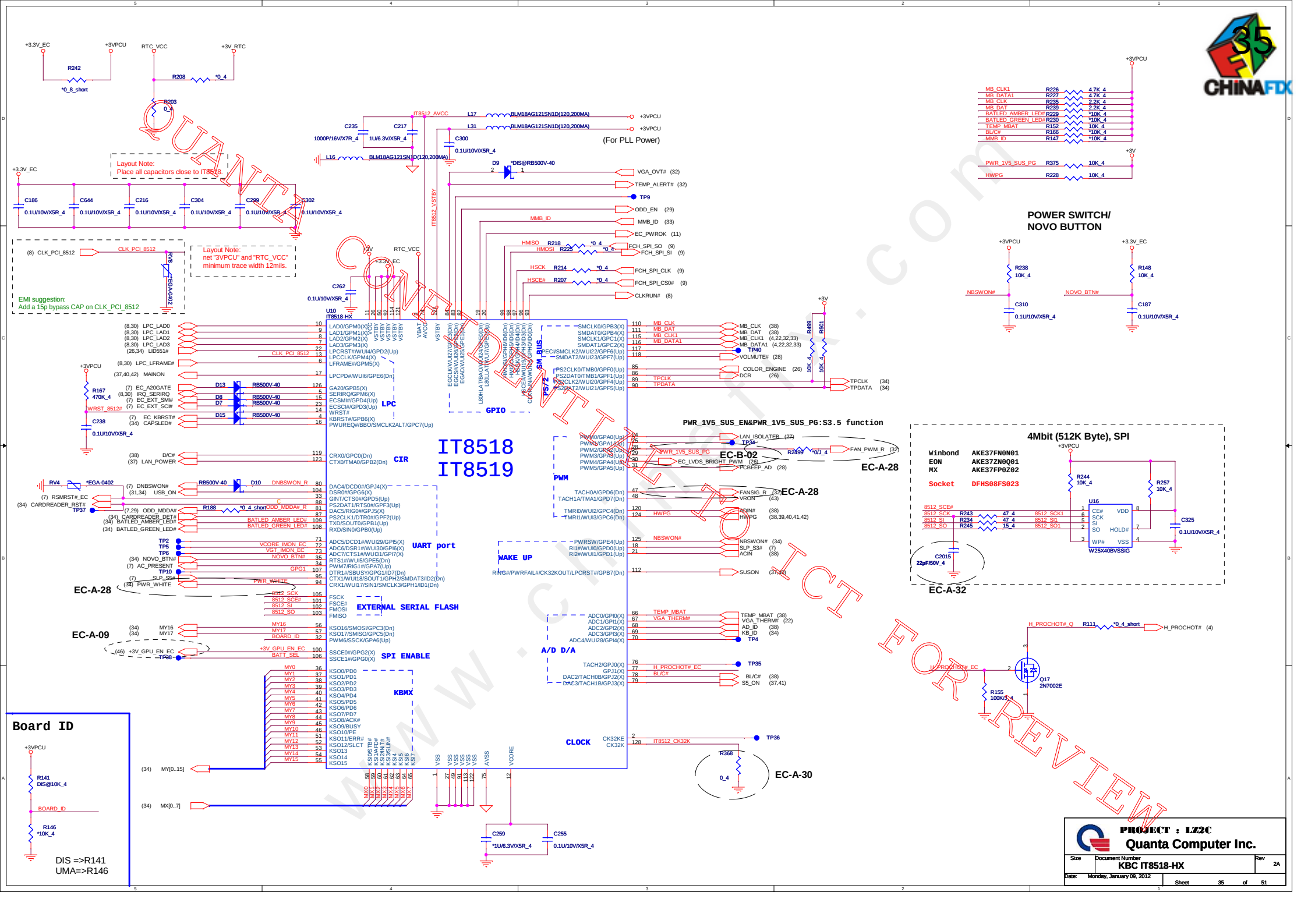
(9,19,23,24,25,28,29,32,33,37,47)	+5V
(8,10,26,27,29,35,37,38,39,42,45,46)	+3VPCU
(4,7,9,10,11,30,37)	+3V_S5
(4,7,8,9,10,11,12,13,19,23,25,26,27,28,29,30,32,33,35,37,40,41,42,43,44,45,46,47)	+3V

PROJECT : LZ2C

Quanta Computer Inc.

Size	Document Number	Rev
Custom	K/B,T/P,LED,PB,CRB	2A

Date: Monday, January 09, 2012 Sheet 34 of 51


IT8518
IT8519
Board ID
DIS =>R141
UMA=>R146
Layout Note:
Place all capacitors close to IT8518.
Layout Note:
net "3VPCU" and "RTC_VCC"
minimum trace width 12mils.
EMI suggestion:
Add a 15p bypass CAP on CLK_PCI_8512
(For PLL Power)
POWER SWITCH/
NOVO BUTTON
PWR_1V5_SUS_EN&PWR_1V5_SUS_PG:S3.5 function
4Mbit (512K Byte), SPI
Winbond AKE37FN0N01
EON AKE37ZN0Q01
MX AKE37FP0Z02
Socket DFHS08FS023
W25X40BVSSIG
LPC
GPIO
SM BUS
PS/2
CIR
UART port
EXTERNAL SERIAL FLASH
SPI ENABLE
KBMX
PWM
WAKE UP
A/D D/A
CLOCK
EC-B-02
EC-A-28
EC-A-09
EC-A-32
EC-A-30
PROJECT : LZ2C
Quanta Computer Inc.
KBC IT8518-HX
Monday, January 09, 2012
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QUANTA
COMPUTER
CONFIDENTIAL
FOR REVIEW
www.chinafix.com

Screw for ME

VGA

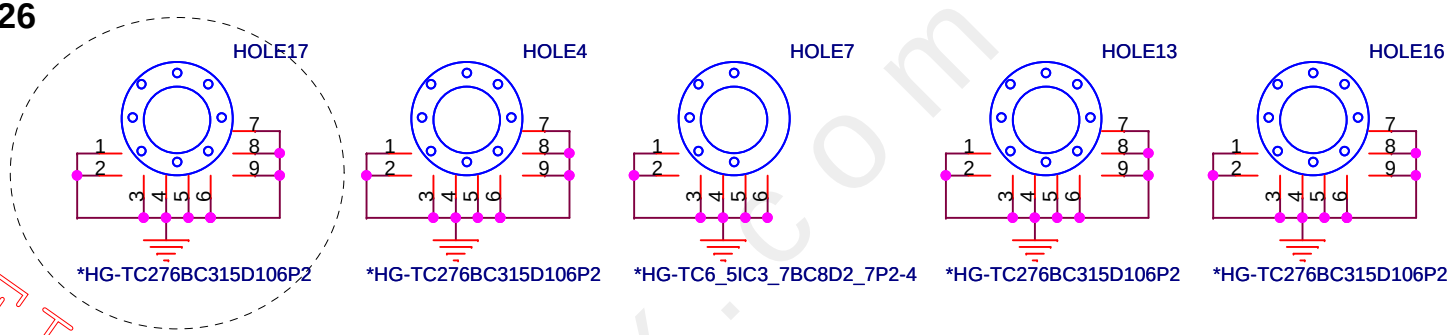
HOLE18 HOLE20

DIS@H-TC5_5BC4I3D3P2 DIS@H-TC5_5BC4I3D3P2

SMT NUT H=4/7mm

EC-A-26

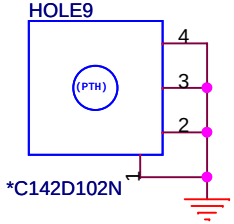
HOLE17 HOLE4 HOLE7 HOLE13 HOLE16



*HG-TC276BC315D106P2 *HG-TC276BC315D106P2 *HG-TC6_5IC3_7BC8D2_7P2-4 *HG-TC276BC315D106P2 *HG-TC276BC315D106P2

CPU BKT

HOLE9 HOLE11 HOLE5 HOLE1 HOLE2 HOLE3 HOLE6 HOLE8 HOLE10 HOLE12



*C142D102N *SPAD-LZ2B-1NP *SPAD-LZ2B-2NP *H-O316X276ID91P2 *H-C315IC126D106P2 *H-O316X276ID91P2 *H-TC217BC256D118P2 *H-C86D86N *H-C86D86N *SPAD-RE2016X60NP

HOLE14 HOLE15

*SPAD-LZ2B-3NP *SPAD-LZ2B-4NP

PROJECT : LZ2C

Quanta Computer Inc.

Size	Document Number	Rev
Custom	HOLD & SKEW	2A
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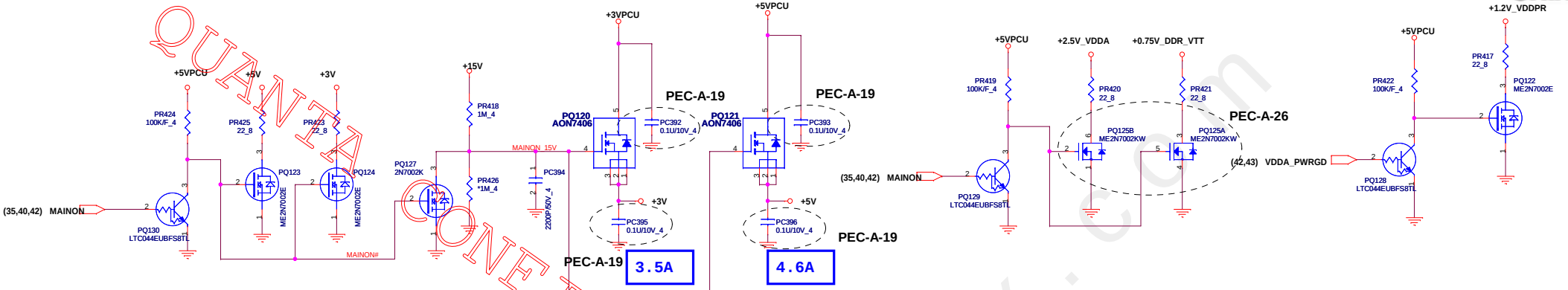
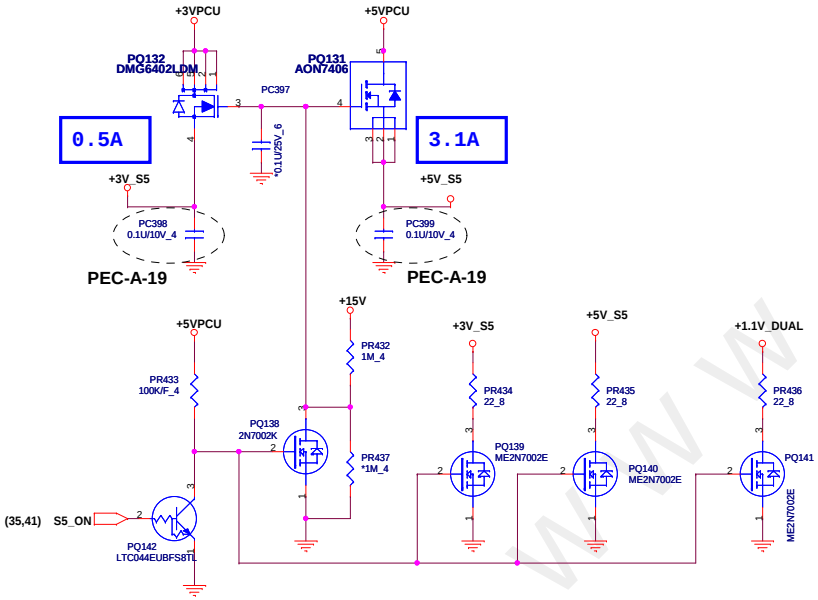
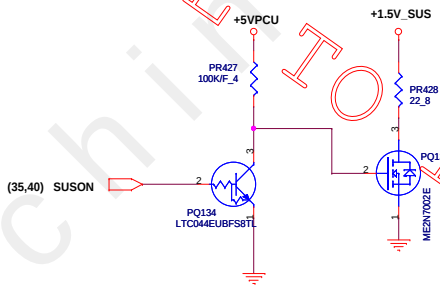
DISCHARGE



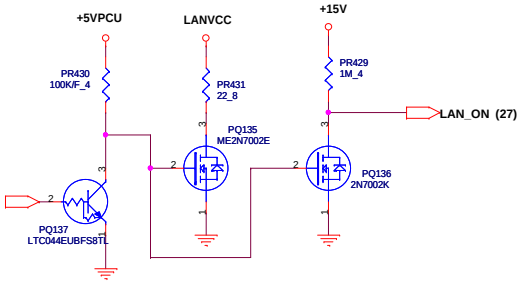
+3V, +5V

3V_S5,5V_S5





LANVCC



PROJECT : LZ2C		
Quanta Computer Inc.		
Size: Custom	Document Number: Discharge	Rev: 2A
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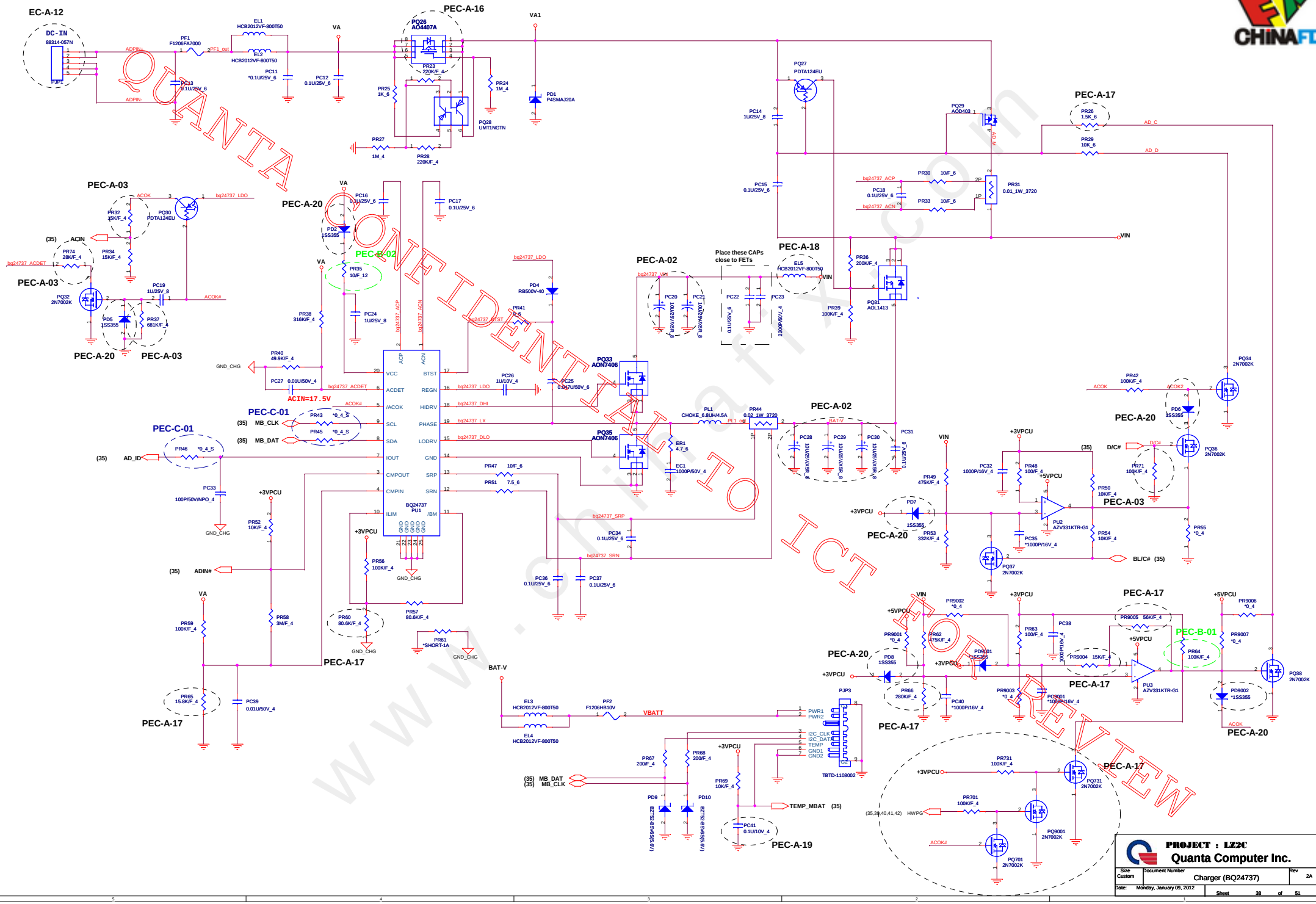

PROJECT : LZ2C			
Quanta Computer Inc.			
Size: Custom	Document Number: Charger (BQ24737)	Rev: 2A	
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+5VPCU
Fs=400K
TDC :6A
Imax :8A
OCP :10A

+3VPCU
Fs=500K
TDC :6A
Imax :8A
OCP :10A

PEC-A-01 PEC-A-02 PEC-A-21 PEC-C-01 PEC-C-02 PEC-A-19 PEC-A-22 PEC-A-04

PU4 TPS51123ARGER

PQ40 AON7406 PQ41 AON7702 PQ39 AON7406 PQ42 AON7702

PL2 2.2UH/8A-PCMC063T-2R2MN PL3 2.2UH/8A-PCMC063T-2R2MN

PD11 BAT54S-7-F PD12 BAT54S-7-F

Place these CAPs close to FETs

HWPG (35,38,40,41,42)

(32) SYS_SHDN#

PROJECT : LZ2C		
Quanta Computer Inc.		
Size: Custom	Document Number: 3V/5V (TPS51123ARGER)	Rev: 2A
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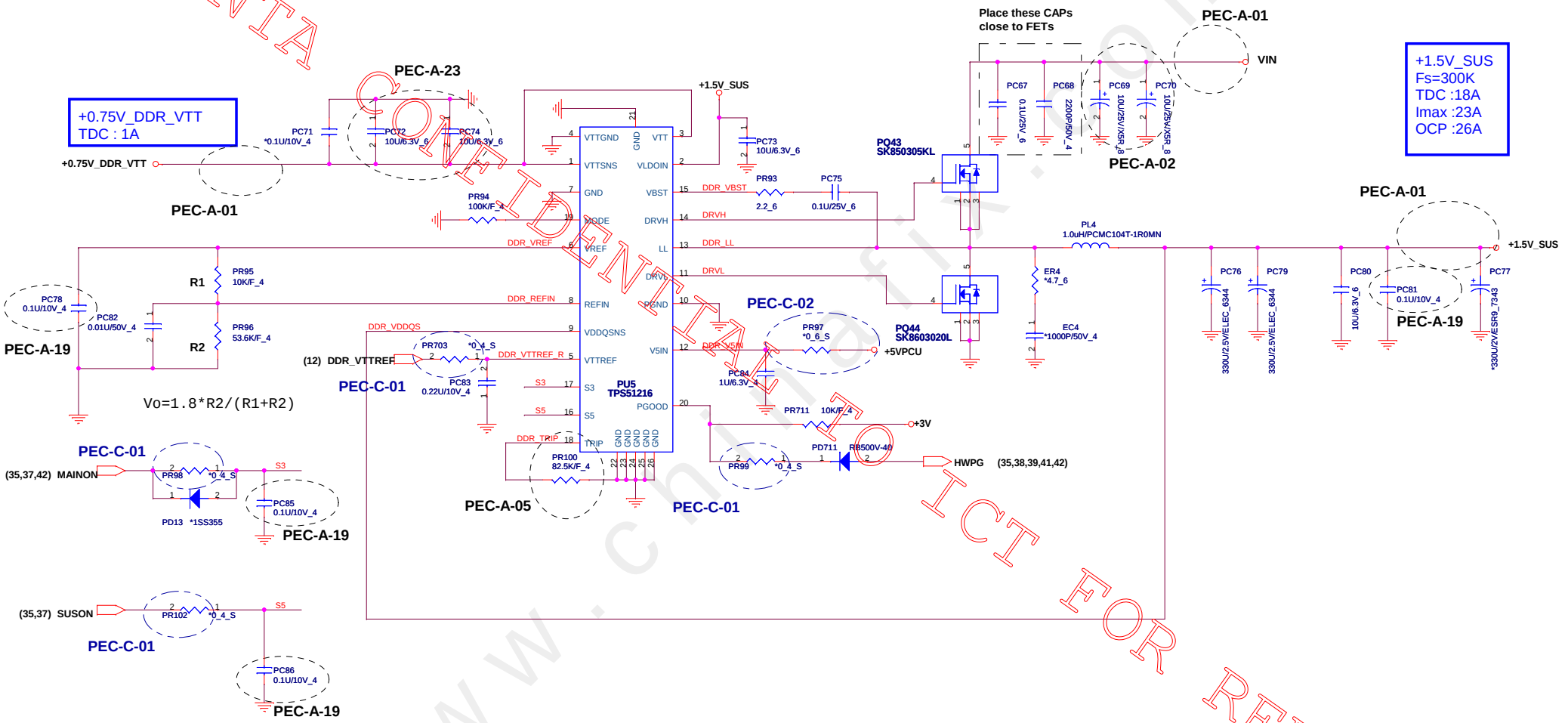
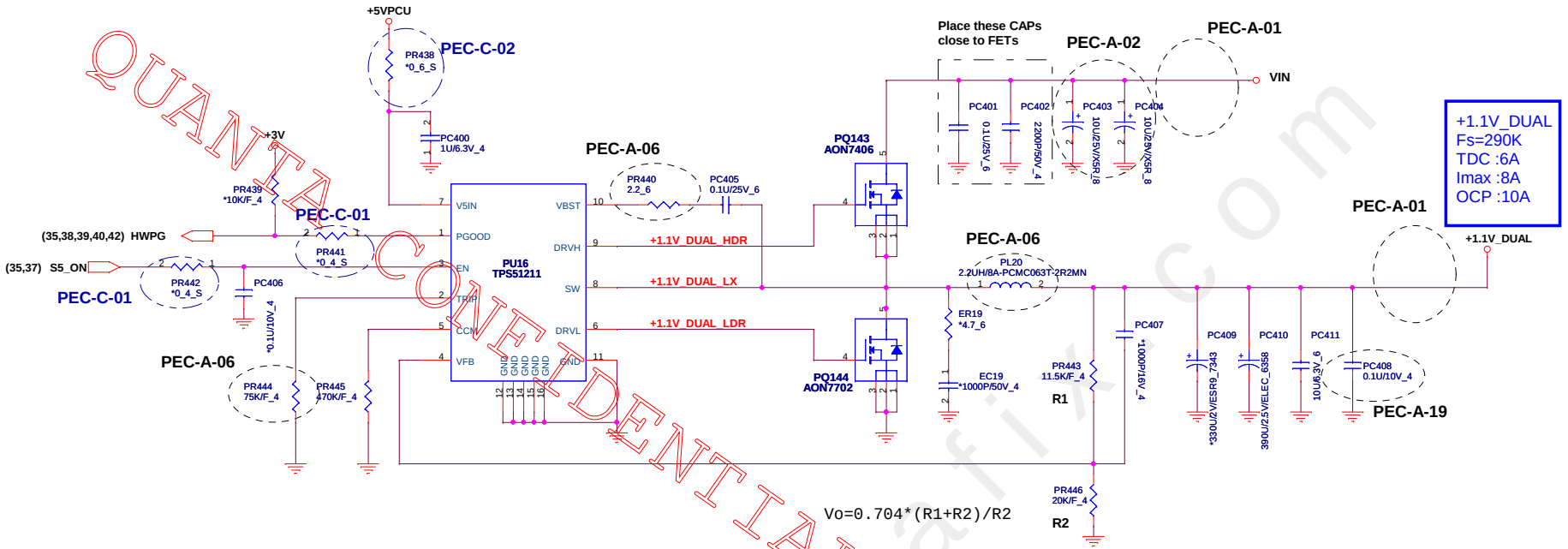
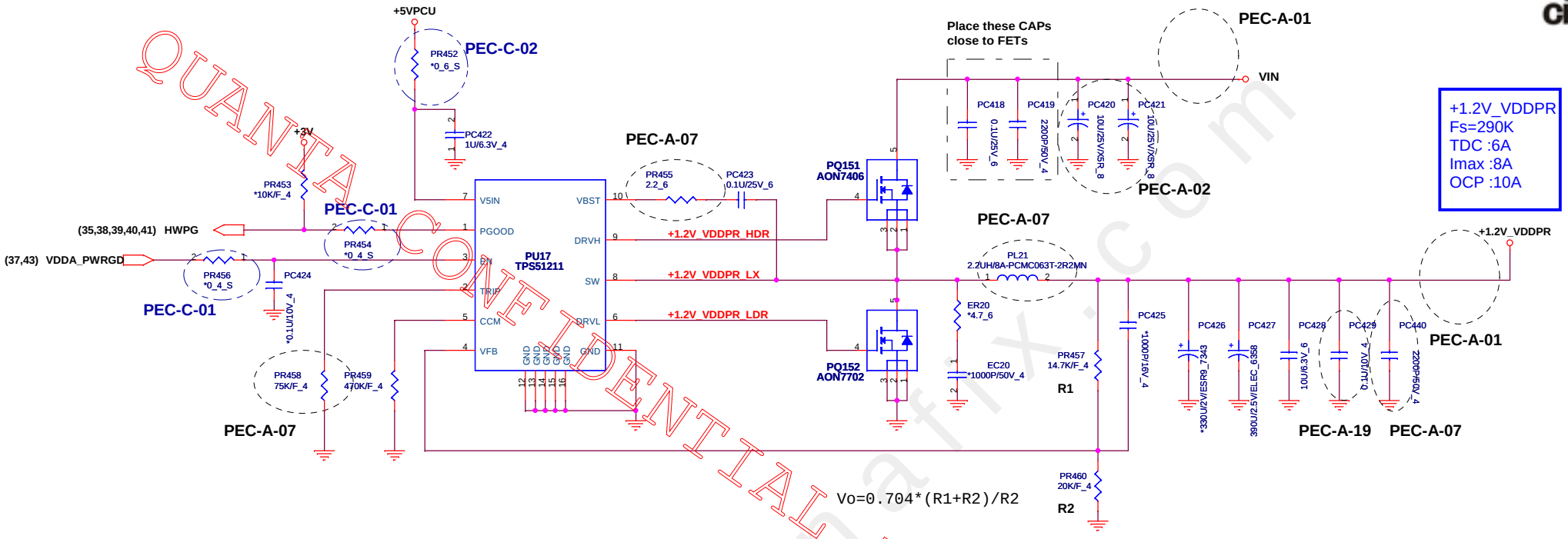


PROJECT : LZ2C
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR3/0.75V (TPS51216)	2A
Date: Monday, January 09, 2012	Sheet 40 of 51	



PROJECT : LZ2C		
Quanta Computer Inc.		
Size: Custom	Document Number: +1.1V_DUAL & 1.1V	Rev: 2A
Date: Monday, January 09, 2012	Sheet 41 of 51	



PROJECT : LZ2C		
Quanta Computer Inc.		
Size: Custom	Document Number: +1.2V_VDDPR/+2.5V_VDDA	Rev: 2A
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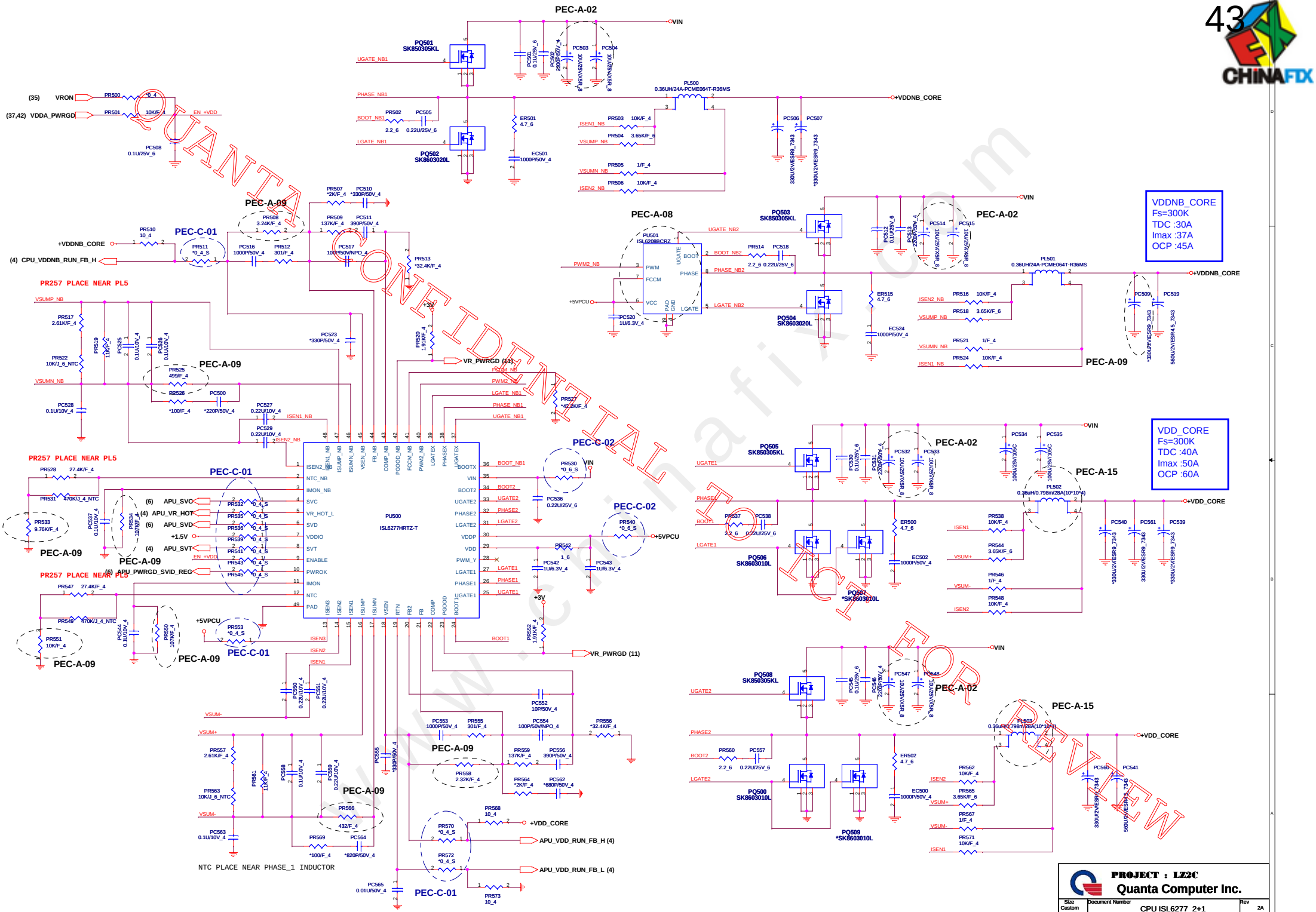

Seymour XT M2

PWRCNTL1 GPIO20	PWRCNTL0 GPIO15	Voltage
0	0	0.9V
0	1	0.95V
1	0	1.05V
1	1	1.15V

PEC-A-01

Place these CAPs close to FETs

VIN

PQ78 DIS@SK850305KL

PEC-A-02

PC316 DIS@0.1U/25V_6 · PC317 DIS@220P/50V_4 · PC318 DIS@10U/25V/X5R_8 · PC319 DIS@10U/25V/X5R_8

8122VDDP

PD20 DIS@RB500V-40 · PC320 DIS@0.22U/25V_6 · PR341 DIS@2.2_6

PQ79 DIS@SK8603020L

ER17 DIS@4.7_6 · EC17 DIS@1000P/50V_4

PEC-A-01

PL18 DIS@0.36UH/24A-PCME064T-R36MS

GFX_CORE

PEC-A-10

PR342 DIS@40.2K/F_4 · PC327 DIS@6800P/50V_4 · PC330 *DIS@0.022U/16V_4 · PC331 DIS@1000P/50V_4 · PR343 DIS@51/F_4 · PC344 DIS@330U/2V/ESR9_7343 · PC345 DIS@330U/2V/ESR9_7343 · PC324 *DIS@10U/6.3V_6 · PC325 *DIS@10U/6.3V_6 · PC326 DIS@0.1U/10V_4

PEC-A-27

PEC-A-01

GFX_CORE
Fs=250K
TDC : 15A
Imax : 20A
OCP : 26A

PEC-A-11

PEC-C-01

(17) VSS_GPU_SENSE · PR344 *DIS@0_4_S

(17) VGPU_CORE_SENSE · PR349 *DIS@0_4_S

(7,8,46) DGPU_PWREN · PR351 DIS@0/F_4

(19) PX_MODE · PR352 *DIS@0_4

PEC-C-01

8122RSN_1 · PR345 DIS@51/F_4

8122RSP_1 · PR348 DIS@51/F_4

8122EN

PC328 DIS@0.01U/50V_4 · PC329 DIS@0.01U/50V_4

8122AGND

PC321 DIS@22P/50V_4

8122CSN · 8122RSN · 8122CSP · 8122RSP

PU14 DIS@OZ8122

CSN · RSN · RSP · ON/SKIP · VIN · VSET · TSET · PG · LDR1 · LX1 · BST1 · HDR1 · LDR2 · LX2 · BST2 · HDR2 · CSP · SDA

8122LDR2 · 8122LX2 · 8122BST2 · 8122HDR2 · 8122SDA

VDDA = 4.2V
8112VDDA

PC322 DIS@1U/6.3V_4

PR346 *DIS@0_6_S · +5VPCU

PC332 DIS@1U/6.3V_4

8122VDDP

PEC-C-02

Place these CAPs close to FETs

VIN

PQ81 DIS@SK850305KL

PC333 DIS@0.1U/25V_6 · PC334 DIS@220P/50V_4 · PC335 DIS@10U/25V/X5R_8 · PC336 DIS@10U/25V/X5R_8

PEC-A-02

PR354 DIS@40.2K/F_4 · PR355 DIS@220K/J_6_NTC · PR357 DIS@40.2K/F_4

PR347 DIS@2.7K/F_4 · PR350 DIS@0_4

8122CSN · 8122CSP

PEC-A-10

GFX_CORE

PL19 DIS@0.36UH/24A-PCME064T-R36MS

PEC-A-02

PR365 *DIS@10_4 · PR369 *DIS@10_4 · PC341 DIS@330U/2V/ESR9_7343 · PC343 DIS@330U/2V/ESR9_7343 · PC323 *DIS@10U/6.3V_6 · PC347 *DIS@10U/6.3V_6 · PC346 DIS@0.1U/10V_4

PEC-A-14

8122RSP_1 · 8122RSN_1

PR353 DIS@100K/F_4 · PC338 DIS@1000P/50V_4

8122VIN

8122VSET

PR379 100K

PR356 DIS@205K/F_4

PC337 *DIS@0.47U/10V_4

PR358 DIS@10K/F_4 · PR359 DIS@300K/F_4

PEC-A-26

PQ82A DIS@2N7002BKS · PQ82B DIS@2N7002BKS

(15) GFX_CORE_CNTRL1 · PR363 *DIS@0_4_S

PEC-C-01

PR360 DIS@78.7K/F_4 · PC339 DIS@1000P/16V_4

PR364 DIS@665K/F_4

PEC-A-25

PR362 DIS@88.7K/F_4 · PR366 DIS@130K/F_4 · PC342 DIS@1000P/16V_4

PR367 DIS@10K/F_4

PQ85A DIS@2N7002BKS · PQ85B DIS@2N7002BKS

(15) GFX_CORE_CNTRL0 · PR371 *DIS@0_4_S

PEC-C-01

PEC-A-26

8122LDR1 · 8122LX1 · 8122BST1

PR361 DIS@2.2_6 · DIS@RB500V-40 PD21 · PC340 DIS@0.22U/25V_6

PQ83 DIS@SK8603020L

ER18 DIS@4.7_6 · EC18 DIS@1000P/50V_4

8122PG

8122TSET

PR368 *DIS@SHORT-1A

+3V

PR370 DIS@10K/F_4

PR372 *DIS@0_4_S

DGPU_CORE_PG(19,46)

PEC-C-01

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Quanta Computer Inc.	
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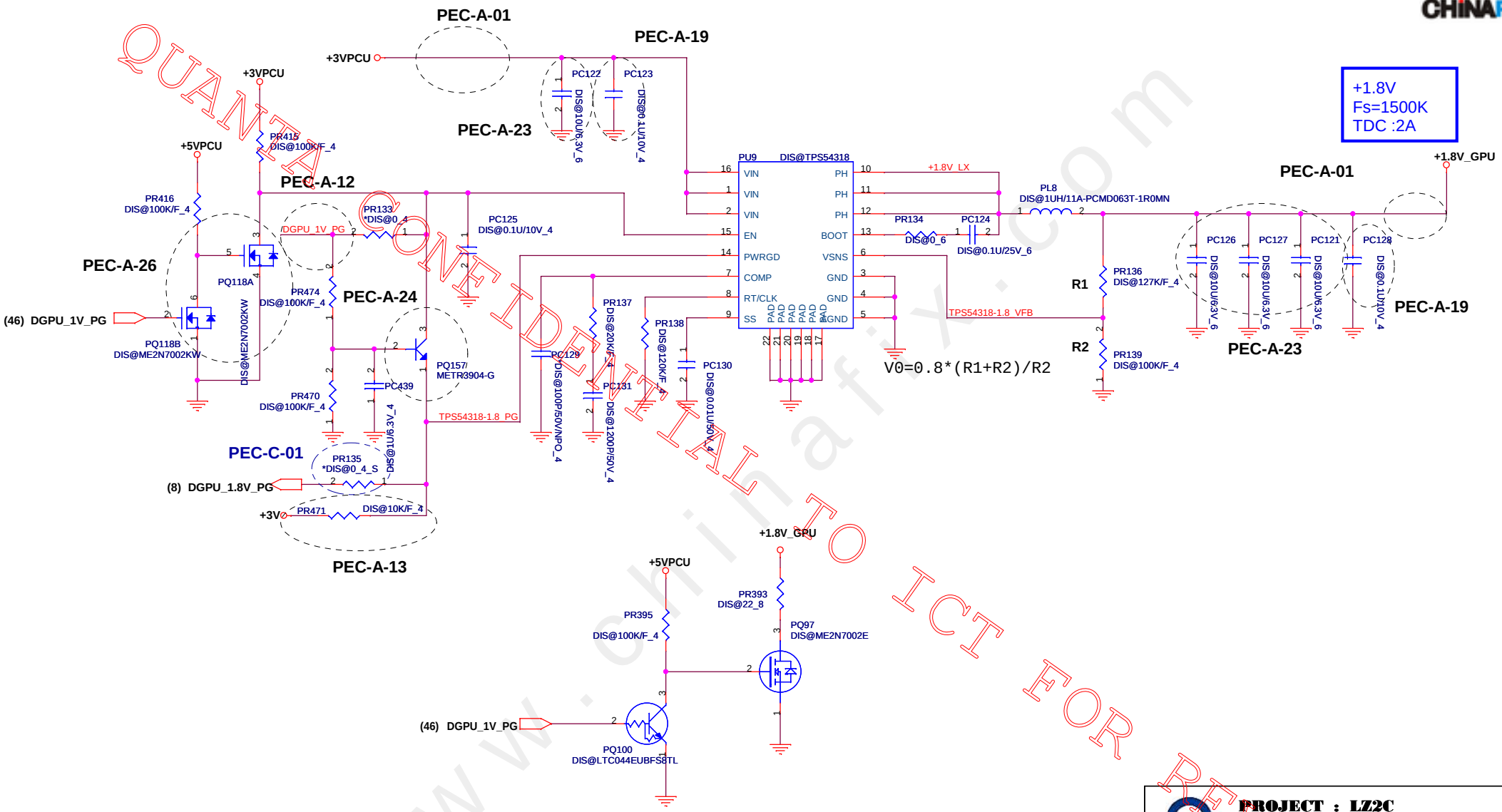

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Quanta Computer Inc.		
Size: B	Document Number: 1.8V (TPS54318)	Rev: 2A
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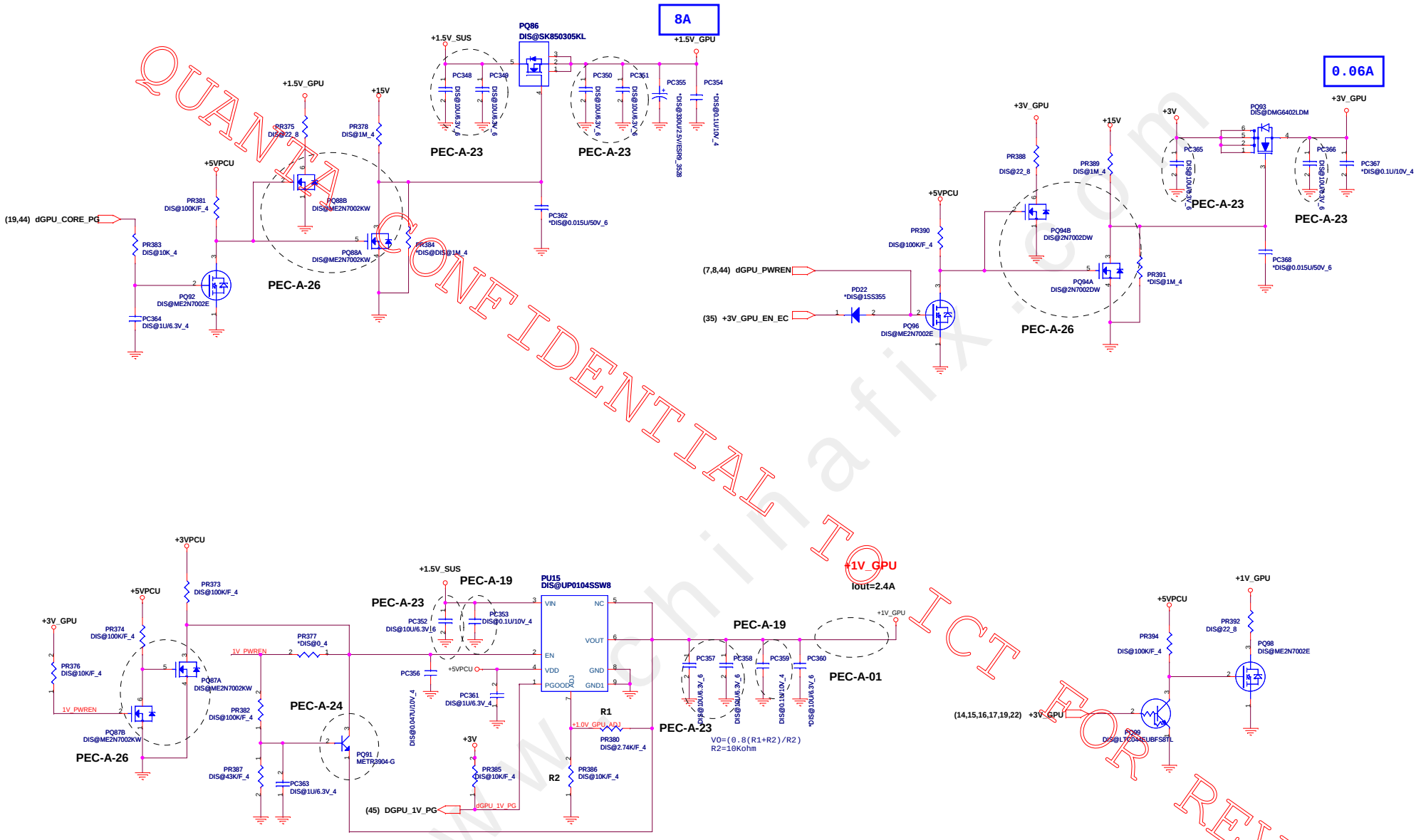

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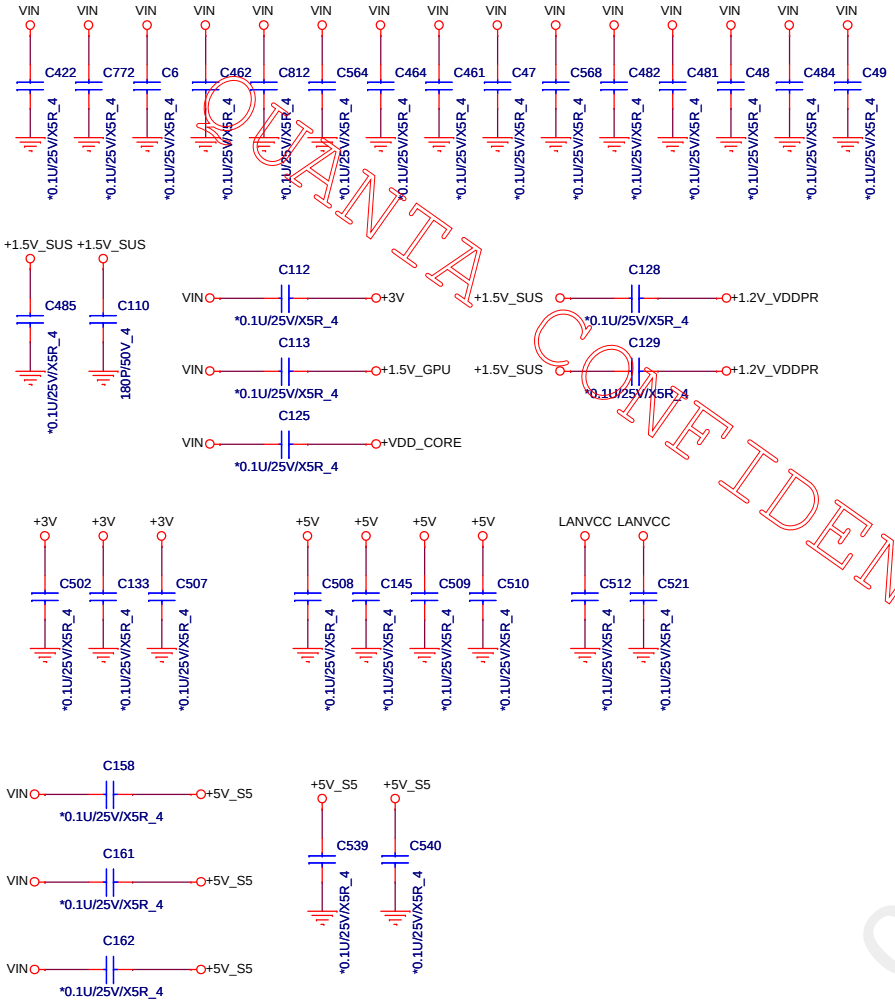
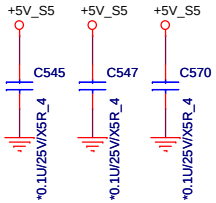
ESD suggestion



EMI suggestion



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2011

SDV~SIV

EC NO.	PG.	DATE	PART REFERENCE	DESCRIPTION
EC-A-01	30	08/23	CN21	Change connection form pin19 to pin 5 due to module choose as below #5: Liteon #5&#51: Cyber TAN POP R628 & R629
EC-A-02	26	08/23	C23	C23 change from 0603 to 0402
EC-A-03	4,8	08/23	U2001,U15	DELETE SOME TPS
EC-A-04	4	08/24	U2001	add pull high resistor R2053~R2057 for JTAG signals.
EC-A-05	4	08/24	R2033	reserve R2033 for Test35
EC-A-06	8	08/25	R189	change R189 to 0 ohm
EC-A-07	9	08/25	R280,R286,R292	pull up resistor from +3V to +3V_S5
EC-A-08	23	09/02	U49	U49.1 need connect to +3V to meet D.G.
EC-A-09	35	09/06	U35	move net +3V_GPU_EN_EC to pin 100
EC-A-10	5	09/06	U2001	add C2117 & C2116 & C2118 to improve +VDDNB_CORE ripple
EC-A-11	7	09/06	U15	change port 0 and port 8 setting
EC-A-12	38	09/06	PJP1	change pin define for PJP1
EC-A-13	34	09/06	R28	Pop R28 for K/B ID setting
EC-A-14	8	09/07	G3	Add short pad for RTC
EC-A-15	33	09/26	CN1	add pin5 for CN1
EC-A-16	34	09/26	CN9	change CN9 footprint
EC-A-17	31	10/05	CML3/CML4/CML6/R8406 R8410/R8405/R8409/R8198 R8200	add CML4(CX21SQ2L000) and delete R8406/R8410 for EMI request and CML3/4/6 change footprint to choke-dlw21s-4p add CML3&CML6(CX21SQ2L000) and delete R8405/R8409/R8198/R8200 for EMI request
EC-A-18	34	10/05	CA1~CA6	POP for EMI request
EC-A-19	34	10/05	C2119,C2120	add C2119 for CARDREADER_DET# and C2120 for CARDREADER_RST# from EMI request
EC-A-20	28 30	10/05	C501,C535 C530	change footprint to short pad from EMI request

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B	EC list1	2A

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EC NO.	PG.	DATE	PART REFERENCE	DESCRIPTION
EC-A-21	26	10/05	R10/R27	Not support DCR & COLOR_ENGINE from customer request
EC-A-22	26 23 29 29	10/05	Q19,Q20,Q6 Q34,Q35,Q39 Q31,Q36,Q37 Q27,Q28,Q2006	change to dual mosfet Q6 change to dual mosfet Q39 change to dual mosfet Q37 change to dual mosfet Q2006
EC-A-23	31	10/05	C8459	C8459 change to 1uF/10V/0402
EC-A-24	27 30	10/05	C513,C519 C528	change to 4.7uF/6.3V/0603
EC-A-25	15	10/05	U30	change GFX_CORE_CNTRL0/GFX_CORE_CNTRL1 for VBIOS setting
EC-A-26	31 34	10/05	C758 C757	change to 1U/10V/X5R_4
EC-A-27	36	10/06	hloe17	add hole 17
EC-A-28	32/35	10/06	R2498/R2499/R619/R622	reserve R2498/R2499/R619/R622 for EC control FAN
EC-A-29	8	10/06	U15	change dGPU_1.8V_PG to GPIO46
EC-A-30	35	10/06	R368	reserve for GPIO pin
EC-A-31				
EC-A-31				
EC-A-32	34	10/07	C760,C761	POP for EMI request
EC-A-32	35	10/7	C2015	Change from 220p to 22p, POP for EMI request
EC-A-33	27	10/14	C515,C516	Change from 27p to 33p, vendor test result.
EC-A-34	34	10/14	C197,C199,C203	Change from 1000p to 220p, POP for EMI request
EC-A-35	26	10/18	C2	Change from 0.1U to 220p, POP for EMI request
EC-A-36	33	10/14	C353,C355	Change from 10p to 220p, POP for EMI request
EC-B-01	10	11/04	R343	change R343 to power rail from Vin to +15V
EC-B-02	35	11/14	U10	reserve PWR_1V5_SUS_EN&PWR_1V5_SUS_PG:S3.5 funstion
EC-B-03	04	11/18	R2496,R2497	pop for EC can read graphic temp.
EC-B-04	23	11/18	R383,R385 R387,R388 R391,R392 R395,R402	tune resistor to meet AMD spec.

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Quanta Computer Inc.

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EC NO.	PG.	DATE	PART REFERENCE	DESCRIPTION
EC-B-06	26	11/18	Q3,Q4,Q65,R23	Delete Q3,Q4 add Q65 and R23 change to 47 ohm
EC-B-07	8	11/18	R309,R312	change to 0 ohm due to non pci device.
EC-B-08	19	11/18		R126 pop & depop C208,C261,Q22,Q23,Q25,Q43,Q44,Q45,Q3040,R156,R157,R175,R492,R494,U3011 for PX5 implement
EC-B-09	30	12/06	D28	reserve to prevent leakage
EC-B-10	31	12/06	U53	remove
EC-B-11	34	12/06	CA3/CA4/C204/C205 C220/C221/C222 C223/C224/C225	CA3,CA4 change to 0402*8(C204,C205,C220,C221,C222,C223,C224,C225)
EC-B-12	7	12/06	R527	reserve for dgpu_pwr_en
EC-B-13	27	12/06		Reserve for Surge Line to GND Gas Tube Discharge
EC-C-01	30 31 33 34	01/03	R2066,C775 R2065,C774 R2061,C771 R2062,C773 R2059,C726 R2060,C770 R2042,C708 R2058,C710	Add resistor(300ohm) and CAP(10PF) to meet AMD spec.

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Quanta Computer Inc.

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SDV-SIV

2011

EC NO.	PG.	DATE	PART REFERENCE	DESCRIPTION
PEC-A-01	38,39, 40,41, 42	09/21	PJP4,PJP5,PJP6, PJP7,PJP8,PJP9,PJP32, PJP33,PJP34,PJP35, PJP36,PJP26,PJP29, PJP16,PJP17,PJP31	Change open pad to short pad.
PEC-A-02	38,39, 40,41, 43,44	09/22	PC20,PC21,PC28,PC29, PC30,PC42,PC43,PC44, PC45,PC69,PC70,PC403, PC404,PC420,PC421, PC503,PC504,PC514, PC532,PC533,PC547, PC548,PC318,PC319, PC335,PC336	Change MLCC 10UF size from 1206 to 0805.
PEC-A-03	38	09/22	PR32,PR37,PR71, PR78,PR74	Adjust AC plug-in detect function.
PEC-A-04	39	09/22	PR81,PR82	PR81,PR82 change from 140K to 121K for 3V/5V OCP.
PEC-A-05	40	09/22	PR100	PR100 change from 124K to 82.5K for 1.5VSUS OCP.
PEC-A-06	41	09/22	PR440,PR444,PL20	PR440 change from 180K to 75K for 1.1V_DAUL OCP. PR440 change from 0 ohm to 2.2 ohm for improve ringing voltage. PL20 change from 1uH to 2.2uH for improve ripple.
PEC-A-07	42	09/22	PR455,PR458,PL21, PC440	PR458 change from 100K to 75K for 1.1V_DAUL OCP. PR455 change from 0 ohm to 2.2 ohm for improve ringing voltage. PL21 change from 1uH to 2.2uH for improve ripple. add PC440 2200P cap for improve 1.2V output noise.
PEC-A-08	43	09/22	PU501	Change PU501 driver IC size from 3*3 to 2*2.
PEC-A-09	43	09/22	PR508,PR525,PR533, PR534,PR551,PR550, PR566,PR558,PC509	Adjust VDD/NB core load line/OCP/OTP function.
PEC-A-10	44	09/22	PR347,PC330, PC327,PR350	Adjust GFX core OCP function.
PEC-A-11	44	09/22		Change GFX core power budget for ATI Seymojr XT(15w).
PEC-A-12	45	09/08	PU9	Change from MAINON to DGPU_1V_PG
PEC-A-13	45	09/22	PR471	add pull high resistor PR471 for DGPU_1.8V_PG.
PEC-A-14	44	09/26	PC341	Reduce 1pcs GFX core 7343 size output Cap for ATI Seymojr XT(15w).
PEC-A-15	43	09/26	PL502,PL503	Change VDD core choke footprint for SMT request.
PEC-A-16	38	09/26	PQ26	Delete AO4427 MOSFET from BOM source.
PEC-A-17	38	09/29	PQ701,PR701,PQ731, PR65,PR60,PR26,PR66, PR9004,PR9005,	Adjust Battery discharge function.
PEC-A-18	38	09/29	EL5	add charger input bead for EMI.
PEC-A-19	37,38, 39,40, 41,42, 45,46,	10/04	PC429,PC408,PC399 PC393,PC81,PC431 PC435,PC392,PC396 PC60,PC41,PC398,PC395 PC85,PC58,PC78,PC86 PC359,PC353,PC128 PC123	Change P/N from CH4104K9B03 to CH41002KB93.
PEC-A-20	38	10/04	PD5,PD8,PD2 PD6,PD7,PD9002	Change P/N from BC1SS355Z07 to BC1SS355Z21.
PEC-A-21	39	10/04	PC46	Change P/N from CH61001ME96 to CH6102K9A01.
PEC-A-22	39	10/04	PC56,PC59	Change P/N from CH5472K9A02 to CH5472M9901.
PEC-A-23	40,41, 42,45, 46	10/04	PC74,PC72,PC127 PC122,PC126,PC121 PC412,PC351,PC430 PC348,PC350,PC365 PC358,PC349,PC357 PC352,PC366	Change P/N from CH61001ME96 to CH6101M9905.
PEC-A-24	42,45, 46	10/04	PQ155,PQ91,PQ157	Change P/N from BA039040019 to BA0390400H0.
PEC-A-25	44	10/04	PR360	Change P/N from CS37682FB00 to CS37872FB15.
PEC-A-26	37,44, 45,46	10/17	PQ123,PQ124,PQ125, PQ126,PQ139,PQ140, PQ82,PQ102,PQ101, PQ85,PQ118,PQ119 PQ88,PQ90,PQ87,PQ89 PQ94,PQ95	change to dual mosfet.
PEC-A-27	44	10/20	PC327	POP for power request.
PEC-B-01	38	11/18	PR64	Adjust Battery discharge function.
PEC-B-02	38	11/22	PR35	Change footprint from RC0603 to RC1206.

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PEC list1
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