G-Note Montevina Block Diagram
GC3A

01

PCB STACK UP
6L

LAYER 1 : TOP
LAYER 2 : GND
LAYER 3 : IN1
LAYER 4 : IN2
LAYER 5 : VCC
LAYER 6 : BOT

CPU CORE(ISL6266A) pg38

CPU Penryn
478P (uPGA)/35W
pg04~05

CPU THERMAL SENSOR pg05

14.318MHz

CLOCK GEN
SLG8SP568/
ICS9LPRS393(QFN68)
pg03

CLK_CPU_BCLK, CLK_CPU_BCLK#
CLK_MCH_BCLK, CLK_MCH_BCLK#
DREFCLK, DREFCLK#
DREFSSCLK, DREFSSCLK#

FSB 667/800/1066

VCCP +1.8V AND GMCH 1.05V(RT8204) pg36

NORTH BRIDGE
Cantiga
pg06~10

HDMI pg19
CRT pg17
LCD CONN pg18
Dual Link

DDRIII-SODIMM1
DDRIII-SODIMM2
DDRIII 800/1066 MT/s
DDRIII 800/1066 MT/s
pg11~12

DDR III (TPS51116REGR)
1.5VSUS/SMDDR_VTERM
/SMDDR_VREF pg35

DMI LINK

32.768KHz

SOUTH BRIDGE
ICH-9M
pg13~16

USB2.0

USB2.0 Ports X3 pge23, pg20
USB+eSATA Port X1 pg23
BlueTooth CON. pg25
Fingerprint CON. pg30
Camera CON. pg18
WWAN Socket pg29

SATA - HDD pg23
SATA - CD-ROM pg23
SATA0 300MB
SATA1 300MB

SYSTEM DISCHARGE pg33

PCI-E

X2 Mini PCI-E Card X 2 (WLAN/ WiMAX/UWB)
X1
X1 PCI Express CardSocket pg27
X1 Card-Reader Controller JMB385

SIM Card Socket pg20

Azalia

AUDIO CODEC (ALC269Q) pg21

25MHZ

RJ45 CON. pg22

Memory CardReader 7-in-1

SYSTEM POWER(ISL6237) pg37

SYSTEM CHARGER(ISL88731A) pg34

32.768KHz
LPC

EC (ITE) (IT8502E/JX) pg32

Keyboard
Touch Pad pg24

G-SENSOR(LIS244ALTR) pg26

Internal Speakers. pg21

Internal Digital Array MIC. pg21

External MIC. pg21

HEADPHONE JACK pg21

FAN pg24

SPI EEPROM pg32

Electro-X

Quanta Computer Inc.	G-Note Montevina	
Size: Custom	Document Number: Block Diagram	Rev: 2A
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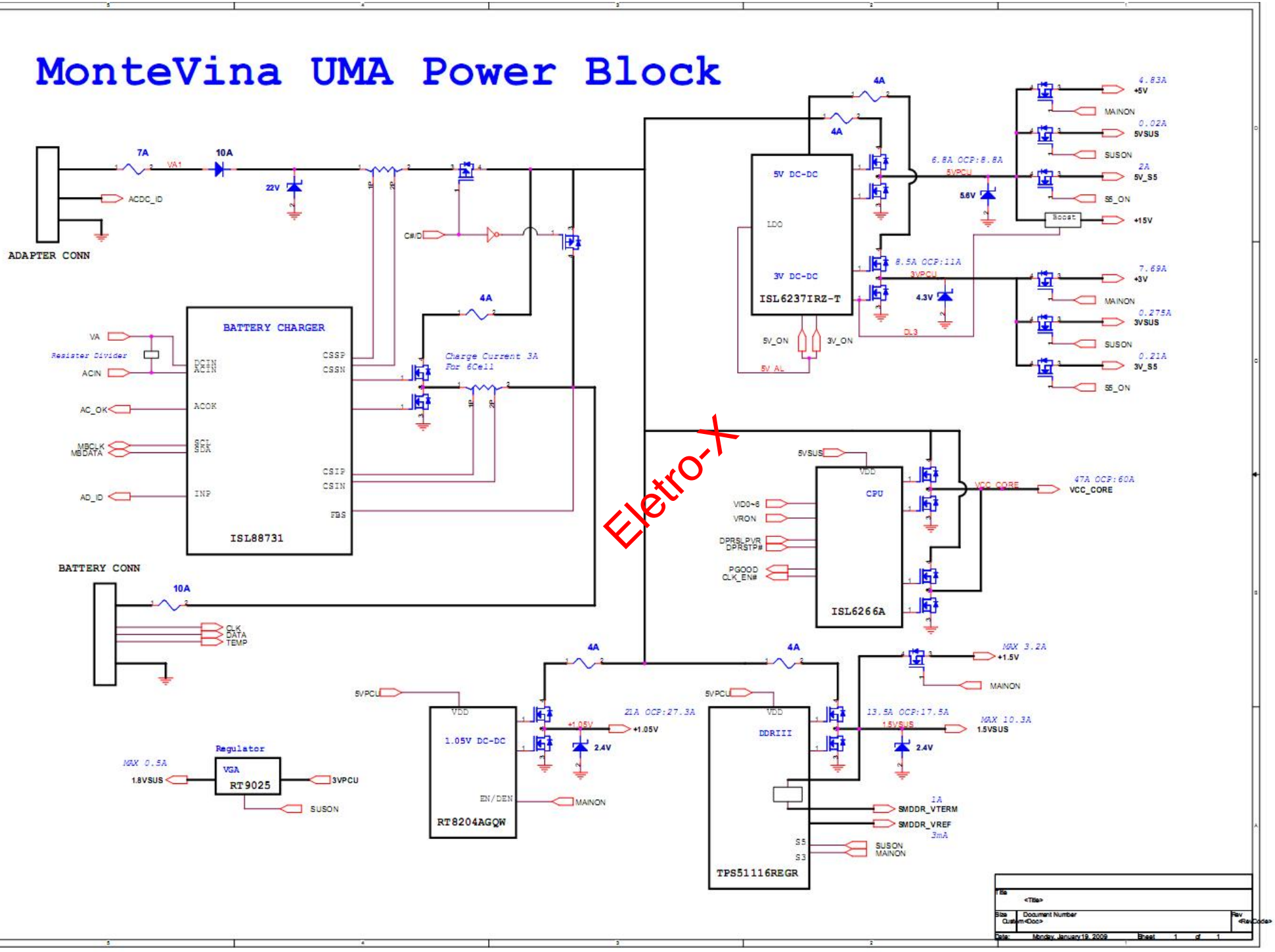
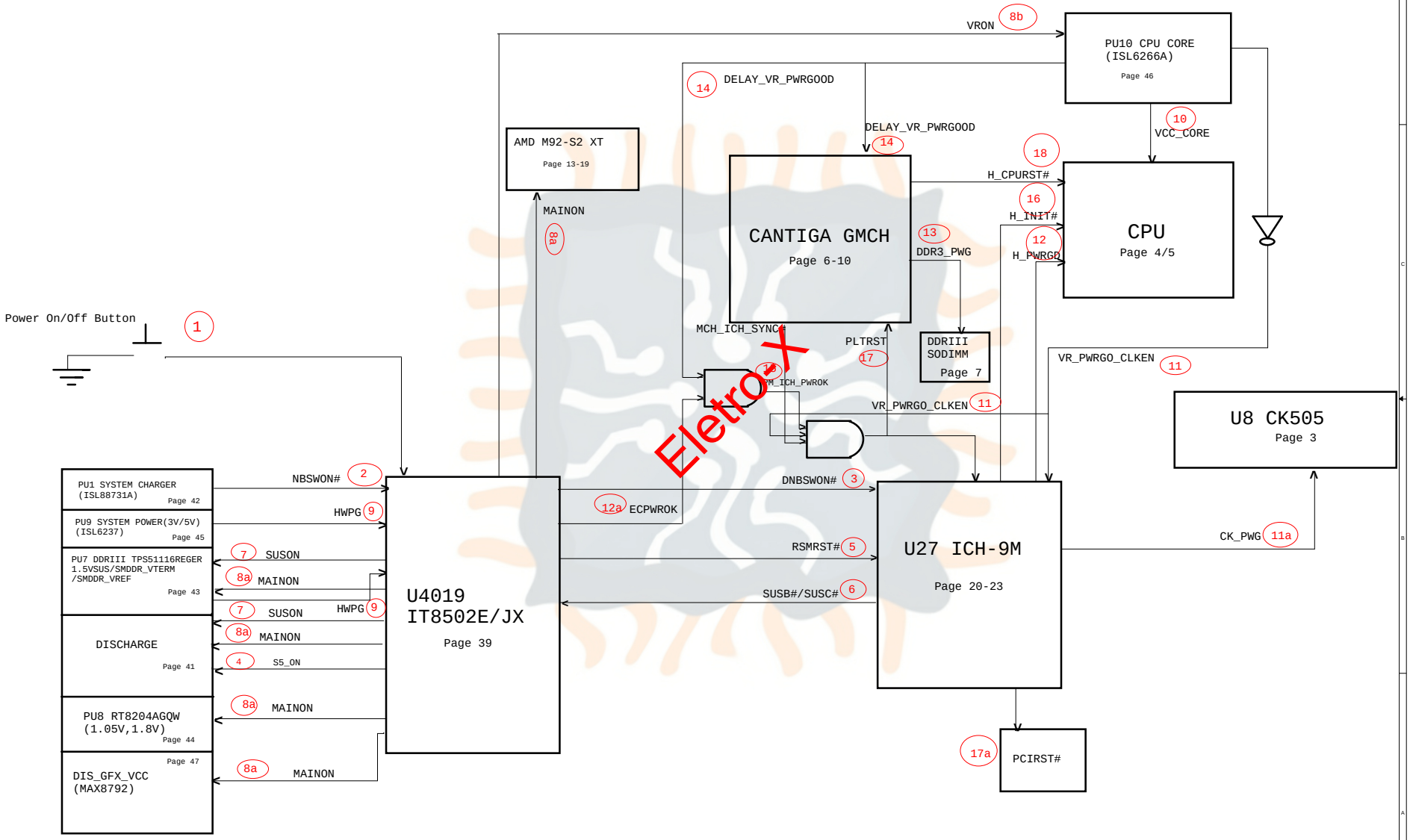
MonteVina UMA Power Block





02

Power States

POWER PLANE	VOLTAGE	PAGE	DESCRIPTION	CONTROL SIGNAL	ACTIVE IN
VIN	10V~+19V	18,33,34,35,36,37,38,39	MAIN POWER		S0~S5
+3VRTC	+3.0V~+3.3V	13,16,32	RTC		S0~S5
3VPCU	+3.3V	13,18,22,24,30,32,33,34,36,37	8051 POWER		S0~S5
5VPCU	+5V	30,33,34,35,36,37,38	LCD/CHARGE POWER		S0~S5
+15V	+15V	18,26,33,37	LARGE POWER	5VPCU	S0~S5
LANVCC	+3.3V	22,33	LAN POWER	LAN_ON	
5VSUS	+5V	18,30,33,38	SLP_S5# CTRLD POWER	SUSON	
3VSUS	+3.3V	14,15,27,28,29,32,33,38	SLP_S5# CTRLD POWER	SUSON	
1.8VSUS	+1.8V	10,33,36		SUSON	
1.5VSUS	+1.5V	07,09,10,11,12,33,35	SODIMM POWER CALISTOGA/ICH8 POWER	SUSON	
SMDDR_VREF_DIMM	+0.75V	11,12	SODIMM POWER		
+5V	+5V	16,17,18,19,21,23,24,25,32,33,34	SLP_S3# CTRLD POWER	MAINON	
+3V	+3.3V	03,05,07,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38	SLP_S3# CTRLD POWER	MAINON	
+1.5V	+1.5V	05,10,13,14,15,16,21,27,28,29,35	CALISTOGA/ICH8 POWER	MAINON	
+1.05V	+1.05V	03,04,05,06,07,09,10,13,16,33,36,38	CPU/CALISTOGA/ICH8 POWER	MAINON	
VCC_CORE	+0.7V~+1.77V	04,05,33,38	CPU CORE POWER	VRON	
LCDVCC	+3.3V	18	LCD Power	INT_DISP_ON	
+5VHDD	+5V	23	HDD Power	MAINON	
MBATV	+10V~+17V	32,34	MAIN BATTERY	D/C#	

G-Note Montevina
Quanta Computer Inc.

Size	Document Number	Rev
B	FRON TPAGE	2A

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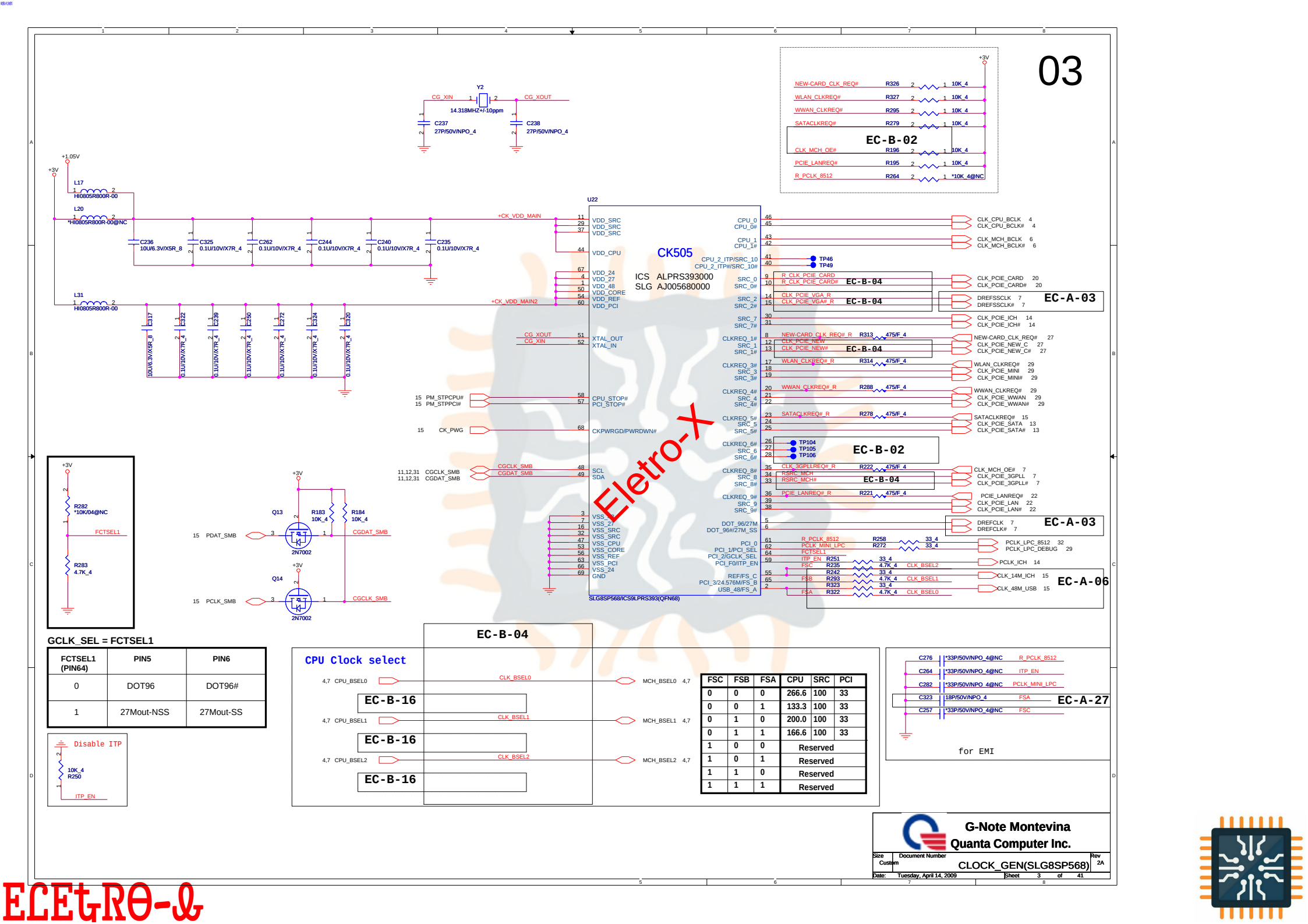
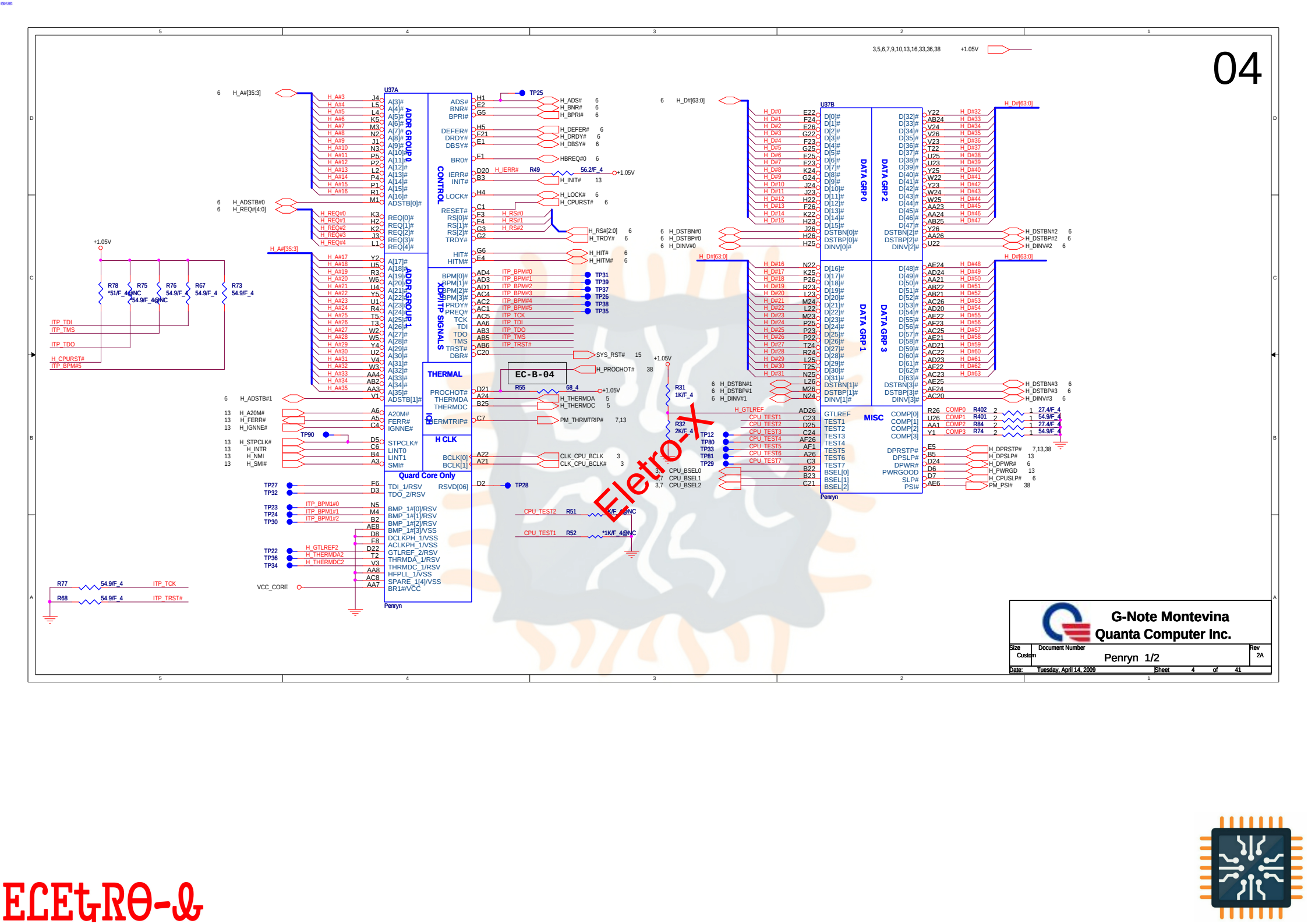

03
Y2
CG_XIN
CG_XOUT
14.318MHZ+/-10ppm
C237
27P/50V/NPO_4
C238
27P/50V/NPO_4
+1.05V
+3V
L17
HI0805R800R-00
L20
*HI0805R800R-00@NC
L31
HI0805R800R-00
C236
10U/6.3V/X5R_8
C325
0.1U/10V/X7R_4
C262
0.1U/10V/X7R_4
C244
0.1U/10V/X7R_4
C240
0.1U/10V/X7R_4
C235
0.1U/10V/X7R_4
+CK_VDD_MAIN
+CK_VDD_MAIN2
U22
CK505
ICS ALPRS393000
SLG AJ005680000
SLG8SP568/ICS9LPRS393(QFN68)
VDD_SRC
VDD_CPU
VDD_24
VDD_27
VDD_48
VDD_CORE
VDD_REF
VDD_PCI
XTAL_OUT
XTAL_IN
CPU_STOP#
PCI_STOP#
CKPWRGD/PWRDWN#
SCL
SDA
VSS
VSS_27
VSS_SRC
VSS_CPU
VSS_CORE
VSS_REF
VSS_PCI
VSS_24
GND
CPU_0
CPU_0#
CPU_1
CPU_1#
CPU_2_ITP/SRC_10
CPU_2_ITP#/SRC_10#
SRC_0
SRC_0#
SRC_2
SRC_2#
SRC_7
SRC_7#
CLKREQ_1#
SRC_1
SRC_1#
CLKREQ_3#
SRC_3
SRC_3#
CLKREQ_4#
SRC_4
SRC_4#
CLKREQ_5#
SRC_5
SRC_5#
CLKREQ_6#
SRC_6
SRC_6#
CLKREQ_8#
SRC_8
SRC_8#
CLKREQ_9#
SRC_9
SRC_9#
DOT_96/27M
DOT_96#/27M_SS
PCI_0
PCI_1/PCI_SEL
PCI_2/GCLK_SEL
PCI_F0/ITP_EN
REF/FS_C
PCI_3/24.576M/FS_B
USB_48/FS_A
CG_XOUT
CG_XIN
15 PM_STPCPU#
15 PM_STPPCI#
15 CK_PWG
11,12,31 CGCLK_SMB
11,12,31 CGDAT_SMB
CGCLK_SMB
CGDAT_SMB
TP46
TP49
TP104
TP105
TP106
NEW-CARD_CLK_REQ#
WLAN_CLKREQ#
WWAN_CLKREQ#
SATACLKREQ#
CLK_MCH_OE#
PCIE_LANREQ#
R_PCLK_8512
R326 10K_4
R327 10K_4
R295 10K_4
R279 10K_4
R196 10K_4
R195 10K_4
R264 *10K_4@NC
EC-B-02
EC-B-04
EC-A-03
EC-A-06
R_CLK_PCIE_CARD
R_CLK_PCIE_CARD#
CLK_PCIE_VGA_R
CLK_PCIE_VGA#_R
CLK_PCIE_NEW
CLK_PCIE_NEW#
RSRC_MCH
RSRC_MCH#
R313 475/F_4
R314 475/F_4
R288 475/F_4
R278 475/F_4
R222 475/F_4
R221 475/F_4
CLK_3GPLLREQ#_R
CLK_CPU_BCLK
CLK_CPU_BCLK#
CLK_MCH_BCLK
CLK_MCH_BCLK#
CLK_PCIE_CARD
CLK_PCIE_CARD#
DREFSSCLK
DREFSSCLK#
CLK_PCIE_ICH
CLK_PCIE_ICH#
NEW-CARD_CLK_REQ#
CLK_PCIE_NEW_C
CLK_PCIE_NEW_C#
WLAN_CLKREQ#
CLK_PCIE_MINI
CLK_PCIE_MINI#
WWAN_CLKREQ#
CLK_PCIE_WWAN
CLK_PCIE_WWAN#
SATACLKREQ#
CLK_PCIE_SATA
CLK_PCIE_SATA#
CLK_MCH_OE#
CLK_PCIE_3GPLL
CLK_PCIE_3GPLL#
PCIE_LANREQ#
CLK_PCIE_LAN
CLK_PCIE_LAN#
DREFCLK
DREFCLK#
R_PCLK_8512
PCLK_MINI_LPC
FCTSEL1
ITP_EN
FSC
FSB
FSA
R258 33_4
R272 33_4
R251 33_4
R235 4.7K_4
R242 33_4
R293 4.7K_4
R323 33_4
R322 4.7K_4
CLK_BSEL2
CLK_BSEL1
CLK_BSEL0
PCLK_LPC_8512
PCLK_LPC_DEBUG
PCLK_ICH
CLK_14M_ICH
CLK_48M_USB
R282 *10K/04@NC
R283 4.7K_4
Q13
Q14
2N7002
R183 10K_4
R184 10K_4
15 PDAT_SMB
15 PCLK_SMB
CGDAT_SMB
CGCLK_SMB
Disable ITP
10K_4
R250
ITP_EN
GCLK_SEL = FCTSEL1
FCTSEL1 (PIN64) | PIN5 | PIN6
0 | DOT96 | DOT96#
1 | 27Mout-NSS | 27Mout-SS
CPU Clock select
4,7 CPU_BSEL0
4,7 CPU_BSEL1
4,7 CPU_BSEL2
MCH_BSEL0 4,7
MCH_BSEL1 4,7
MCH_BSEL2 4,7
EC-B-16
EC-B-16
EC-B-16
FSC | FSB | FSA | CPU | SRC | PCI
0 | 0 | 0 | 266.6 | 100 | 33
0 | 0 | 1 | 133.3 | 100 | 33
0 | 1 | 0 | 200.0 | 100 | 33
0 | 1 | 1 | 166.6 | 100 | 33
1 | 0 | 0 | Reserved
1 | 0 | 1 | Reserved
1 | 1 | 0 | Reserved
1 | 1 | 1 | Reserved
C276 *33P/50V/NPO_4@NC
C264 *33P/50V/NPO_4@NC
C282 *33P/50V/NPO_4@NC
C323 18P/50V/NPO_4
C257 *33P/50V/NPO_4@NC
EC-A-27
for EMI
G-Note Montevina
Quanta Computer Inc.
Size Custom
Document Number
CLOCK_GEN(SLG8SP568)
Rev 2A
Date: Tuesday, April 14, 2009
Sheet 3 of 41
Eletro-X
ECEtRO-L


04
U37A
ADDR GROUP 0
ADDR GROUP 1
CONTROL
XDP/ITP SIGNALS
THERMAL
H CLK
Quard Core Only
Penryn
EC-B-04
U37B
DATA GRP 0
DATA GRP 2
DATA GRP 1
DATA GRP 3
MISC
Penryn
Eletro-X
G-Note Montevina
Quanta Computer Inc.
Penryn 1/2
Size
Custom
Document Number
Rev
2A
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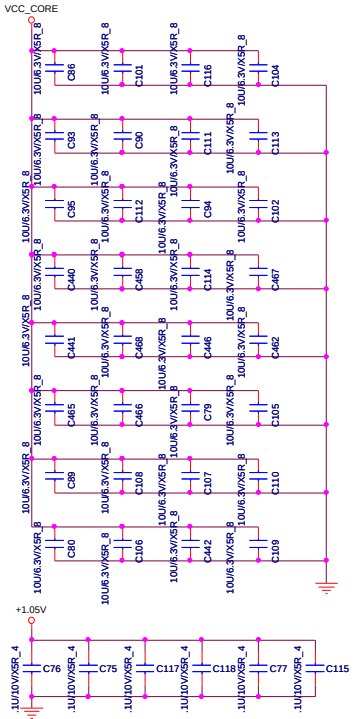
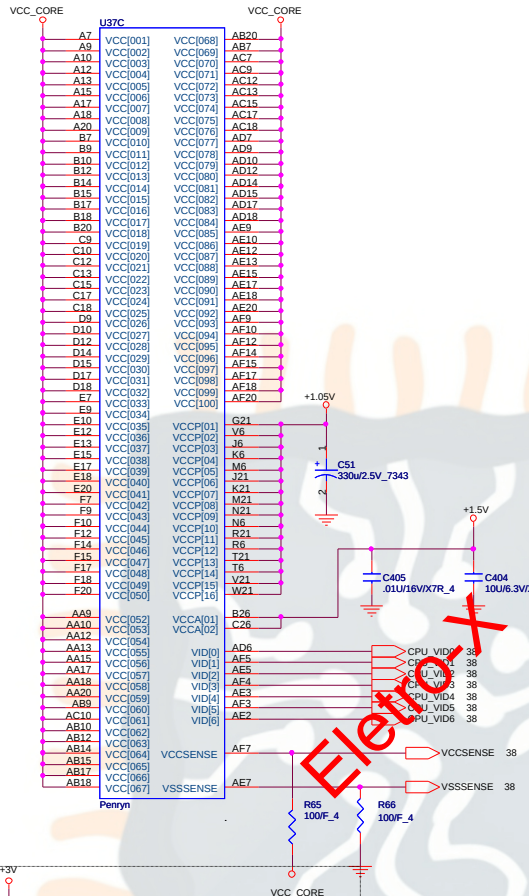
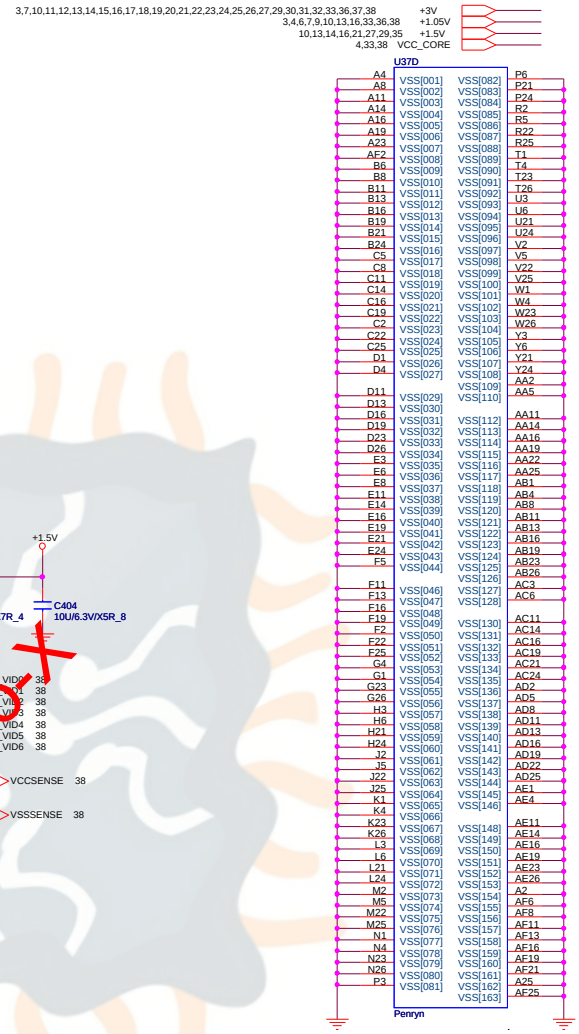
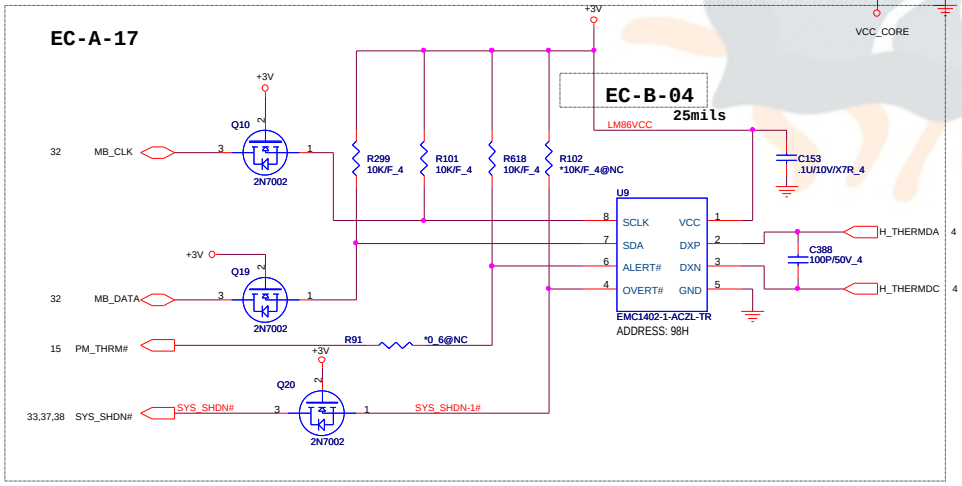
Sheet 4 of 41









Company	G-Note Montevina Quanta Computer Inc.
Size	Custom
Document Number	Penryn & TH Monitor 2/2
Rev	2A
Date:	Tuesday, April 14, 2009
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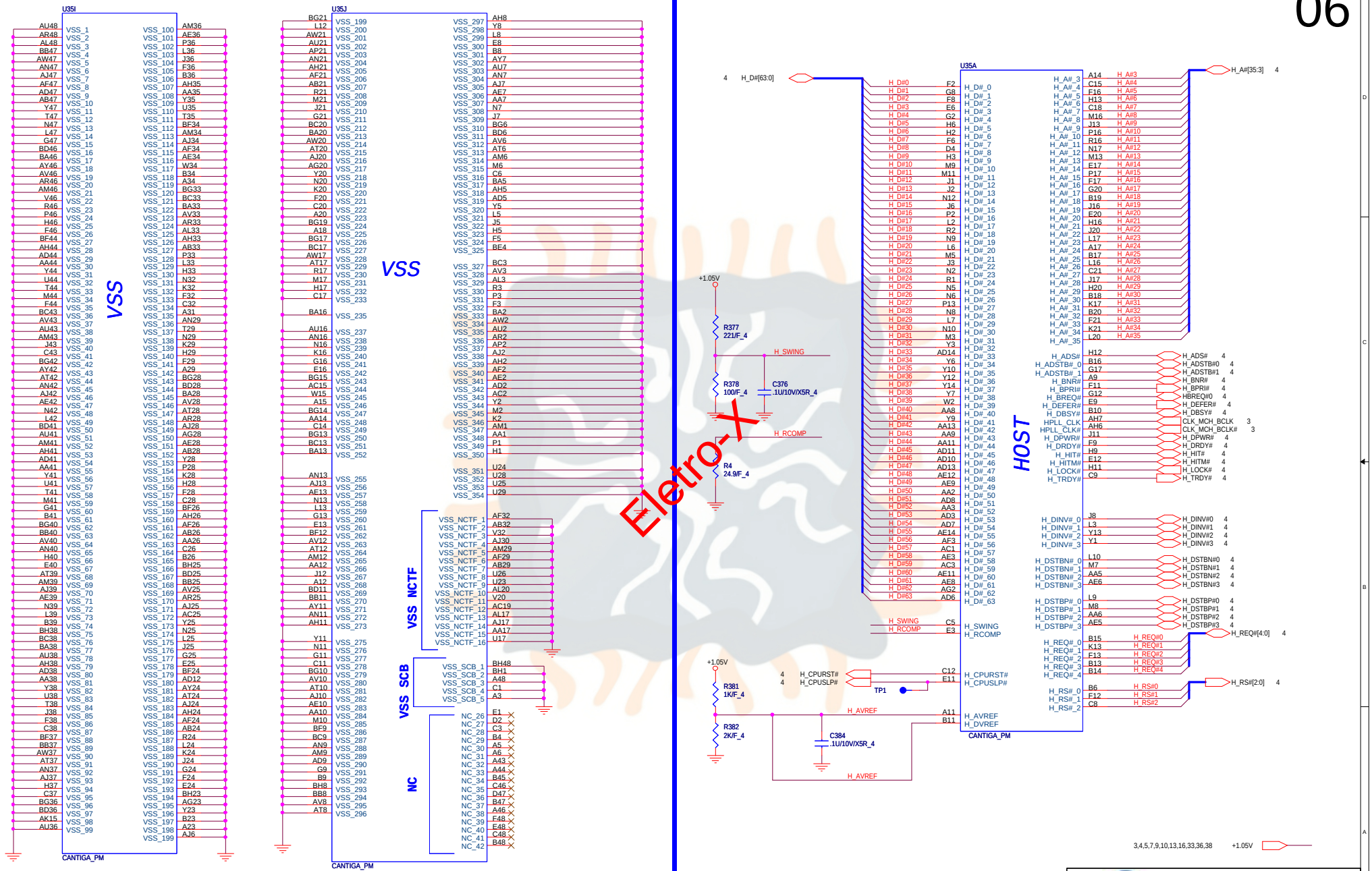

Quanta Computer Inc.	G-Note Montevina
Size: Custom	Document Number: Cantiga Host & VSS 1/5
Date: Tuesday, April 14, 2009	Sheet 6 of 41

MCH_CFG_5 DMIx2 selection

Low: DMIx2
High: DMIx4 (Default)

MCH_CFG_16 FSB Dynamic ODT

Low: Dynamic ODT disabled
High: Dynamic ODT enabled (Default)

MCH_CFG_9 PCI Express Graphic Lane

Low: Reverse Lane
High: Normal operation(Default)

MCH_CFG_19 DMI Lane Reversal

Low: Normal (Default)
High: Lane Reversed

MCH_CFG_6 iTPM Host Interface

Low: iTPM Host Interface enabled
High: iTPM Host Interface disabled (Default)

MCH_CFG_7 Intel (R) Management Engine Crypto

Low = Intel Management Engine Crypto Transport Layer Security (TLS) cipher suite with no confidentiality
High = Intel Management Engine Crypto TLS cipher suite with confidentiality (default)

MCH_CFG_10 PCIe Lookback Enable
Low: Enabled
High: Disabled (Default)

MCH_CFG_12/13 XOR/ALLZ/CLOCK Un-gating

MCH_CFG_13	MCH_CFG_12	Configuration
0	0	Reserved
1	0	XOR Mode enabled
0	1	All-Z Mode enabled
1	1	Normal operation (Default)

U35B

RSVD
ME JTAG
CLK
CFG
DMI
GRAPHICS VID
PM
ME
MISC
HDA
NC

CANTIGA_PM

U35C

LVDS
TV
VGA
PCI-EXPRESS GRAPHICS

CANTIGA_PM

EC-B-04

For UMA HDMI Function

For HDMI Re-driver Setting (PS8101)

For HDMI Re-driver Setting (PS8101T)

G-Note Montevina
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Cantiga DMI/DISP 2/5	2A

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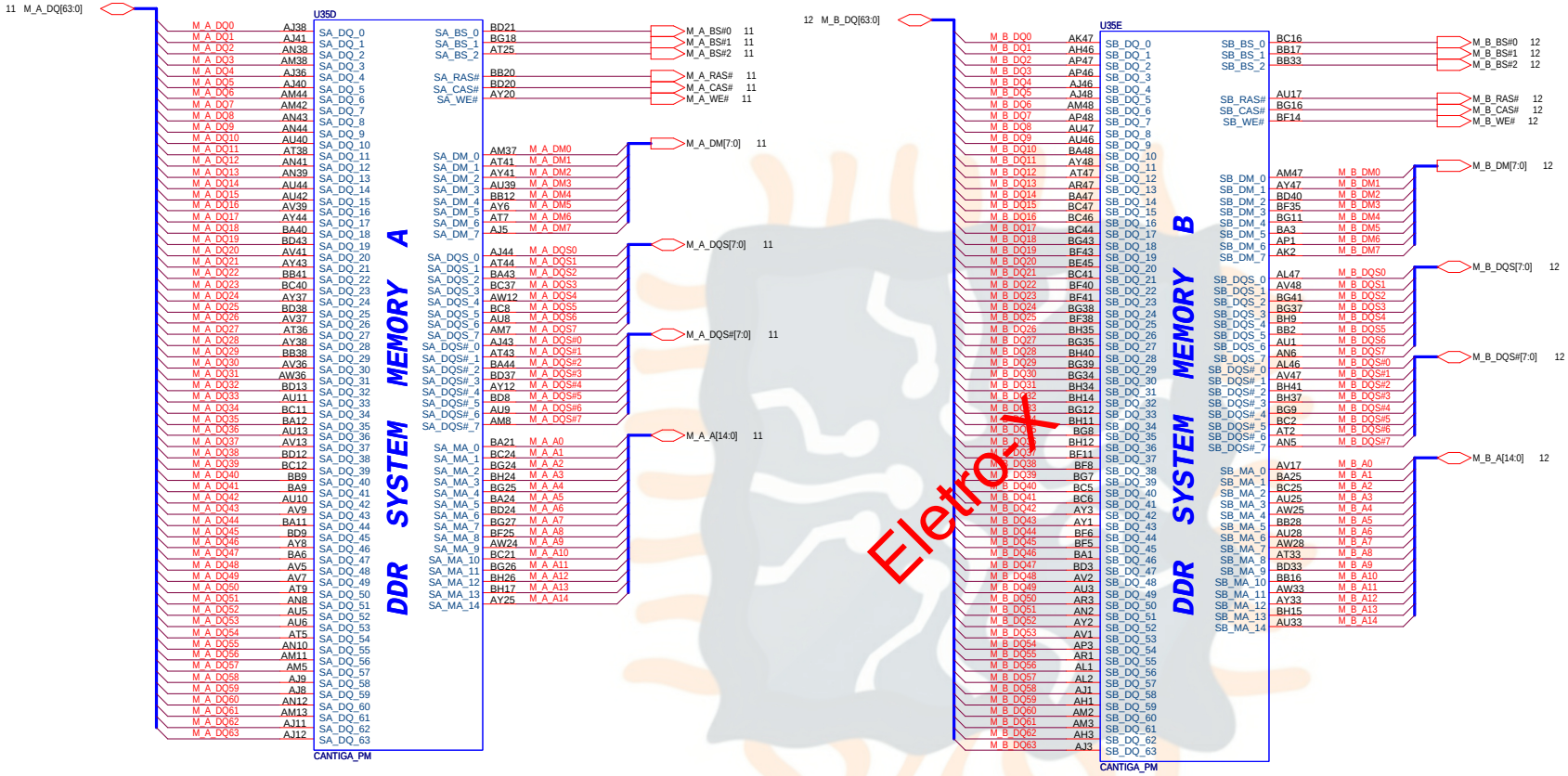
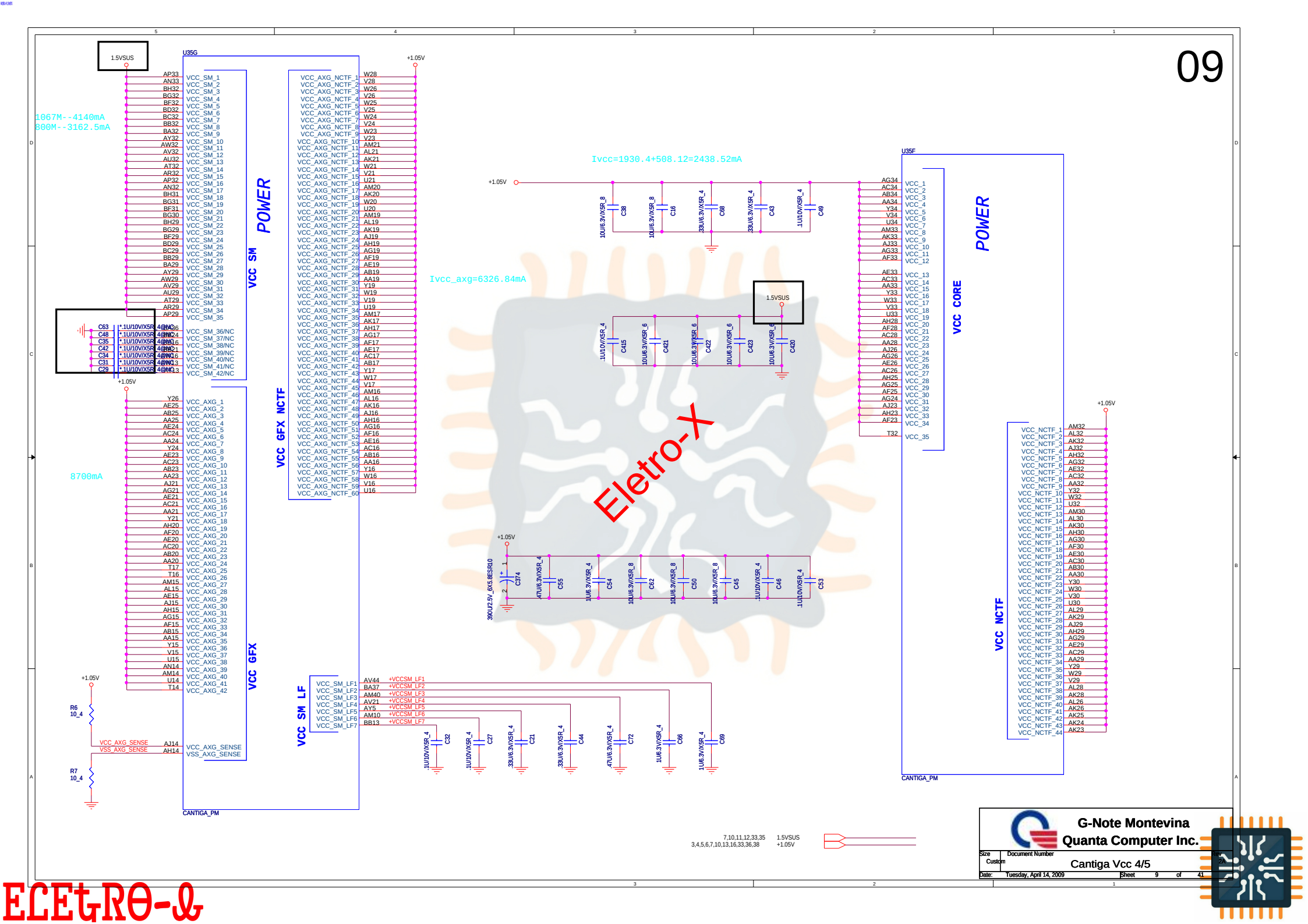
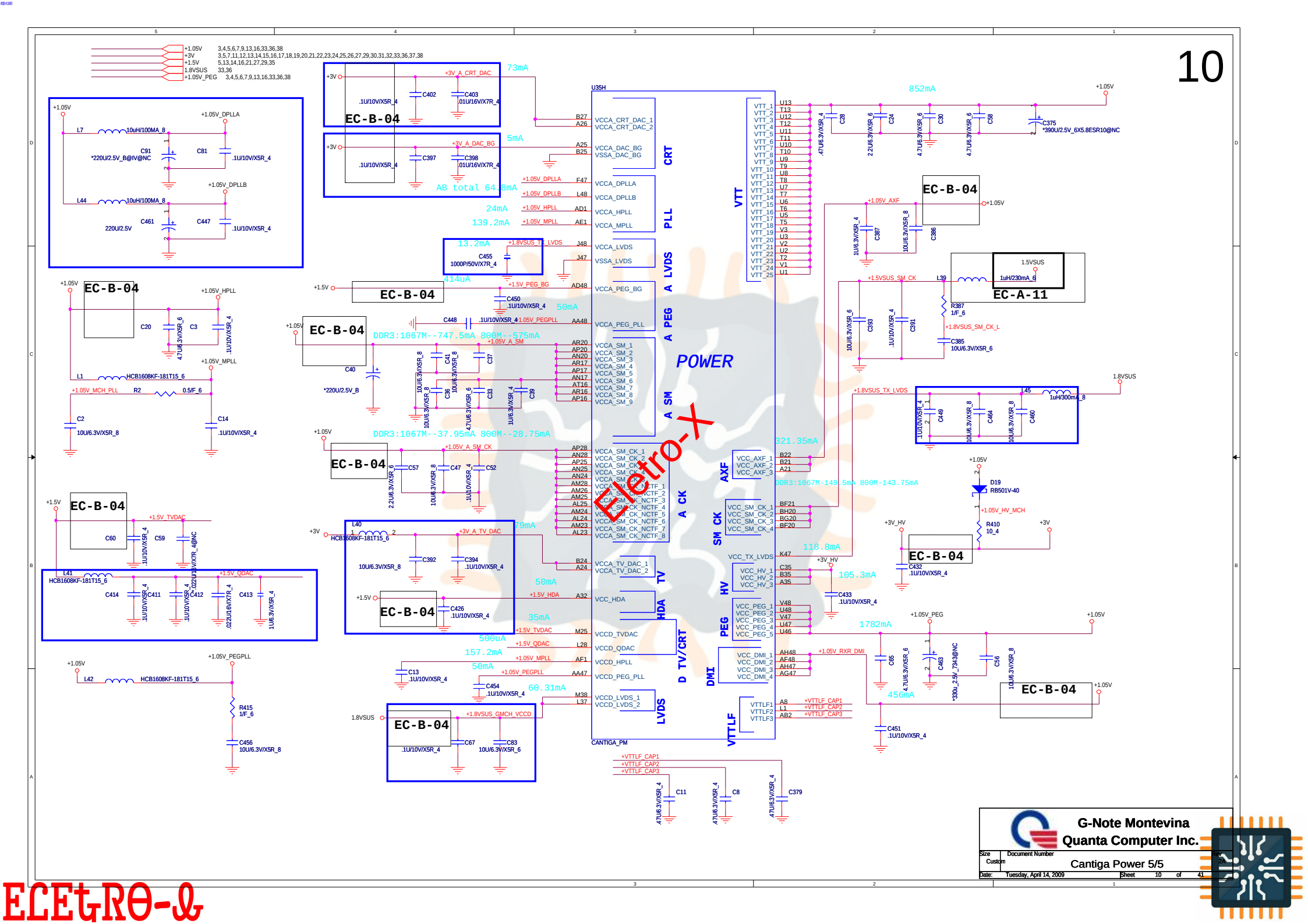


G-Note Montevina
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Cantiga DDR3 3/5	2A
Date: Tuesday, April 14, 2009	Sheet 8 of 41	


09
1.5VSUS
U35G
POWER
VCC SM
VCC GFX NCTF
VCC GFX
VCC SM LF
1067M--4140mA
800M--3162.5mA
8700mA
Ivcc=1930.4+508.12=2438.52mA
Ivcc_axg=6326.84mA
U35F
VCC CORE
VCC NCTF
CANTIGA_PM
+1.05V
R6 10_4
R7 10_4
VCC_AXG_SENSE
VSS_AXG_SENSE
Eletro-X
G-Note Montevina
Quanta Computer Inc.
Cantiga Vcc 4/5
Tuesday, April 14, 2009
ECEtgRO-L


+1.05V 3,4,5,6,7,9,13,16,33,36,38
+3V 3,5,7,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,29,30,31,32,33,36,37,38
+1.5V 5,13,14,16,21,27,29,35
1.8VSUS 33,36
+1.05V_PEG 3,4,5,6,7,9,13,16,33,36,38
U35H
CRT
PLL
LVDS
A PEG
POWER
A SM
A CK
SM CK
AXF
TV
HDA
HV
PEG
D TV/CRT
DMI
VTT
VTTLF
CANTIGA_PM
EC-B-04
EC-A-11
73mA
5mA
AB total 64.8mA
24mA
139.2mA
13.2mA
414uA
50mA
DDR3:1067M--747.5mA 800M--575mA
DDR3:1067M--37.95mA 800M--28.75mA
79mA
50mA
35mA
500uA
157.2mA
50mA
60.31mA
852mA
321.35mA
DDR3:1067M-149.5mA 800M-143.75mA
118.8mA
105.3mA
1782mA
456mA
Electro-X
G-Note Montevina
Quanta Computer Inc.
Size Custom
Document Number
Cantiga Power 5/5
Rev 2.1
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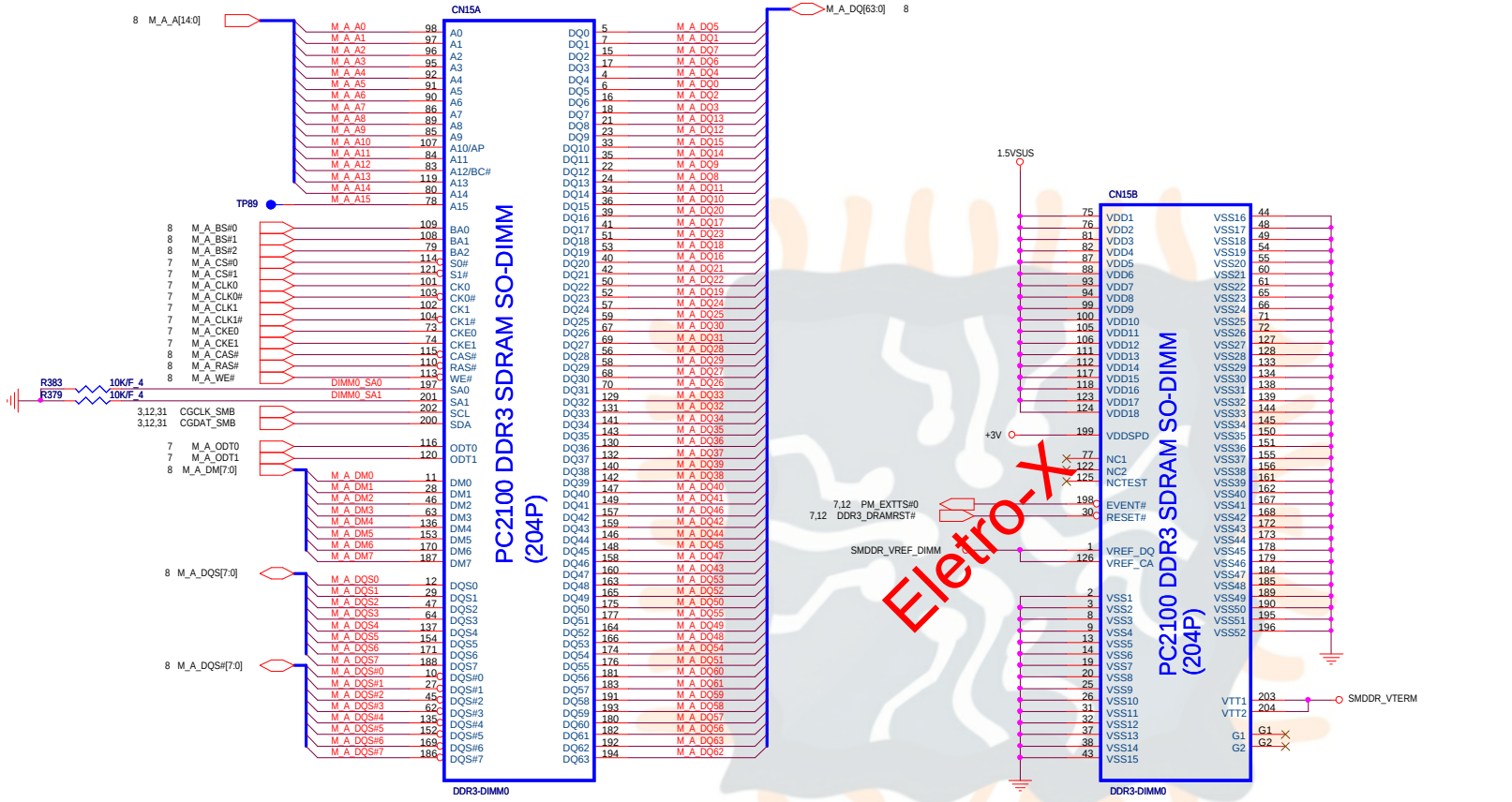

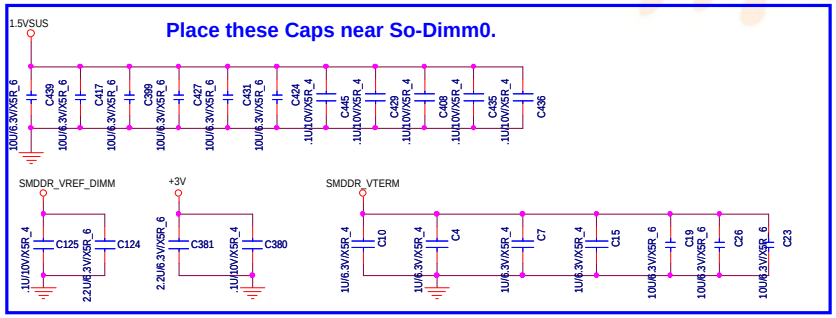

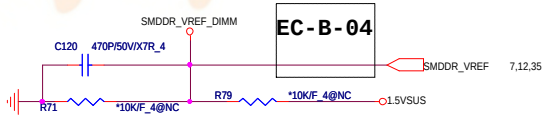

G-Note Montevina
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR3 DIMM-0(H=5.2)	2A

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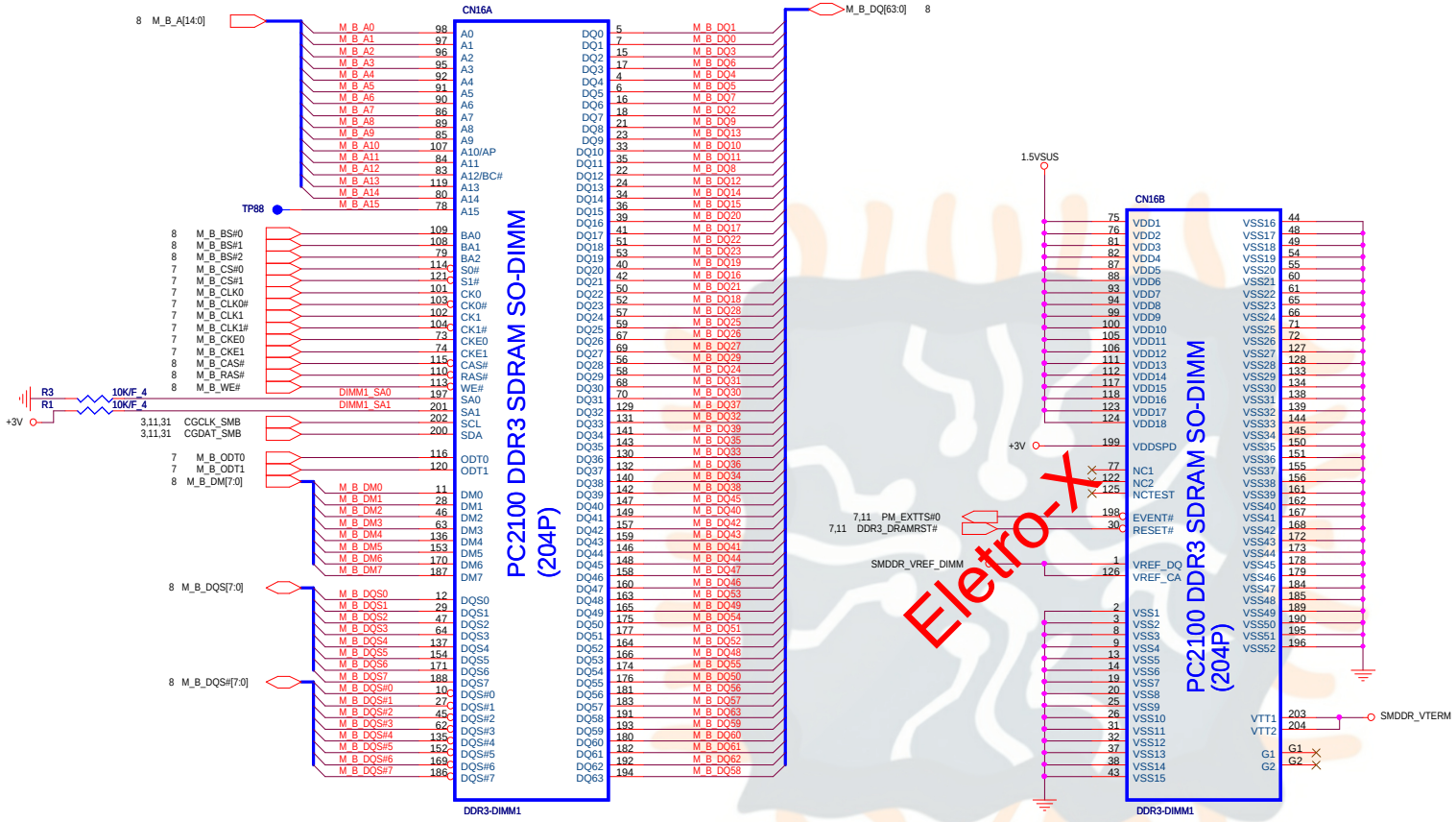
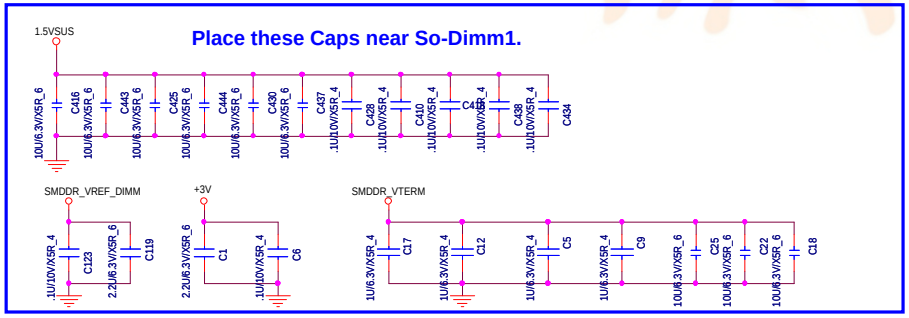
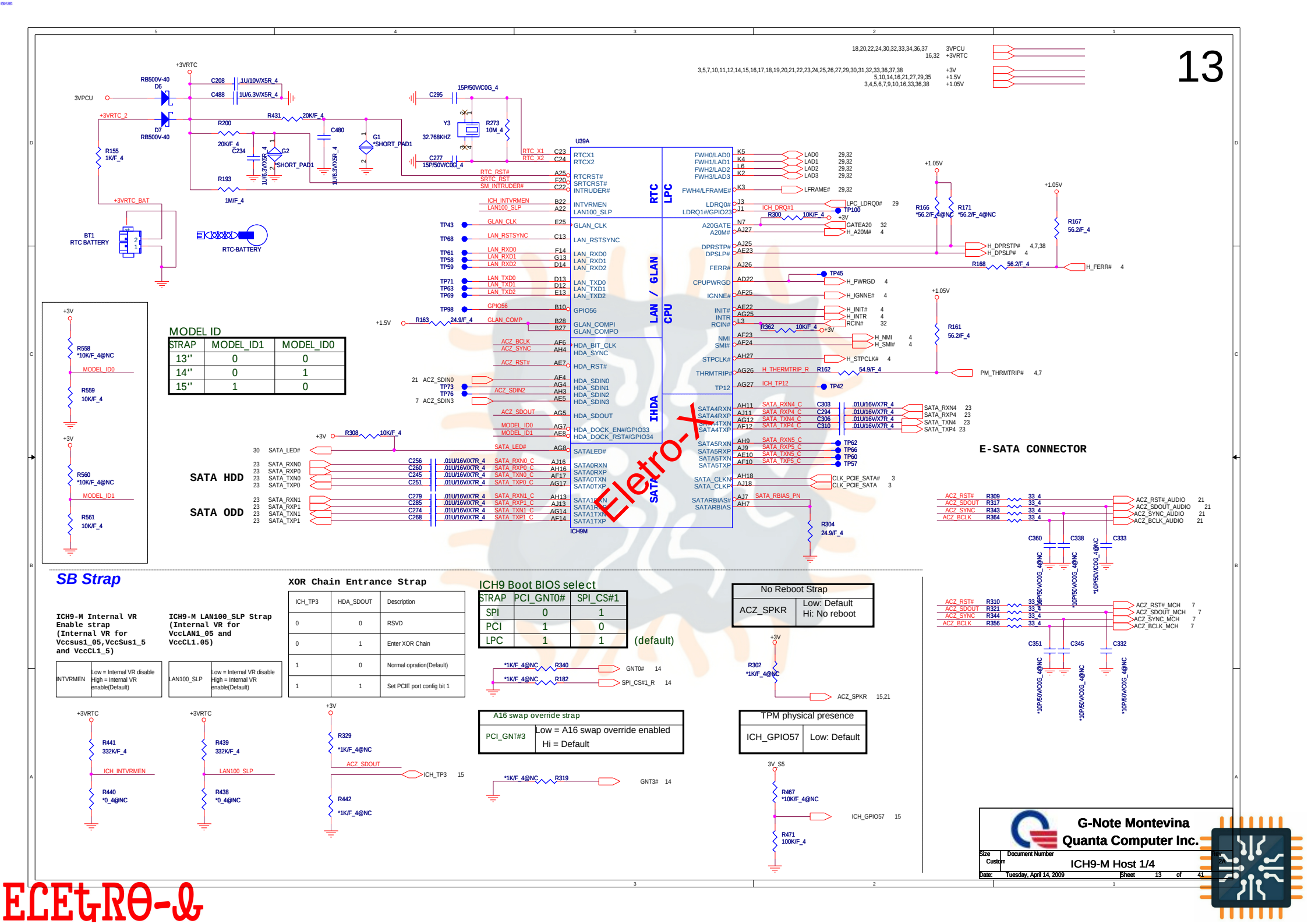




G-Note Montevina Quanta Computer Inc.		
Size: Custom	Document Number: DDR3 DIMM-1(H=9.2)	Rev: 2A
Date: Tuesday, April 14, 2009	Sheet 12 of 43	


U39A
RTC
LPC
LAN / GLAN
CPU
IHDA
SATA
ICH9M
SATA HDD
SATA ODD
E-SATA CONNECTOR
MODEL ID
STRAP | MODEL_ID1 | MODEL_ID0
13'' | 0 | 0
14'' | 0 | 1
15'' | 1 | 0
SB Strap
ICH9-M Internal VR Enable strap (Internal VR for Vccsus1_05,VccSus1_5 and VccCL1_5)
INTVRMEN | Low = Internal VR disable High = Internal VR enable(Default)
ICH9-M LAN100_SLP Strap (Internal VR for VccLAN1_05 and VccCL1.05)
LAN100_SLP | Low = Internal VR disable High = Internal VR enable(Default)
XOR Chain Entrance Strap
ICH_TP3 | HDA_SDOUT | Description
0 | 0 | RSVD
0 | 1 | Enter XOR Chain
1 | 0 | Normal opration(Default)
1 | 1 | Set PCIE port config bit 1
ICH9 Boot BIOS select
STRAP | PCI_GNT0# | SPI_CS#1
SPI | 0 | 1
PCI | 1 | 0
LPC | 1 | 1
(default)
No Reboot Strap
ACZ_SPKR | Low: Default Hi: No reboot
A16 swap override strap
PCI_GNT#3 | Low = A16 swap override enabled Hi = Default
TPM physical presence
ICH_GPIO57 | Low: Default
Eletro-X
ECEtRO-L
G-Note Montevina
Quanta Computer Inc.
ICH9-M Host 1/4
Size: Custom
Document Number
Rev: 2A
Date: Tuesday, April 14, 2009
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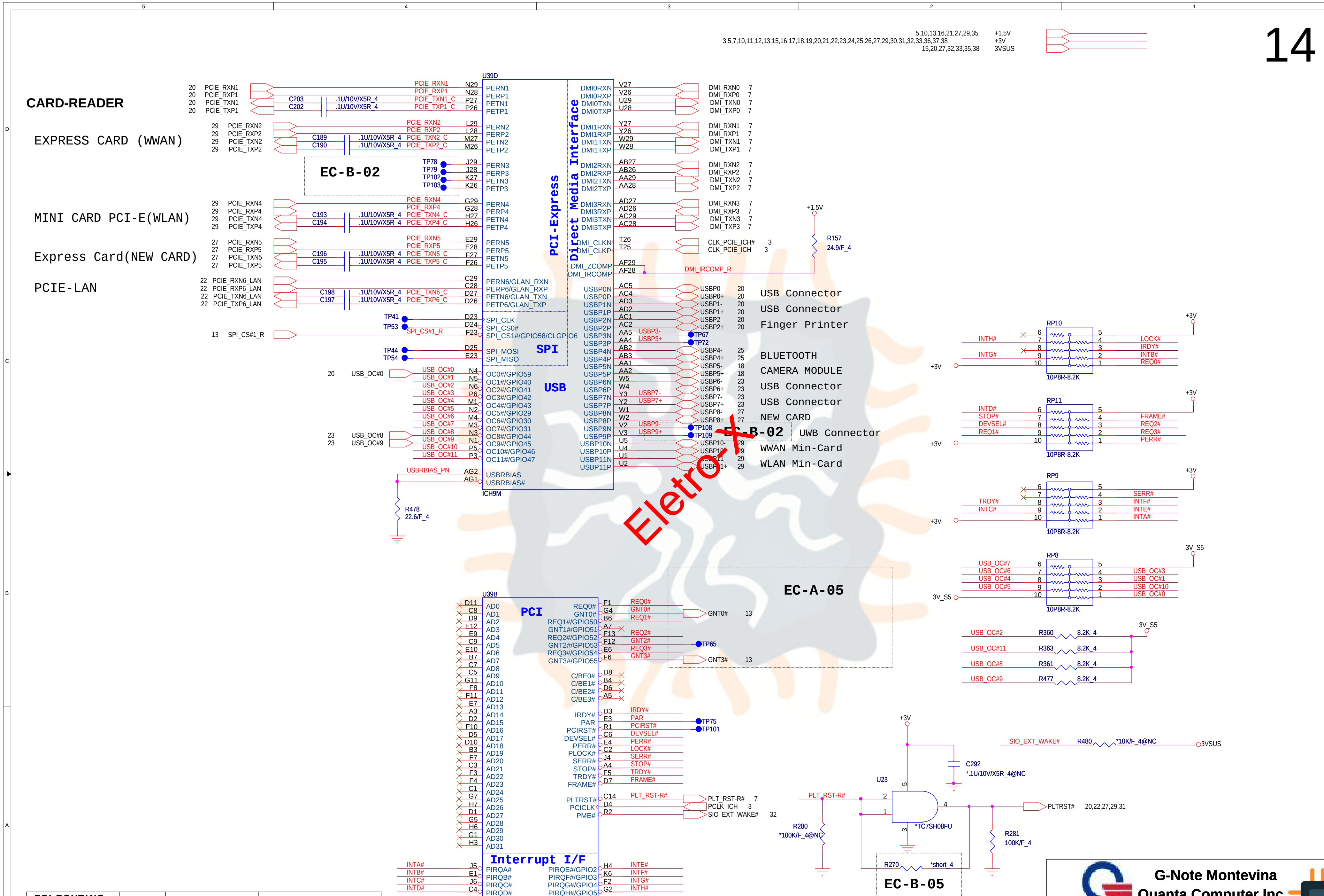
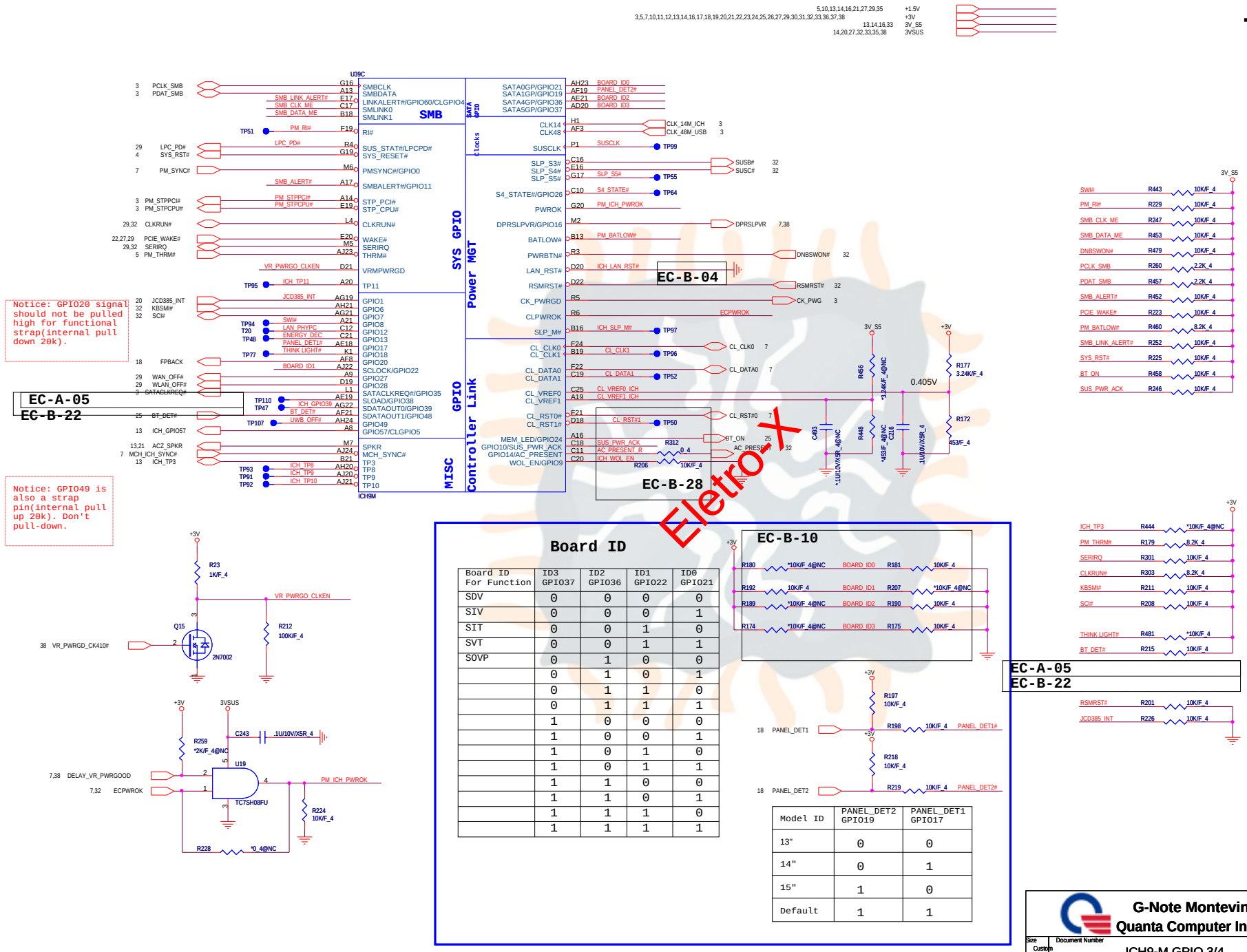


CARD-READER
EXPRESS CARD (WWAN)
EC-B-02
MINI CARD PCI-E(WLAN)
Express Card(NEW CARD)
PCIE-LAN
U39D
PCI-Express
Direct Media Interface
SPI
USB
ICH9M
USB Connector
USB Connector
Finger Printer
BLUETOOTH
CAMERA MODULE
USB Connector
USB Connector
NEW CARD
EC-B-02
UWB Connector
WWAN Min-Card
WLAN Min-Card
RP10
RP11
RP9
RP8
10P8R-8.2K
EC-A-05
U39B
PCI
Interrupt I/F
U23
*TC7SH08FU
EC-B-05
PLTRST#
SIO_EXT_WAKE#
3VSUS

PCI ROUTING TABLE	IDSEL	INTERUPT	DEVICE

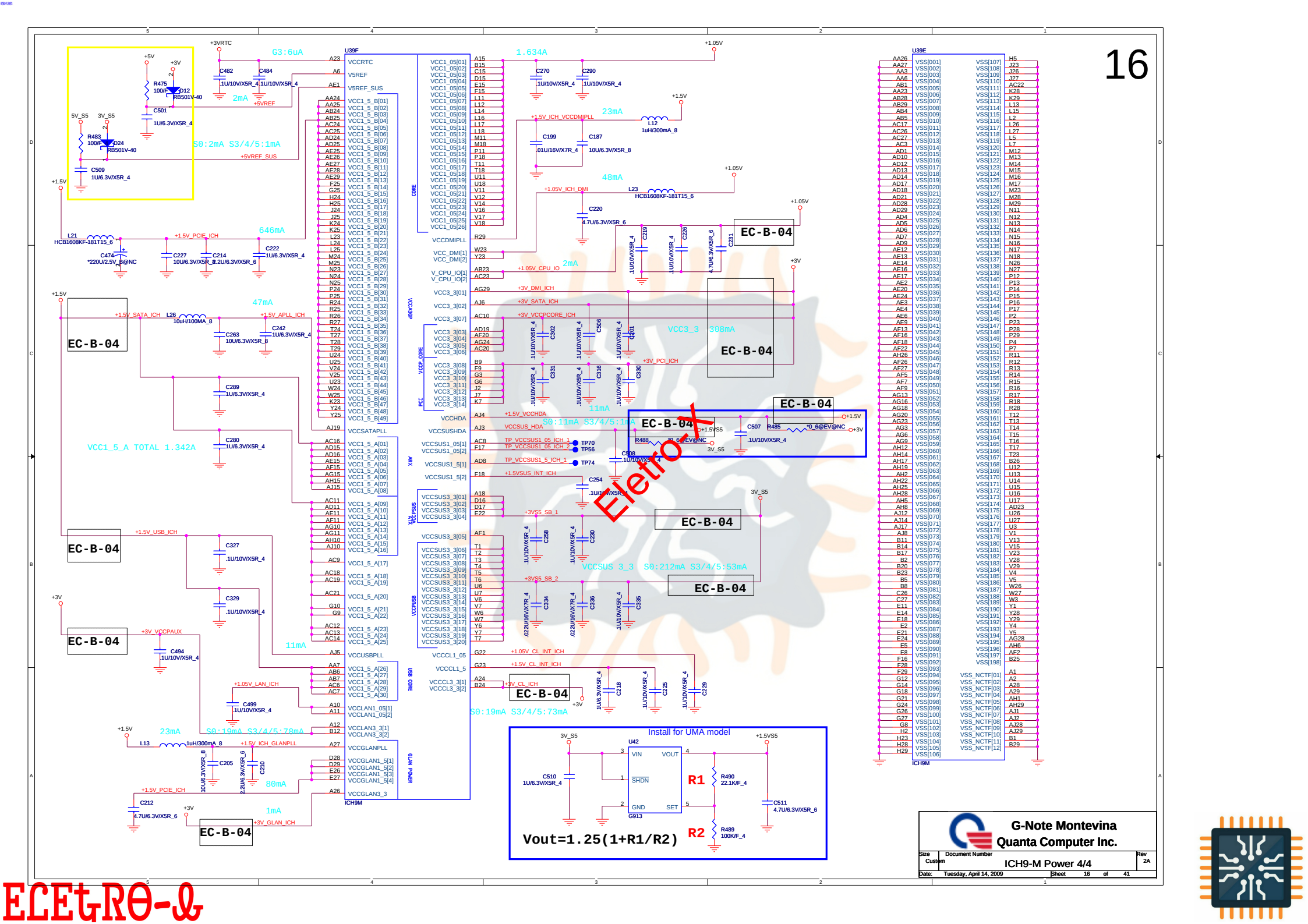
G-Note Montevina
Quanta Computer Inc.

Size: Custom | Document Number: ICH9-M PCIE 2/4 | Rev
Date: Tuesday, April 14, 2009 | Sheet 14 of 41



Board ID For Function	ID3 GPIO37	ID2 GPIO36	ID1 GPIO22	ID0 GPIO21
SDV	0	0	0	0
SIV	0	0	0	1
SIT	0	0	1	0
SVT	0	0	1	1
SOVP	0	1	0	0
	0	1	0	1
	0	1	1	0
	0	1	1	1
	1	0	0	0
	1	0	0	1
	1	0	1	0
	1	0	1	1
	1	1	0	0
	1	1	0	1
	1	1	1	0
	1	1	1	1

Model ID	PANEL_DET2 GPIO19	PANEL_DET1 GPIO17
13"	0	0
14"	0	1
15"	1	0
Default	1	1


U39F
ICH9M
U39E
ICH9M
U42
G913
EC-B-04
Install for UMA model
Vout=1.25(1+R1/R2)
G3:6uA
2mA
S0:2mA S3/4/5:1mA
646mA
47mA
VCC1_5_A TOTAL 1.342A
1.634A
23mA
48mA
2mA
VCC3_3 308mA
11mA
S0:11mA S3/4/5:1mA
VCCUS 3_3 S0:212mA S3/4/5:53mA
S0:19mA S3/4/5:73mA
S0:19mA S3/4/5:78mA
80mA
1mA
Eletrox
G-Note Montevina
Quanta Computer Inc.
ICH9-M Power 4/4
Tuesday, April 14, 2009

ECEtRO-L

CRT PORT

17

ESD PROTECTION
close CRT connector

EC-B-21
RV8 *TVSS5VESPT@NC CRT_R1
RV9 *TVSS5VESPT@NC CRT_G1
RV10 *TVSS5VESPT@NC CRT_B1
RV11 *TVSS5VESPT@NC CRTVSYNC
RV12 *TVSS5VESPT@NC CRTHSYNC
RV13 *TVSS5VESPT@NC DDCCLK3
RV14 *TVSS5VESPT@NC DDCDAT3
RV15 *TVSS5VESPT@NC CRT_VCC_R

EC-B-04
7 INT_CRT_RED
7 INT_CRT_GRN
7 INT_CRT_BLU
CRT_R_CON
CRT_G_CON
CRT_B_CON
R61 150/F_4
R58 150/F_4
R56 150/F_4
C100 5.6P/50V/C0G_4
C82 5.6P/50V/C0G_4
C74 5.6P/50V/C0G_4

+5V
D1 RB501V-40
+5VCRT
40mil
C61 .1U/10V/X5R_4
F1 FUSE1A6V_POLY
EC-B-17
CRT_VCC_R

L8 BLM18BA470SN1 CRT_R1
L6 BLM18BA470SN1 CRT_G1
L5 BLM18BA470SN1 CRT_B1
C78 5.6P/50V/C0G_4
C92 5.6P/50V/C0G_4
C103 5.6P/50V/C0G_4
T1
CN17
CRT_CONN

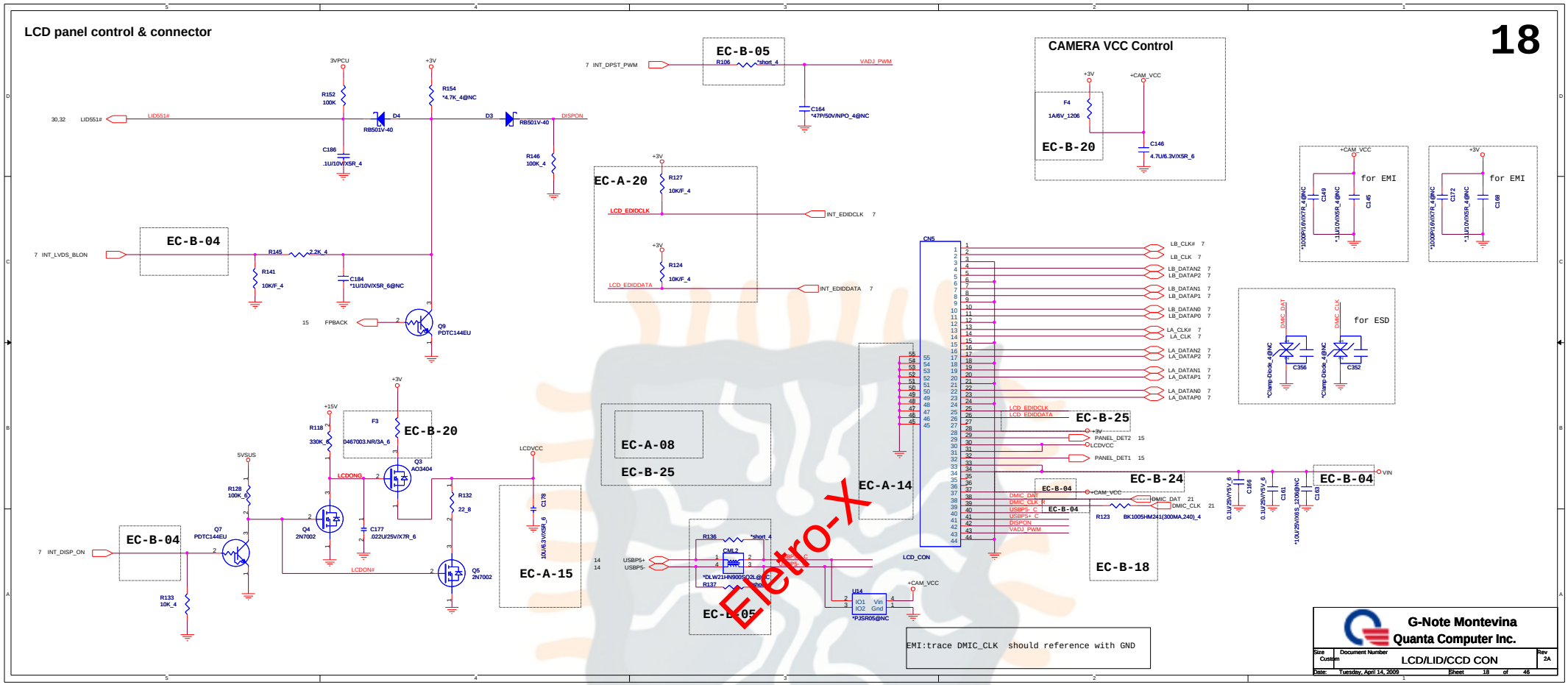
EC-B-04
C70 .1U/10V/X5R_4
U1 AHCT1G125DCH
U2 AHCT1G125DCH
7 INT_VSYNC
7 INT_HSYNC
VSYNC
HSYNC
CRTVSYNC1
CRTHSYNC1
L3 HB-1T1608-121JT
L4 HB-1T1608-121JT
CRTVSYNC
CRTHSYNC
EC-B-13

+3V
R421 2.2K_4
R431 2.2K_4
7 INT_CRT_DDCCLK
7 INT_CRT_DDCDAT
CRTDCLK
CRTDDAT
Q21 2N7002K-T1-E3
Q24 2N7002K-T1-E3
+5VCRT
R404 2.2K_4
R420 2.2K_4
DDCCLK2
DDCDAT2
EC-B-04
DDCCLK3
DDCDAT3
EC-B-13

G-Note Montevina
Quanta Computer Inc.

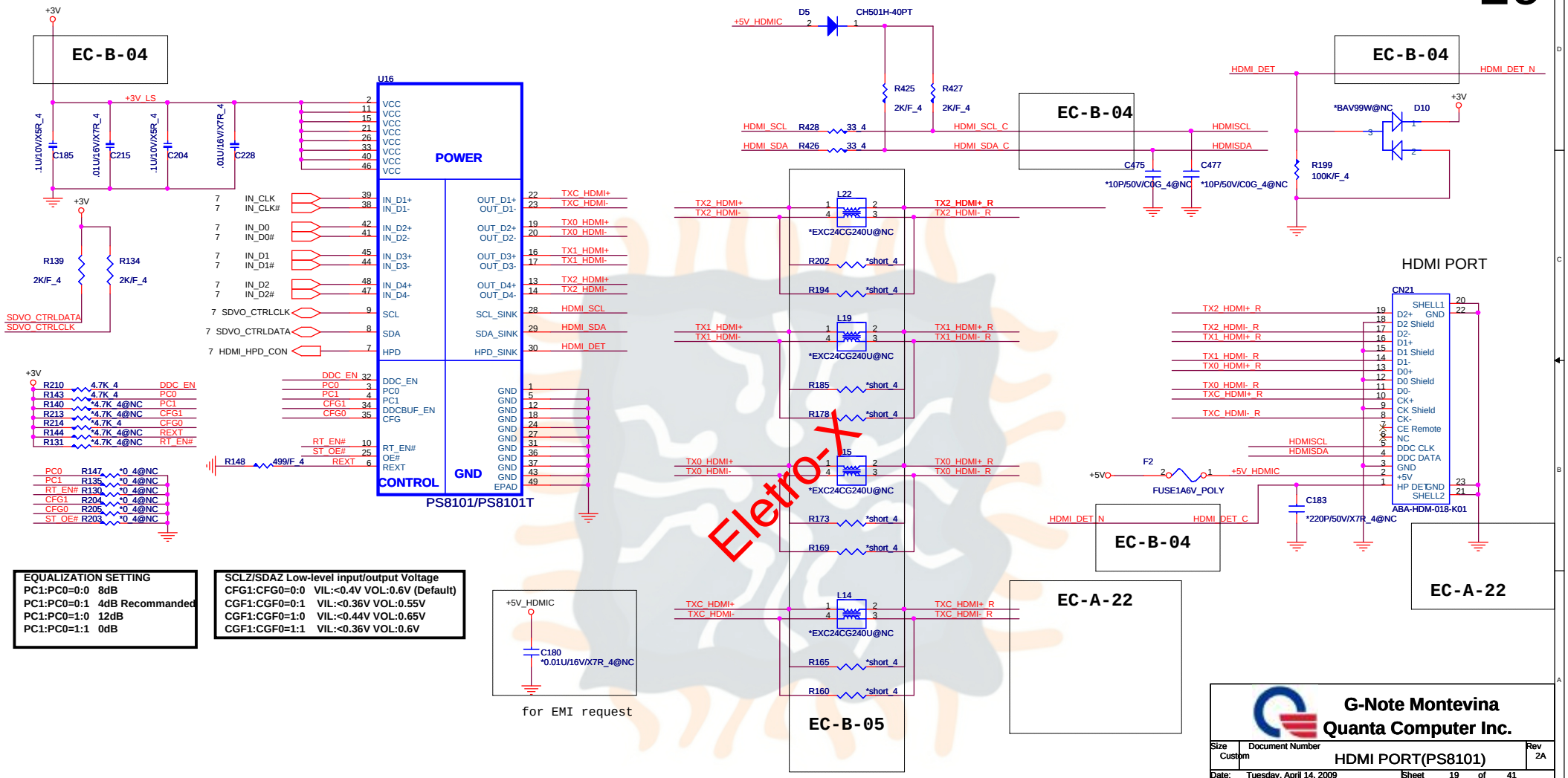
Size	Document Number	Rev
Custom	CRT CON	2A
Date: Tuesday, April 14, 2009	Sheet 17 of 41	

LCD panel control & connector



HDMI Level shifter & Port

19



EQUALIZATION SETTING

PC1:PC0=0:0	8dB
PC1:PC0=0:1	4dB Recommanded
PC1:PC0=1:0	12dB
PC1:PC0=1:1	0dB

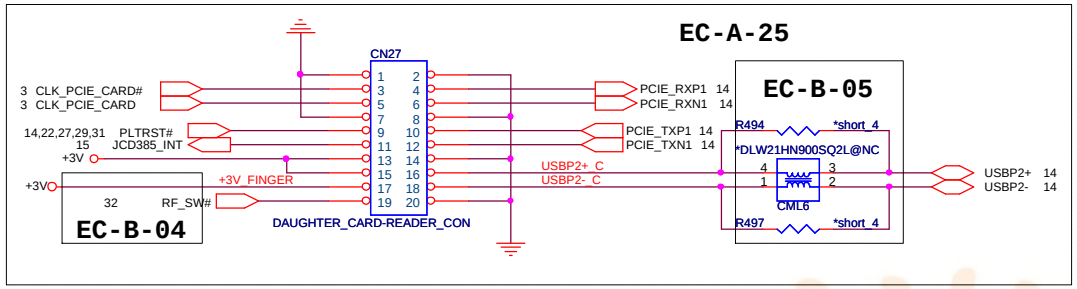
SCLZ/SDAZ Low-level input/output Voltage

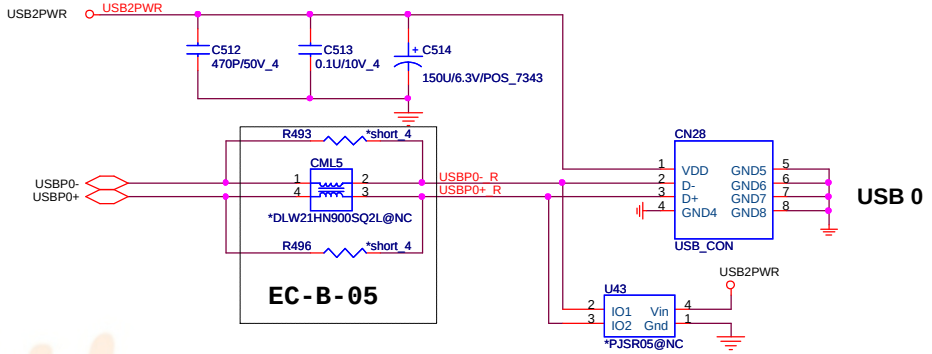
CFG1:CFG0=0:0	VIL:<0.4V VOL:0.6V (Default)
CGF1:CGF0=0:1	VIL:<0.36V VOL:0.55V
CGF1:CGF0=1:0	VIL:<0.44V VOL:0.65V
CGF1:CGF0=1:1	VIL:<0.36V VOL:0.6V

G-Note Montevina
Quanta Computer Inc.

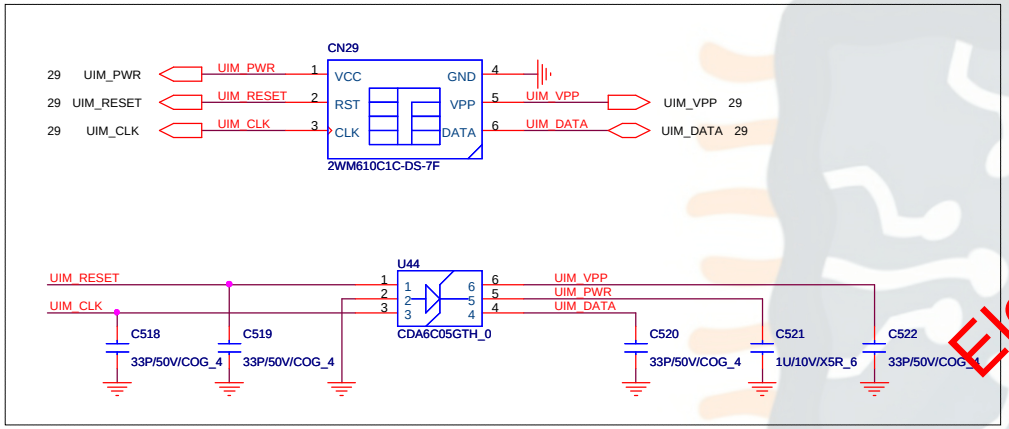
Size	Document Number	Rev
Custom	HDMI PORT(PS8101)	2A
Date: Tuesday, April 14, 2009	Sheet 19 of 41	

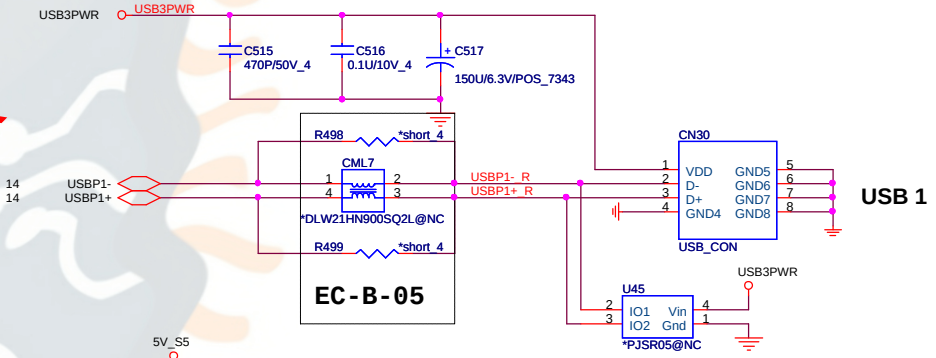
WIRE TO BOARD CONN CARD READER & FINGERPRINT



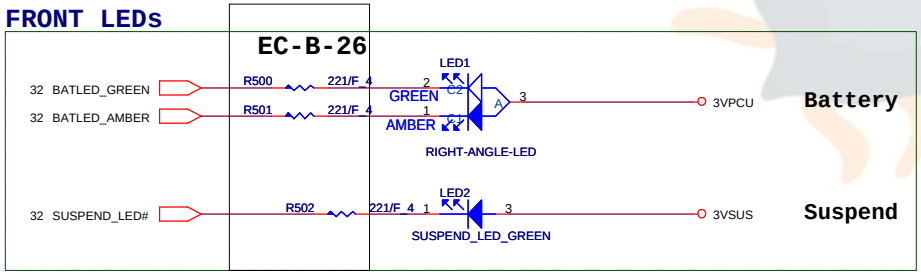


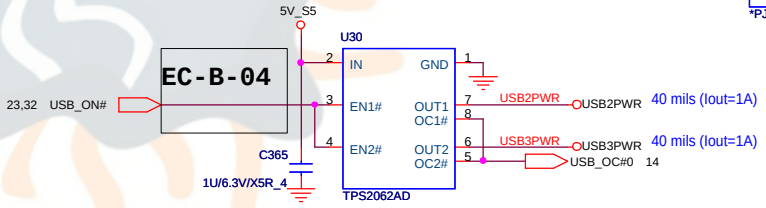
SIM Card CONN





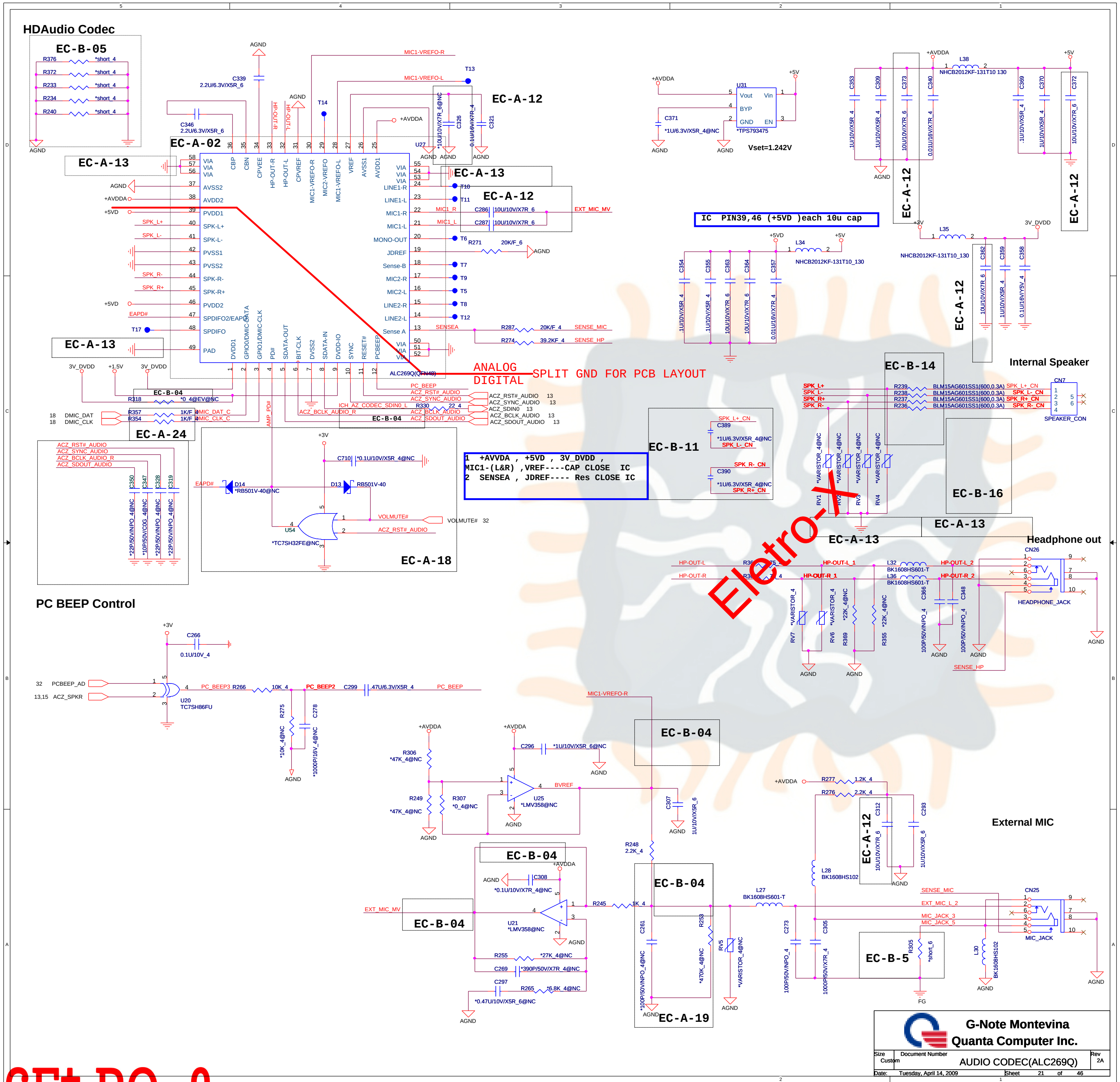
FRONT LEDs

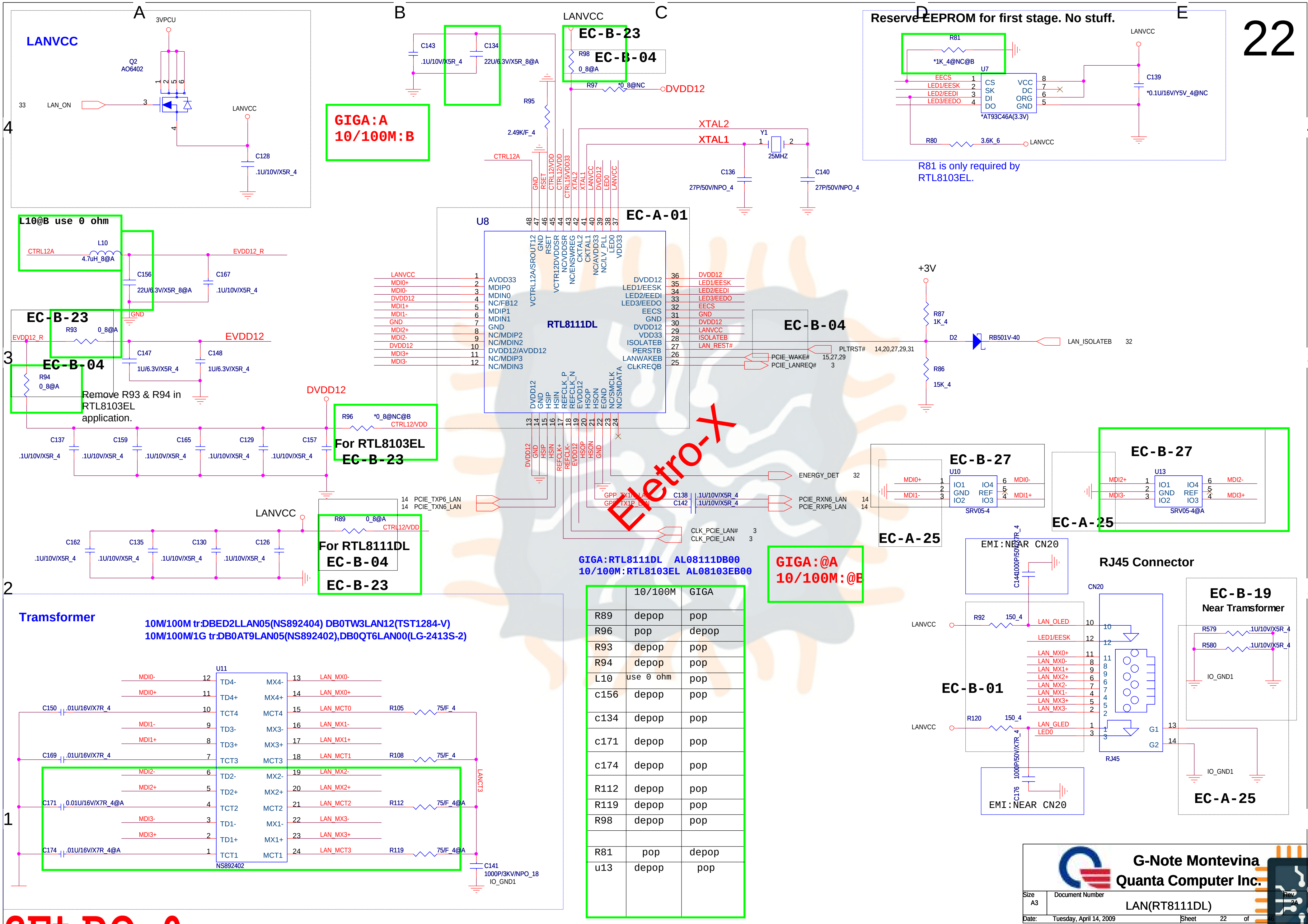




PROJECT :G NOTE
Quanta Computer Inc.

Size	Document Number	Rev
Custom	USB X2/SIM_CARD/LEDs/RF	2A
Date: Tuesday, April 14, 2009	Sheet 20 of 46	

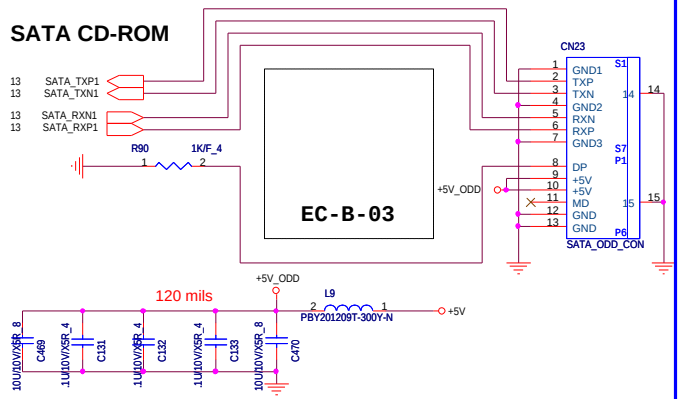

HDAudio Codec
EC-B-05
EC-A-02
EC-A-12
EC-A-13
EC-A-24
EC-B-04
EC-A-18
ALC269Q(QFN48)
ANALOG
DIGITAL
SPLIT GND FOR PCB LAYOUT
IC PIN39,46 (+5VD)each 10u cap
1 +AVDDA , +5VD , 3V_DVDD ,
MIC1-(L&R) ,VREF----CAP CLOSE IC
2 SENSEA , JDREF---- Res CLOSE IC
Vset=1.242V
Internal Speaker
EC-B-14
EC-B-11
EC-B-16
SPEAKER_CON
Headphone out
HEADPHONE_JACK
PC BEEP Control
External MIC
MIC_JACK
EC-A-19
EC-B-5
G-Note Montevina
Quanta Computer Inc.
AUDIO CODEC(ALC269Q)
Rev 2A
Date: Tuesday, April 14, 2009
Sheet 21 of 46



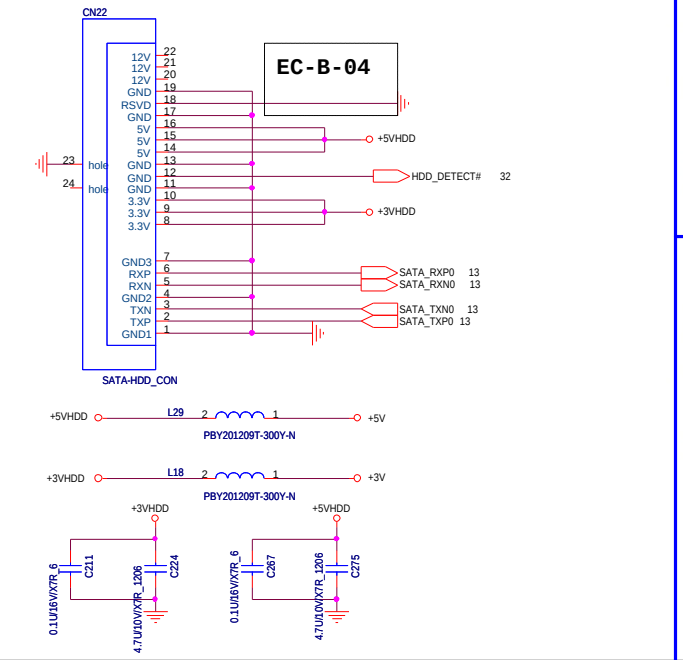
	10/100M	GIGA
R89	depop	pop
R96	pop	depop
R93	depop	pop
R94	depop	pop
L10	use 0 ohm	pop
c156	depop	pop
c134	depop	pop
c171	depop	pop
c174	depop	pop
R112	depop	pop
R119	depop	pop
R98	depop	pop
R81	pop	depop
u13	depop	pop

G-Note Montevina
Quanta Computer Inc.
Size A3 | Document Number LAN(RT8111DL) | Rev 3A
Date: Tuesday, April 14, 2009 | Sheet 22 of 46

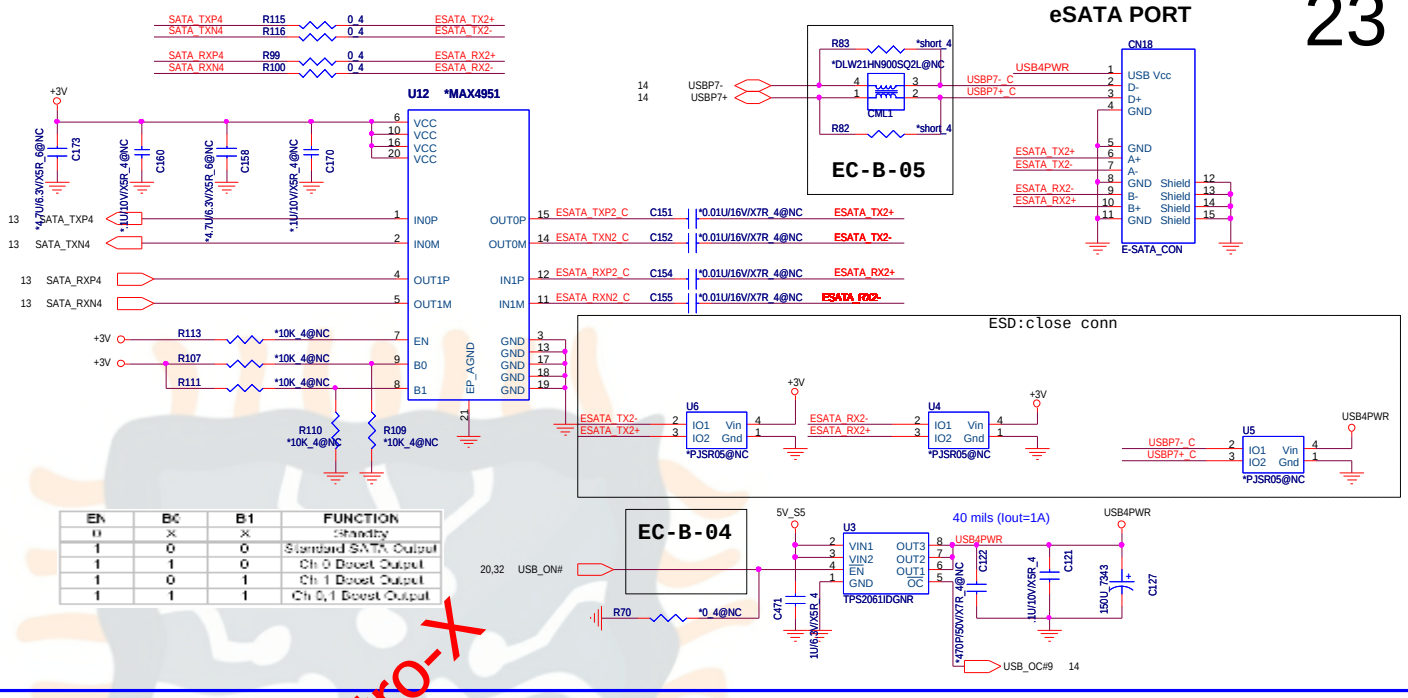
SATA CD-ROM



SATA-HDD



E-SATA RE-DRIVER

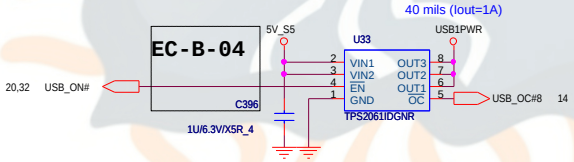


eSATA PORT

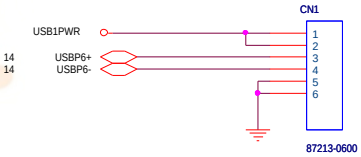
ESD:close conn

EN	B0	B1	FUNCTION
0	X	X	Standby
1	0	0	Standard SATA Output
1	1	0	Ch 0 Boost Output
1	0	1	Ch 1 Boost Output
1	1	1	Ch 0,1 Boost Output

USB x1



REAR_USB/B connector



Eletro-X

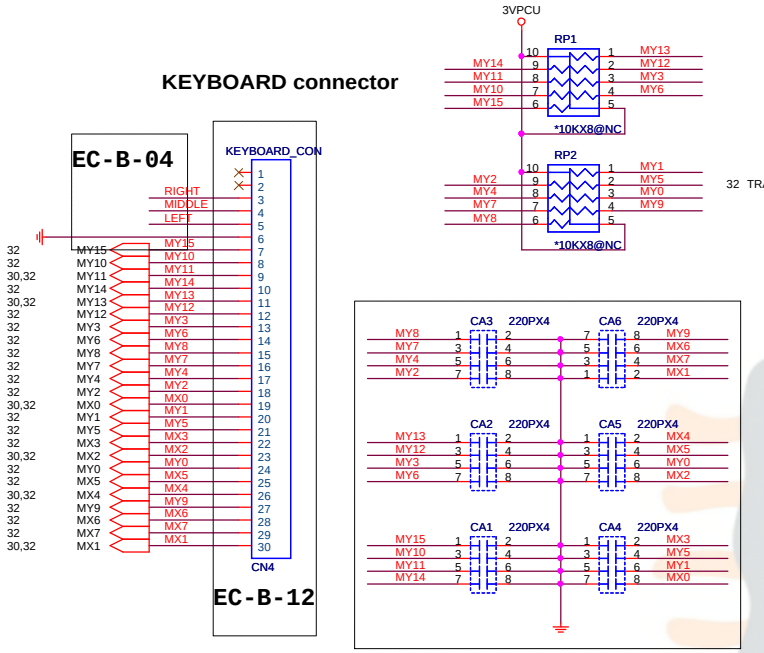
G-Note Montevina
Quanta Computer Inc.

Size	Document Number	Rev
Custom	SATA HDD/ ODD/ eSATA/USB	A
Date: Tuesday, April 14, 2009	Sheet 23 of 46	

ECEtRO-L

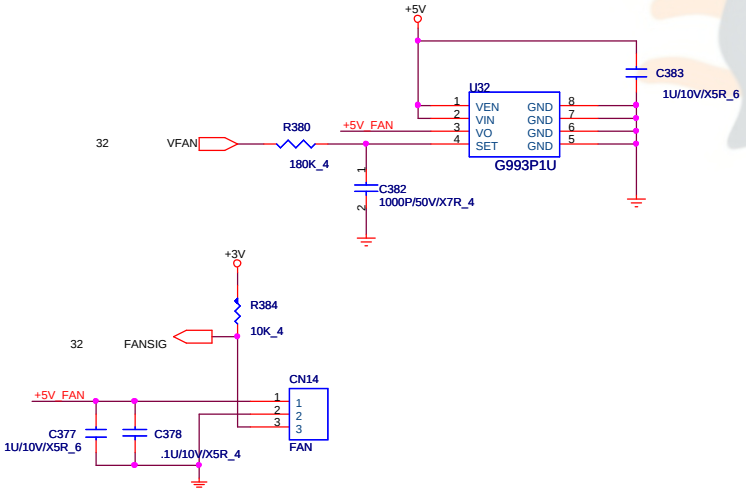
FAN, K/B, T/P & Track Point

KEYBOARD connector

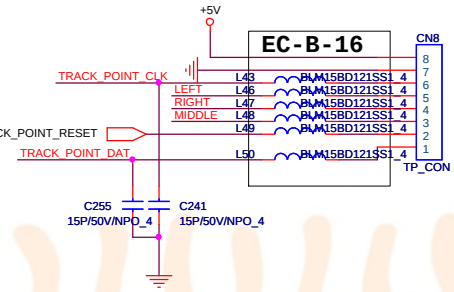


For EMI request

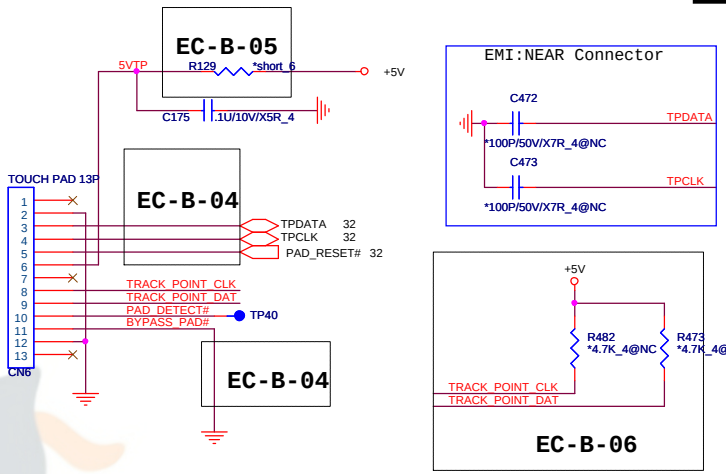
FAN Controller



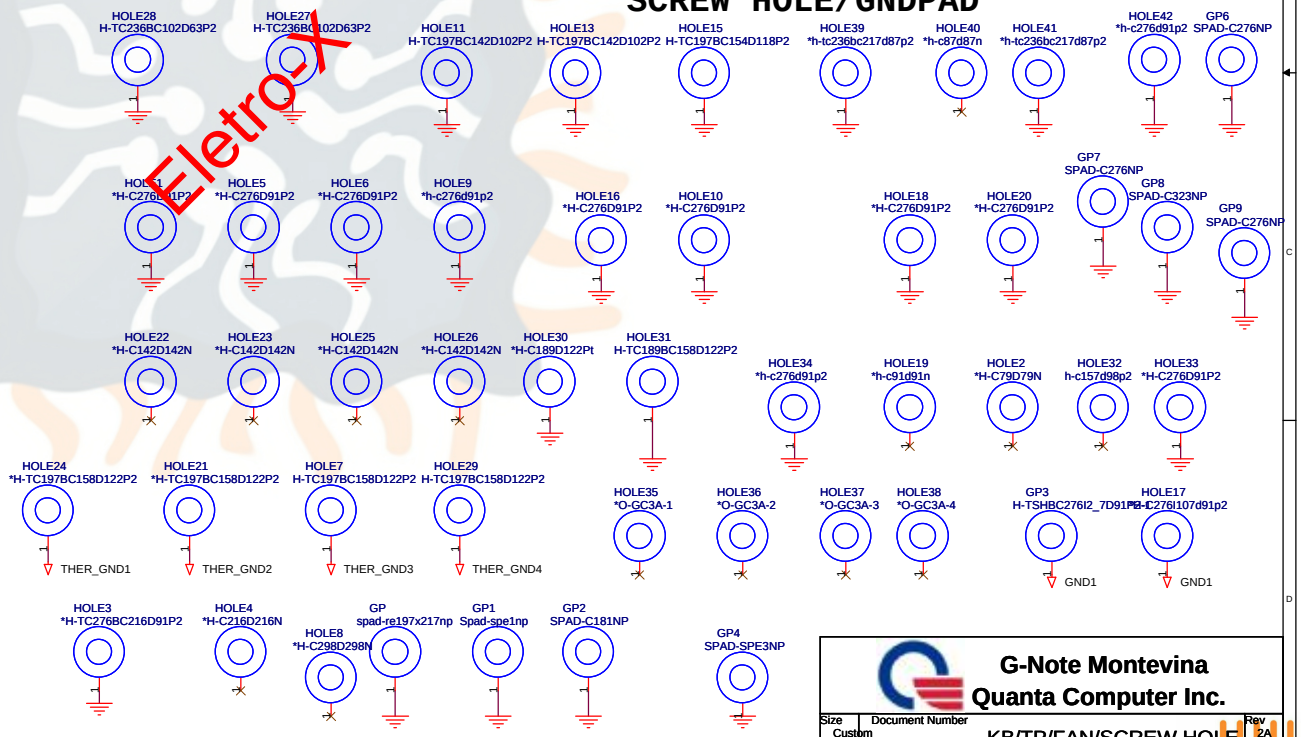
TRACK POINT



TOUCH PAD

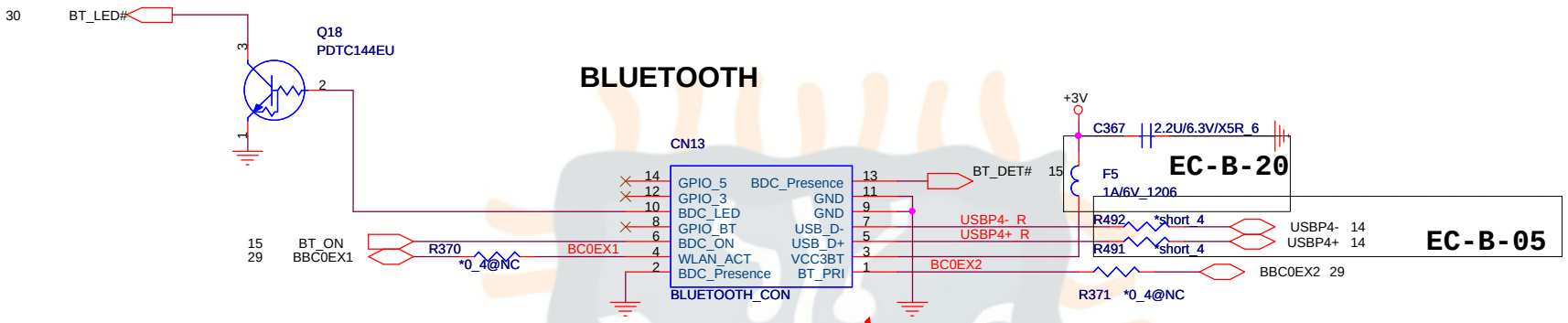


SCREW HOLE/GNDPAD



Eletro-X

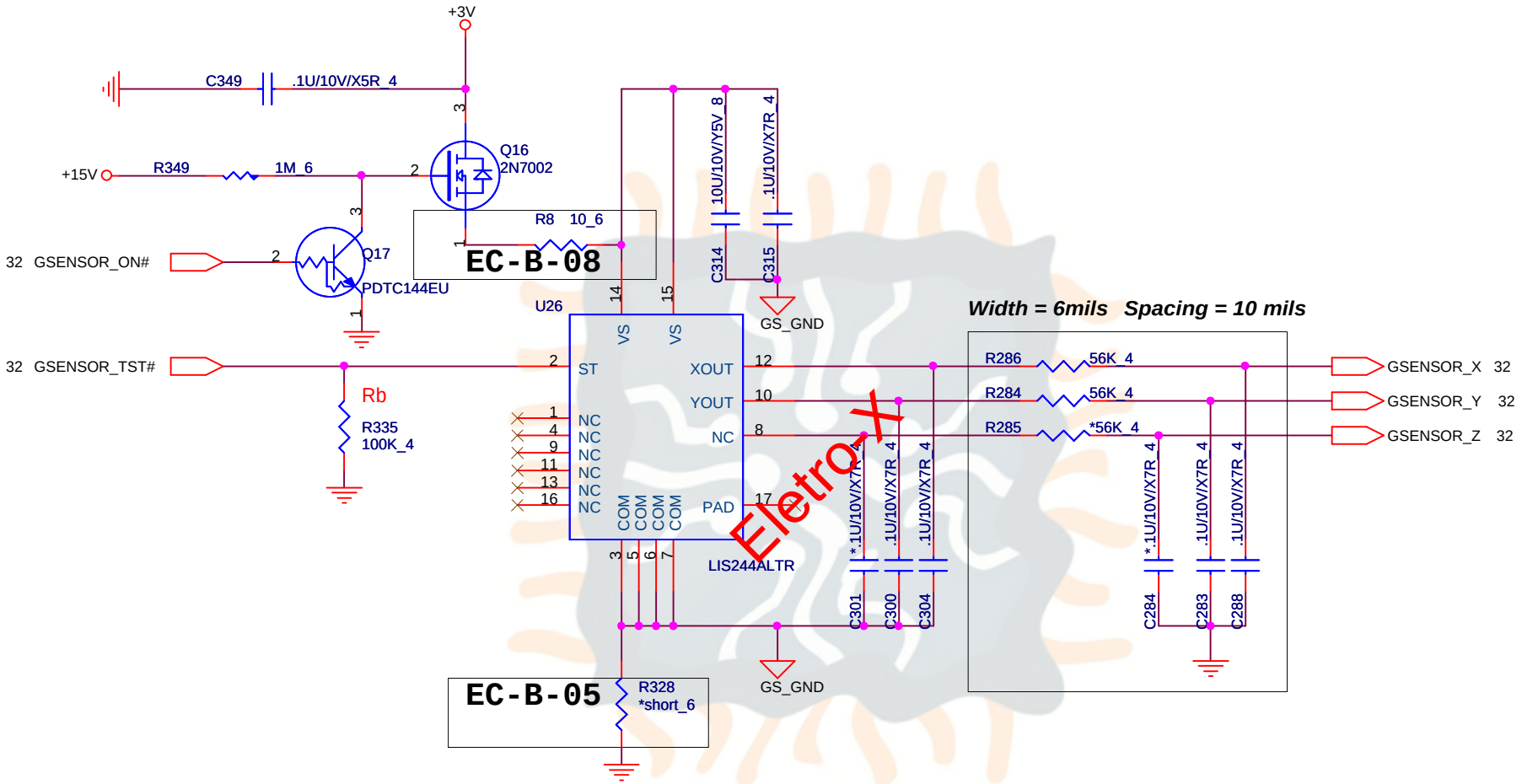
G-Note Montevina Quanta Computer Inc.		
Size: Custom	Document Number: KB/TP/FAN/SCREW HOLE	Rev: 2A
Date: Tuesday, April 14, 2009	Sheet 24 of 46	



G-Note Montevina
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Buletooth Conn	2A
Date: Tuesday, April 14, 2009	Sheet 25 of 41	

G-SENSOR (2-Axial)



G-Note Montevina Quanta Computer Inc.		
Size A	Document Number G-SENSOR	Rev 2A
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PCI Express Card

27

EC-B-07

EC-B-05

EC-B-06

EC-B-07

R159 *short_4

CML3

USBP8-
USBP8+

USBCONP8-
USBCONP8+

*DLW21HN900SQ2L@NC

R164 *short_4

CPUSB#
CPPE#
2231_SHDN#
2231_STBY#

R187 *10K_4@NC
R188 *10K_4@NC
R153 10K_4
R158 10K_4

3VSUS

3V_NEWCARD

CN10

NEW_CARD_CON

GND4
USB_D-
USB_D+
CPUSB#
RESERVED2
RESERVED1
SMB_CLK
SMB_DATA
+1.5V2
+1.5V1
WAKE#
+3.3VAUX
PERST#
+3.3V2
+3.3V1
CLKREQ#
CPPE#
REFCLK-
REFCLK+
GND3
PERn0
PERp0
GND2
PETn0
PETp0
GND1

SHIELD5
SHIELD4
SHIELD3
SHIELD2
SHIELD1

3VAUX

R209 10K_4
R216 10K_4

1.5V_NEWCARD

15,22,29 PCIE_WAKE#

C523 0.047U/10V/X7R_4

3VAUX PERST#

3 NEW-CARD_CLK_REQ#
32 CPPE#
3 CLK_PCIE_NEW_C#
3 CLK_PCIE_NEW_C

14 PCIE_RXN5
14 PCIE_RXP5

14 PCIE_TXN5
14 PCIE_TXP5

14,20,22,29,31 PLTRST#

+3V

C217 0.1U/16V/X7R_6

U17

TC7SH08FU

T3 *PAD
T4 *PAD

U15

R5538/G577SR9U

2231_STBY#
3VSUS
3VAUX
PLTRST#_N
CPPE#
CPUSB#
PERST#
2231_SHDN#
RCLKEN
OC#

STBY#
AUXIN
AUXOUT
SYSRST#
CPPE#
CPUSB#
PERST#
SHDN#
RCLKEN
OC#
GND

3.3VIN
3.3VIN
1.5VIN
1.5VIN
3.3VOUT
3.3VOUT
1.5VOUT
1.5VOUT

+3V
+1.5V
3V_NEWCARD
1.5V_NEWCARD

3V_NEWCARD
3VAUX
1.5V_NEWCARD

C207 C209 0.1U/16V/X7R_6
C188 C200 0.1U/16V/X7R_6
C213 C206 0.1U/16V/X7R_6

ESD:close conn

USBCONP8-
USBCONP8+

U18

IO1 Vin
IO2 Gnd

*PJSR05@NC

3V_NEWCARD

Eletro-X

G-Note Montevina
Quanta Computer Inc.

Size	Document Number	Rev
Custom	PCI Express Card	2A
Date: Tuesday, April 14, 2009	Sheet 27 of 41	

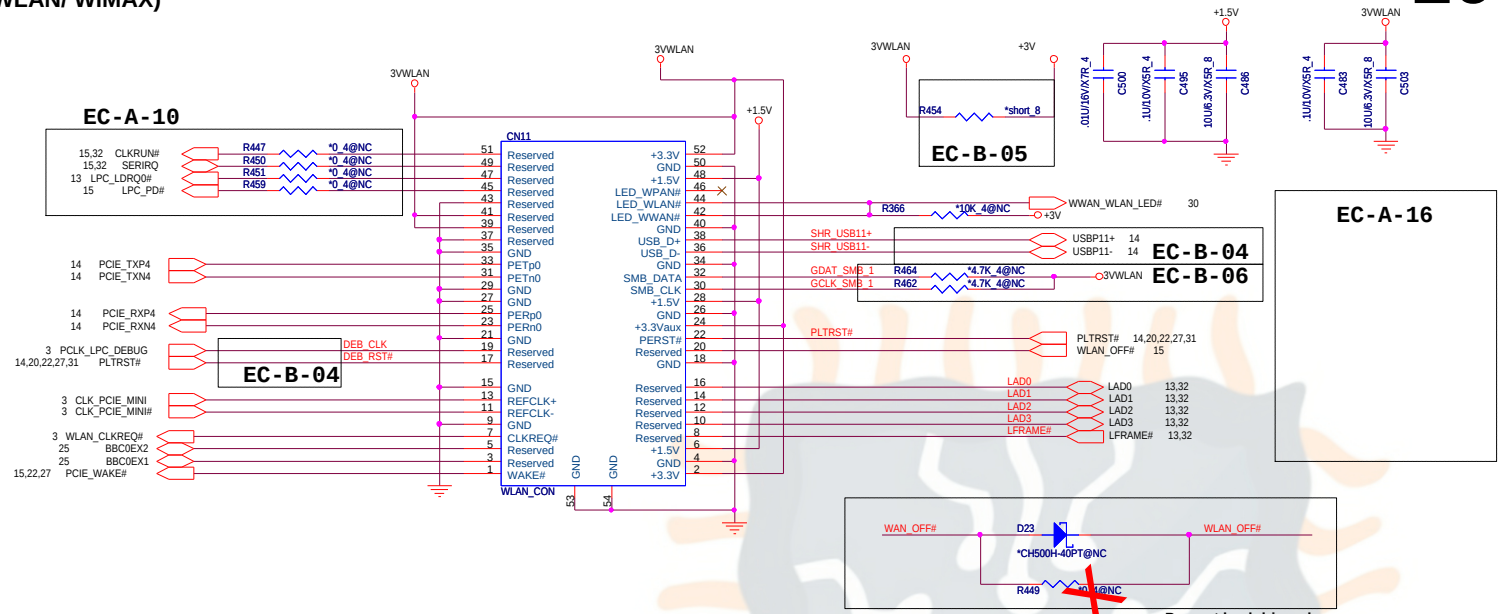
ECETRO-L

EC-B-02

G-Note Montevina
Quanta Computer Inc.

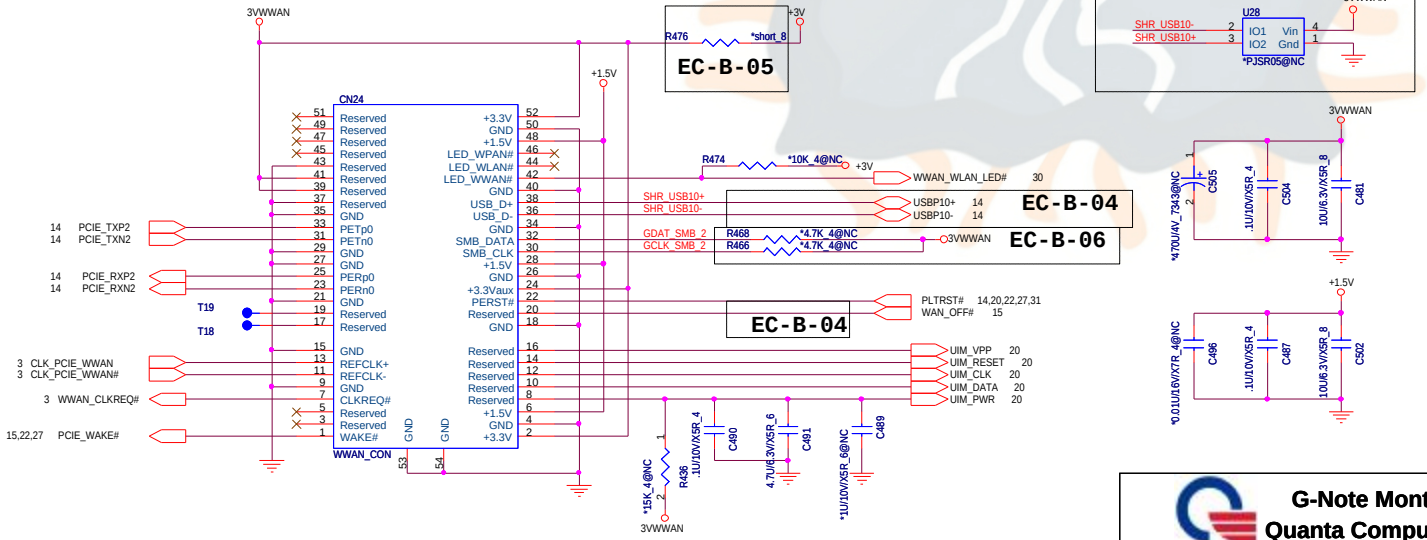
Size	Document Number	Rev
A	UWB Slot	2A
Date: Tuesday, April 14, 2009	Sheet 28 of 43	

Mini PCI-E Card (F2)
(WLAN/ WiMAX)



Prevent backdrive when
WoW is enabled.

Mini PCI-E Card (F1)
WWAN(W/SIM/Robson)



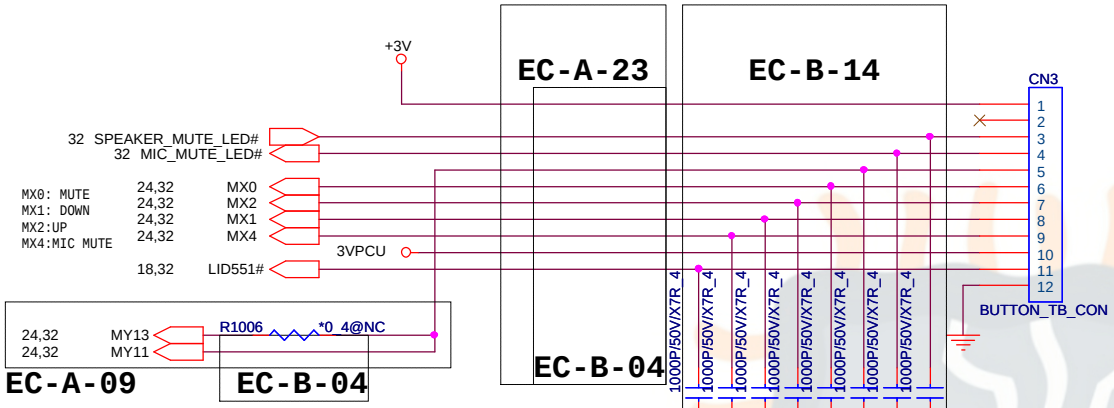
G-Note Montevina
Quanta Computer Inc.

Size	Document Number	Rev
Custom	WLAN & WWAN Slot	2A
Date: Tuesday, April 14, 2009	Sheet 29 of 41	

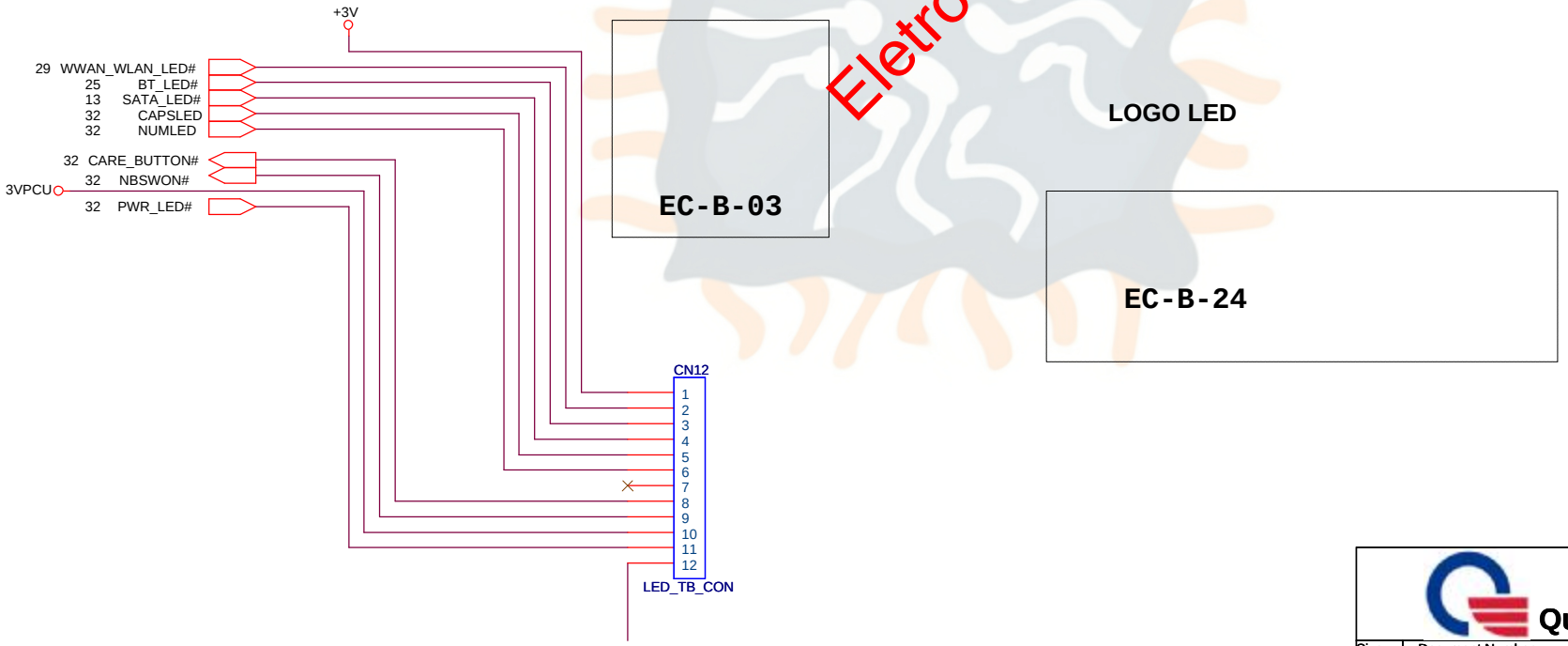
Daughter Boards for LEDs & Ports

30

FFC TO KBD LEFT SIDE CONNECTOR



FFC TO LED RIGHT SIDE CONNECTOR



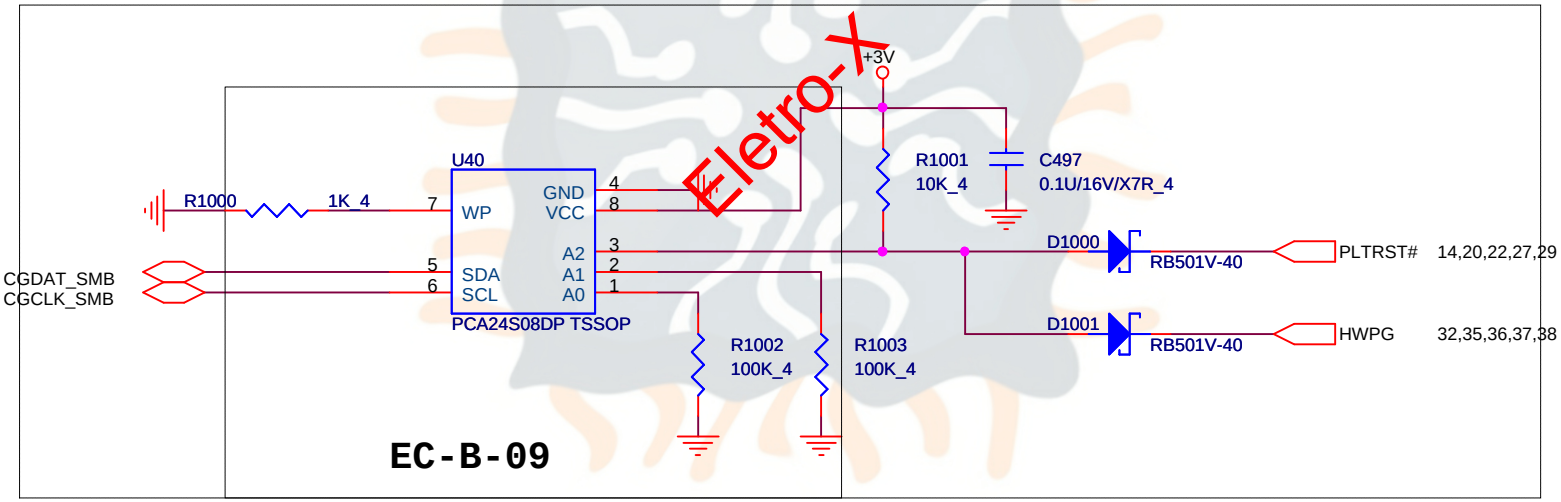
G-Note Montevina
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Daughter Boards	2A
Date: Tuesday, April 14, 2009	Sheet 30 of 48	

RFID EEPROM

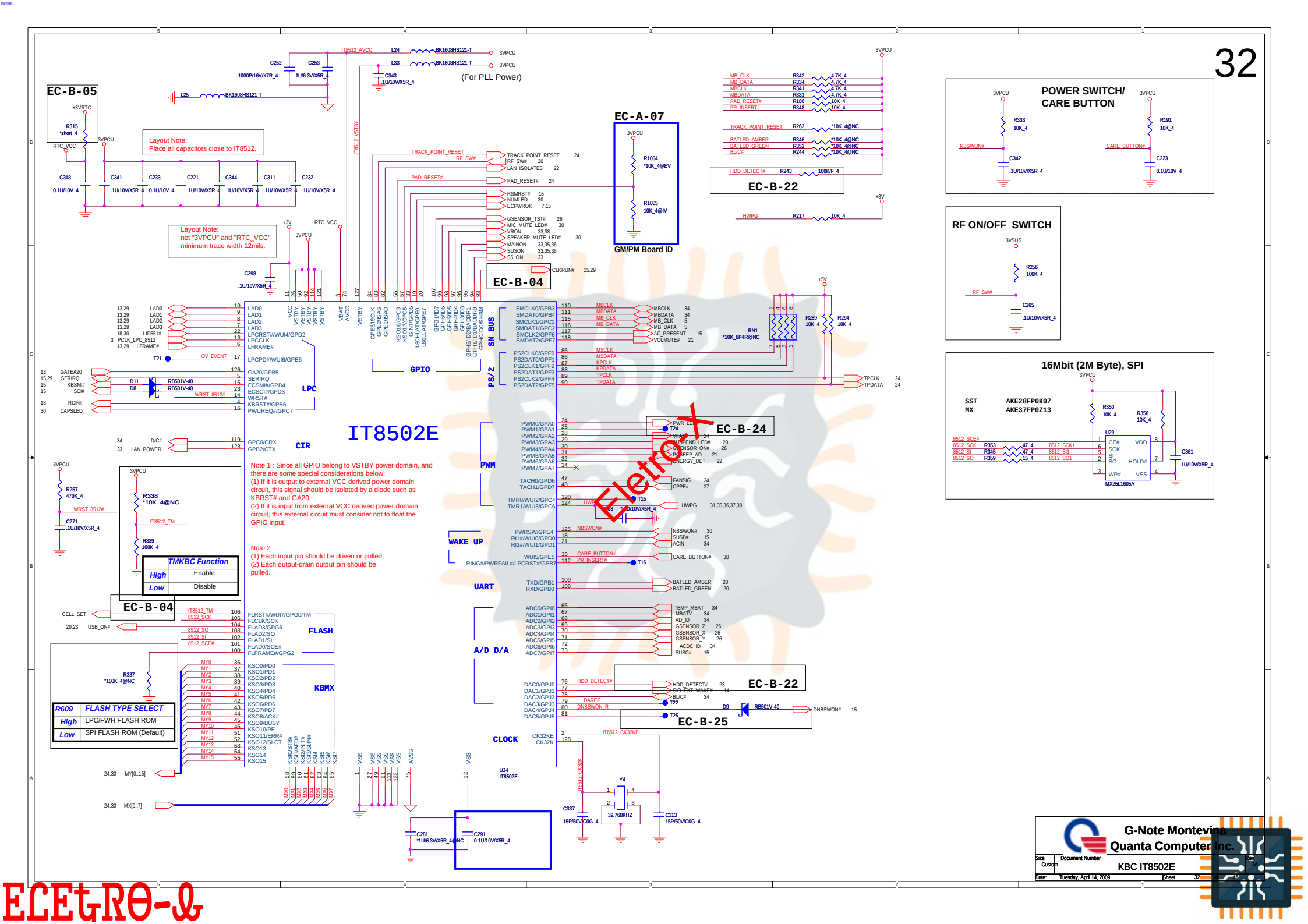
31

EC-A-04



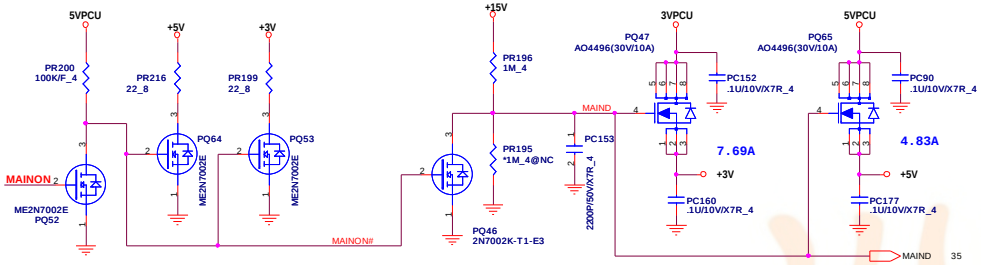
G-Note Montevina
Quanta Computer Inc.

Size	Document Number	Rev
A	RFID EEPROM	2A
Date: Tuesday, April 14, 2009	Sheet 31 of 41	

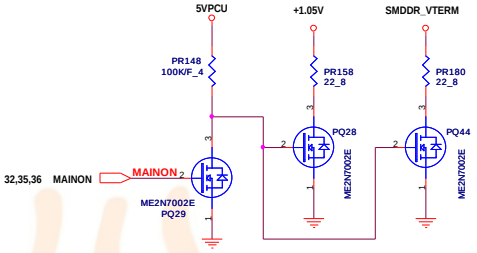

EC-B-05
Layout Note:
Place all capacitors close to IT8512.
Layout Note:
net "3VPCU" and "RTC_VCC"
minimum trace width 12mils.
(For PLL Power)
EC-A-07
GM/PM Board ID
EC-B-22
EC-B-04
EC-B-24
EC-B-25
IT8502E
SM BUS
PS/2
GPIO
LPC
CIR
PWM
WAKE UP
UART
A/D D/A
FLASH
KBMX
CLOCK
Note 1 : Since all GPIO belong to VSTBY power domain, and there are some special considerations below:
(1) If it is output to external VCC derived power domain circuit, this signal should be isolated by a diode such as KBRST# and GA20.
(2) If it is input from external VCC derived power domain circuit, this external circuit must consider not to float the GPIO input.
Note 2 :
(1) Each input pin should be driven or pulled.
(2) Each output-drain output pin should be pulled.
TMKBC Function
High Enable
Low Disable
R609 FLASH TYPE SELECT
High LPC/FWH FLASH ROM
Low SPI FLASH ROM (Default)
POWER SWITCH/ CARE BUTTON
RF ON/OFF SWITCH
16Mbit (2M Byte), SPI
SST AKE28FP0K07
MX AKE37FP0Z13
MX25L1605A
G-Note Montevina
Quanta Computer Inc.
KBC IT8502E
Tuesday, April 14, 2009

DISCHARGE

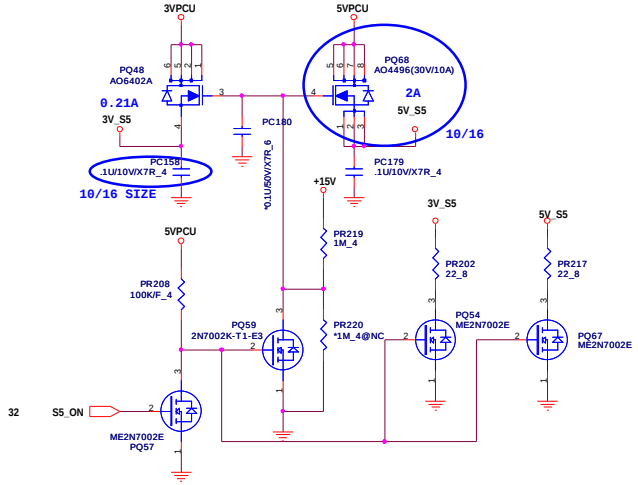
+3V, +5V



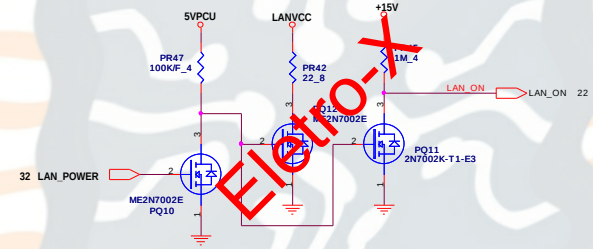
+1.05V, SMDDR_VTERM



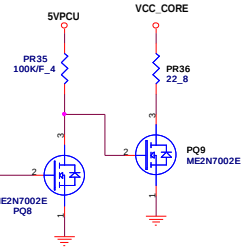
3V_S5, 5V_S5

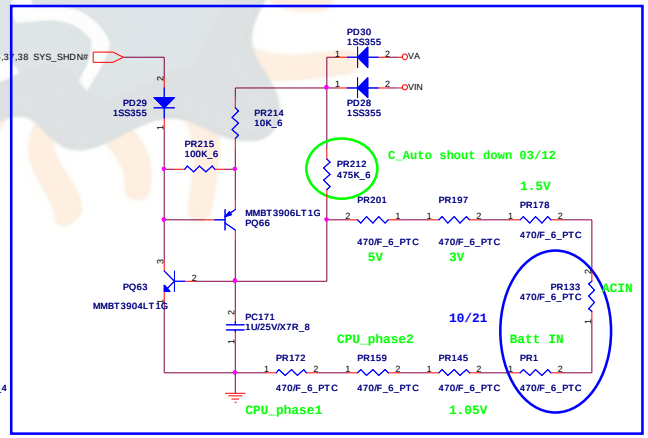


LANVCC

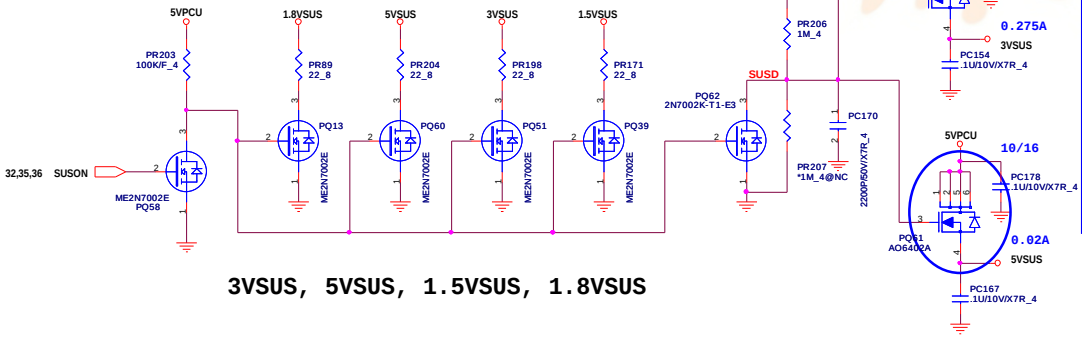


VCC_CORE

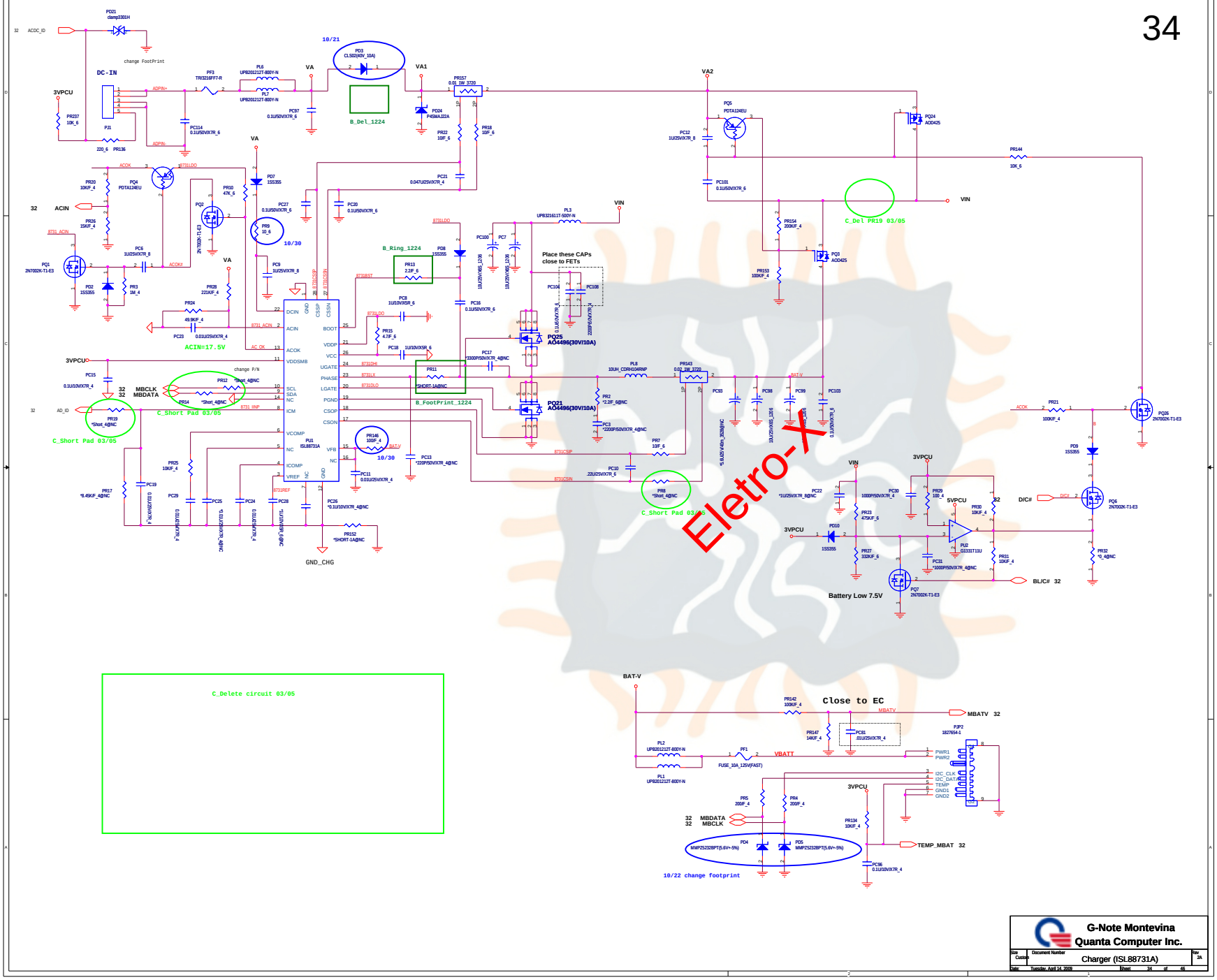


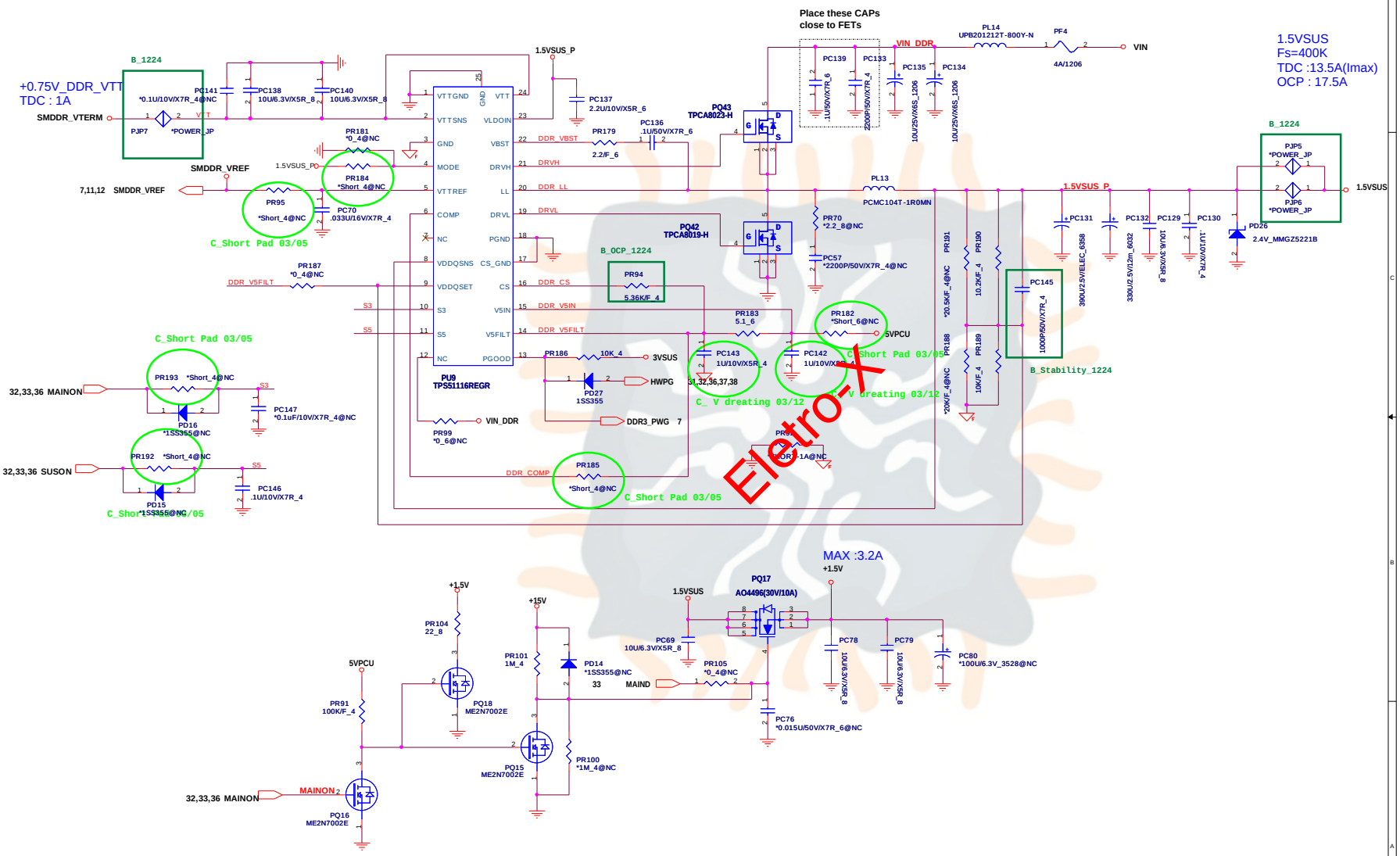


3VSUS, 5VSUS, 1.5VSUS, 1.8VSUS

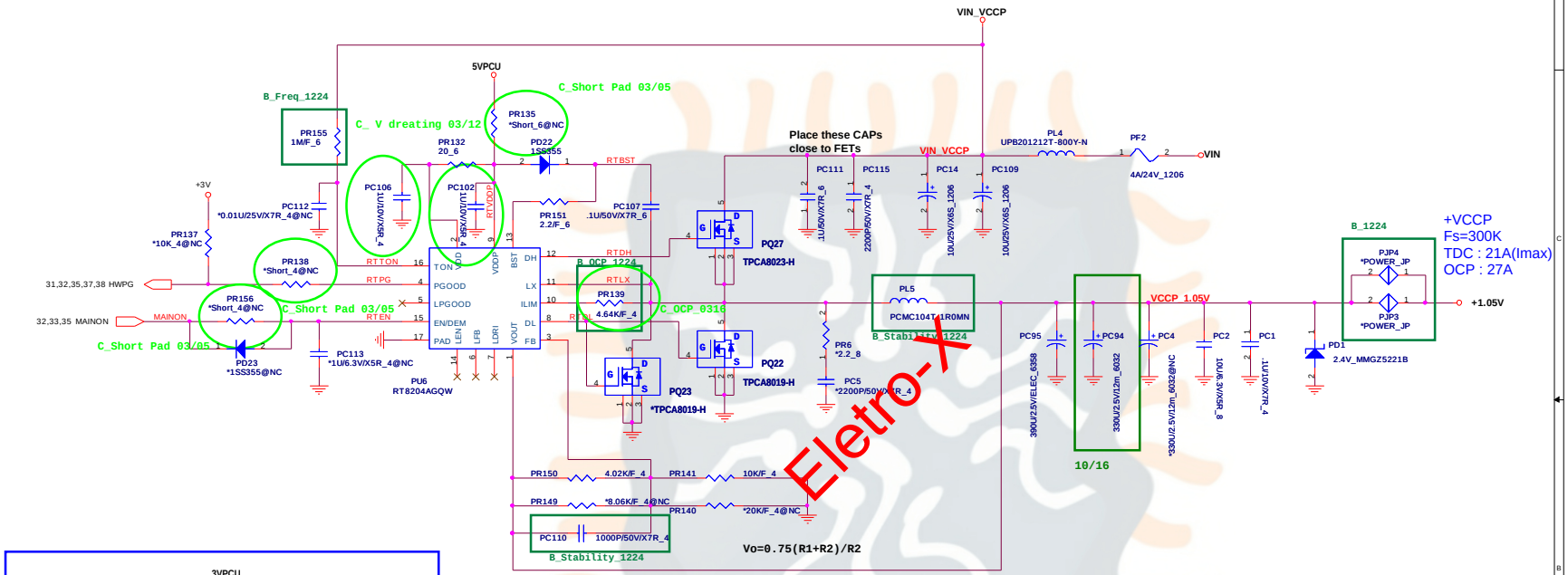


G-Note Montevina Quanta Computer Inc.		
Size: Custom	Document Number: Discharge	Rev: 2A
Date: Tuesday, April 14, 2009	Sheet 33 of 46	

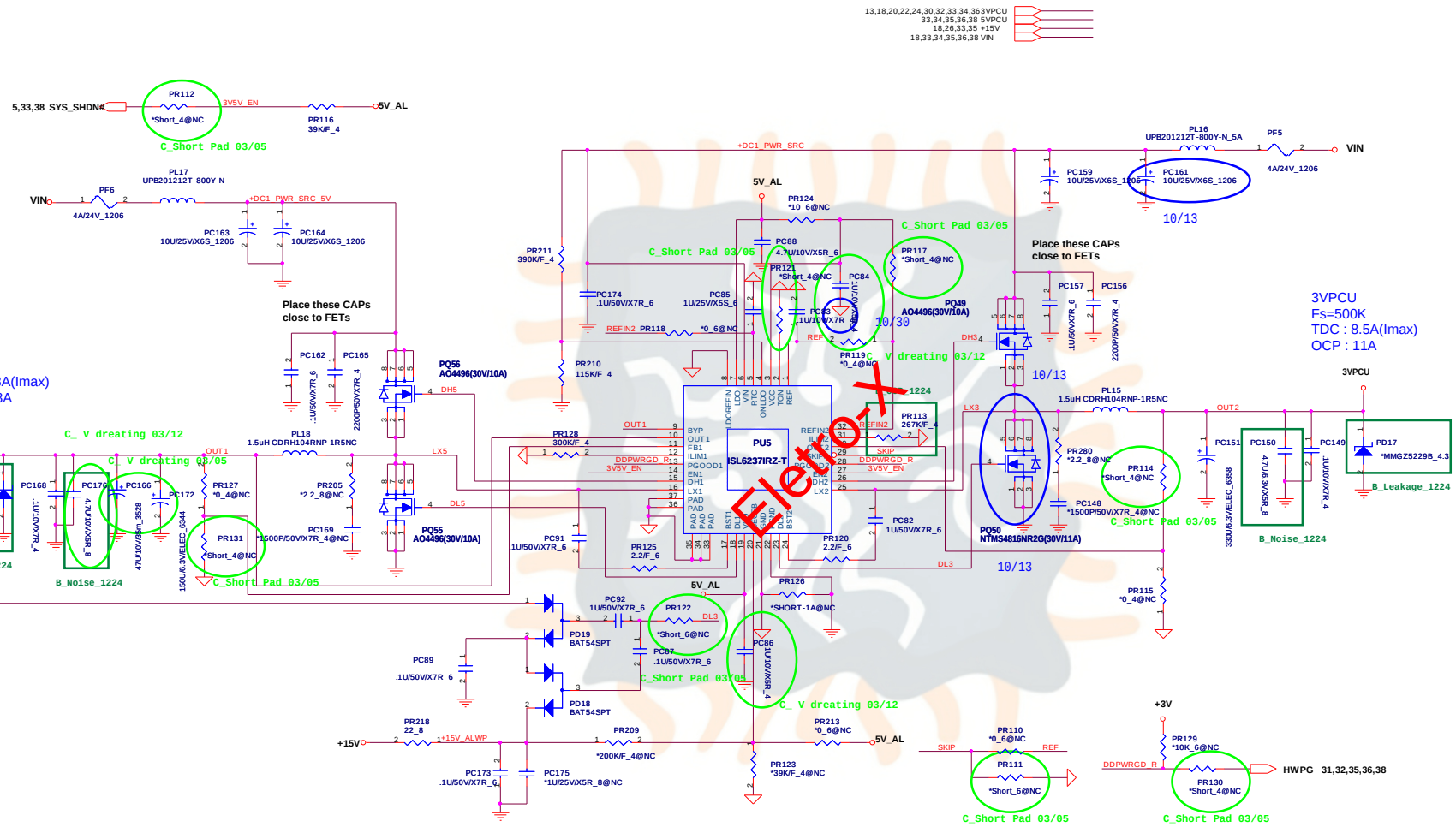

DC-IN
3VPCU
VA
VA1
VA2
VIN
ACIN
ACIN=17.5V
Place these CAPs close to FETs
C_Del PR19 03/05
C_Short Pad 03/05
B_Del_1224
B_Ring_1224
B_FootPrint_1224
C_Delete circuit 03/05
Battery Low 7.5V
Close to EC
10/22 change footprint
GND_CHG
BAT-V
MBATV
VBATT
TEMP_MBAT
MBCLK
MBDATA
BL/C#
D/C#
G-Note Montevina
Quanta Computer Inc.
Charger (ISL88731A)
Eletro-X



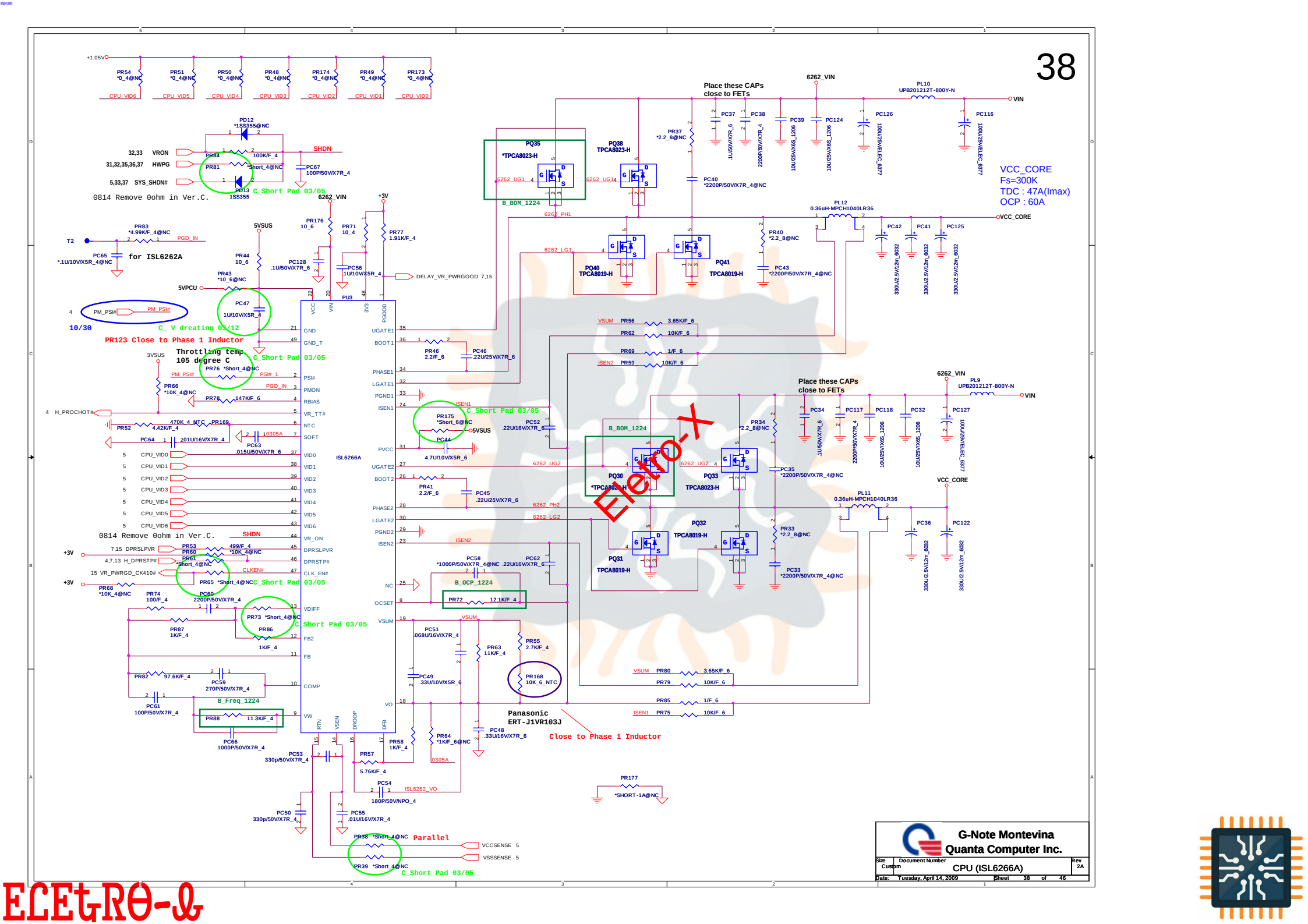
G-Note Montevina Quanta Computer Inc.		
Size: Custom	Document Number: DDR3 (TPS51116REGR)	Rev: 2A
Date: Tuesday, April 14, 2009	Sheet 35 of 46	



G-Note Montevina Quanta Computer Inc.		
Size: Custom	Document Number: 1.0V / 1.5V (RT8204)	Rev: 2A
Date: Tuesday, April 14, 2009	Sheet 36 of 46	



G-Note Montevina Quanta Computer Inc.		
Size: Custom	Document Number: 3V/5V (ISL6237)	Rev: 2A
Date: Tuesday, April 14, 2009	Sheet 37 of 46	


VCC_CORE
Fs=300K
TDC : 47A(Imax)
OCP : 60A
for ISL6262A
10/30
C_ V dreating 03/12
PR123 Close to Phase 1 Inductor
Throttling temp.
105 degree C
C_Short Pad 03/05
0814 Remove 0ohm in Ver.C.
Place these CAPs close to FETs
Panasonic
ERT-J1VR103J
Close to Phase 1 Inductor
Parallel
ISL6266A
Elektro-X
G-Note Montevina
Quanta Computer Inc.
CPU (ISL6266A)
Tuesday, April 14, 2009

Revision History

Revision	Date	Phase	Change List	Release Schematic Date	Release Gerber File Date
1A		DV	Initial release		

Schematic Value Explanation Description :

RESISTOR

Value	F	4	6	8	12	1210	*	Description
*1K/F_4@NC	1%	0402 (1005)					DE POP	1K ohm 1% SMD 0402 package and DE POP
1K_6	5%		0603 (1608)				POP	1K ohm 5% SMD 0603 package and POP
1K_8	5%			0805 (2125)			POP	1K ohm 5% SMD 0805 package and POP
1K_12	5%				1206 (3216)		POP	1K ohm 5% SMD 1206 package and POP
1K_1210	5%					1210 (3225)	POP	1K ohm 5% SMD 1210 package and POP

CAPACITOR

Value	Voltage	Material	6				*	Description
*0.1U/10V/X5R_4@NC	10V	X5R	0402 (1005)				DE POP	0.1UF 10V X5R SMD 0402 package DE POP
1U/25V/X7R_6	25V	X7R	0603 (1608)				POP	0.1UF 25V X7R SMD 0603 package POP

G-Note Montevina
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Revision & Schematic Value Description	2A
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G NOTE SKU TABLE

Model ID / Location	13''	14''	15''		
R558	DE POP	POP	DE POP		
R559	POP	DE POP	POP		
R560	DE POP	DE POP	POP		
R561	POP	POP	DE POP		
CN2	POP	DE POP	DE POP		
CN12	DE POP	POP	DE POP		

G NOTE SKU TABLE

Location					Page

G-Note Montevina
Quanta Computer Inc.

Size	Document Number	Rev
C	BOM Matrix Table	2A

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stage	EC NO.	Page	date	Location	description
EC-A-01	22	12/02	U8		LAN IC change footprint from 0.4 to 0.5 pich
EC-A-02	21	12/02	U27		audio IC edit parts add 9 agnd via
EC-A-03	03	12/02	U22		DREFSSCLK/#,DREFCLK/# update correct SRC and dot 96
EC-A-04	31	12/02	U40,R367		add r367 pull up 10kohm for debug code:F4
EC-A-05	14,15	12/02	R472,R243		CCD_ON net change to HDD_DETECT#(pull 100Kohm at R243) ,del R472 Re-assign HDD_Detect# to GPIO38 of ICH9M in order to solve the issue unable to boot from HDD.
EC-A-06	03	12/02	R293		change to 4.7Kohm To solve N.B. cannot get correct FSB frequency selection (error coed 02)
EC-A-07	32	12/09	U24.57,R1004,R1005		adaptor 90W(pull high), 65W(pull low)
EC-A-08	18	12/09	Q8		THINK LIGHT#
EC-A-09	30	12/09	R1006,R1007		MY13,MY11
EC-A-10	29	12/09	CN11		CLKRUN# SERIRQ LPC_LDRQ0# LPC_PD#
EC-A-11	10	12/19	L39		NB IND 0805 to 0603 for height limilt at DDR place
EC-A-12	21	12/09	c286,c287,c312,c326 ,c362,c372,c373		audio cap 0805 to 0603 for height limilt at new card place
EC-A-13	21	12/19	U27		audio vendor ask AGND to DGND
EC-A-14	18	12/19	CN5		LCD connector add GND for shield (EMI request)
EC-A-15	18	12/19	C178		cap 0805 to 0603 for new card height interfere
EC-A-16	29	12/23			Del aux_en_wowl reserved circuit
EC-A-17	5	12/23	del u34,c407,q10,q23,q28,e388,r390,r396,r398,q22 ,q20,r394(NC), q19,c389,r411,c457,u36,r417(NC),r418 add q10,q19,q20,r91(NC),r299,r101,r618,r102,r94 ,c153,u9,c388		change thermal sensor
EC-A-18	21	12/30	del R347(NC) add C710(NC),U54(NC)		Add new schematic to prevent "POP' sound.
EC-A-19	21	12/30	C261 R253 C259		remove C261 for THD+N remove R253 and put 0 ohm in C259 for Magantiude response
EC-A-20	18	12/30	R127 R126 R124 R125		Del R126, R125 /R127,R124 change to 10Kohm for PM common design
EC-A-21	15	12/30	R180 R181		R180 POP , R181 DEPOP for SIV stage
EC-A-22	19	1/6	del R149 R227		cancel IO_GND(EMI)

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Size	Document Number	Rev
B	EC list	2A

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stage	EC NO.	Page	date	Location	description
EC-A-23	30		1/6	add R125 R126 R227 R367 R375 del D14	EMI RESERVED
EC-A-24	21		1/6	R357 R354 change to 1k ohm	vendor's suggest . change 1k ohm for ESD
EC-A-24	22		1/6	add R579 R580	add moat for EMI, reserved bridge
EC-A-25	20		1/6	CN27	CN27 pin defind for EMI
EC-A-26	23		1/6		C469 C470 change to 10u/ 10v/X5R/0805 for derating(6.3v to 10v)
EC-A-27	03		1/19	C323 (18p cap pop)	clock generator for USB 48MHz slew rate
EC-B-01	22		3/3		LAN LED indicator definition wrong (LED0 & LED1 Reversed)
EC-B-02	28,14,3		3/3	CN9,R430,R429,R432,R433,R437,R435,U38(nc), C498,C485,C476,C479,C478,C191,C192,RP4,R267,R263	deleted uwb circuit
EC-B-03	23,30		3/3	deleted CN2(POWER/B),CN19(ODD) / (CN12 pop)	cancel GC1 connector
EC-B-04			3/3	P3:R316,R320,R290,R291,R230,R231,RP3,RP5,RP6,RP7 P4:R50 P5:R94 P7:R407,R413,R35,R39 P10:R399,R397,R416,R8,L2,R24,R59,L43,R409,R386,R16,R408 P11:R72 P15:R216, R312(NC) P16:R268,R298,R461,R176,R434,R241,R482,R487,R486,R156,R484,R297,R296,R209 P17:R62,R60,R57,R42,R47,R392,R422,R406,R419 P18:R142,R138,R103,R123,R121 P19:L16,L47,L46,L11,R220 P20:R495,R374 P21:R324,R332,R311,C259,R254,R261 P22:R98,R85,R96,R104,R88 P23:R269,R389,R69 P24:R89,R423,R424,R114 P29:R445,R446,R465,R469,R455,R473,R470 P30:R125,R126,R227,R367,R375,R1007 P32:R351,R336	deleted 0ohm
EC-B-05			3/3	P14:R270 P18:R106 P21:R376,R372,R233,R234,R240,R305 P25:R492,R491 P26:R328 P29:R454,R476 P32:R315 P18:R136,R137,R93 P19:R165,R160,R173,R169,R185,R178,R202,R194 P20:R494,R497,R498,R499,R493,R496 P23:R82,R83 P24:R129 P27:R159,R154	0ohm change to short pad
EC-B-06	24,27,29		3/3	R464,R462,R466,R468 0-->4.7K(NC) Add R209,R216 10K	smb change to pull up
EC-B-07	27		3/3	add C523(0.047u cap)	new card power switch change to 3vsus PCIE_WAKE# add C523(0.047u cap)
EC-B-08	26		3/3	Add R8(10ohm)	for sensitivity of G sensor
EC-B-09	31		3/3		RFID u40 change to TSSOP R1000 change to 1K R1002,R1003 change to 100k
EC-B-10	15		3/3	R180,R207 depop,R192,R181 pop	Change board ID to SIT
EC-B-11	21		3/4	Add C389(NC),C390(NC)	Audio speaker ,EMI
EC-B-12	24		3/5	CN4	K/B CN pin 1 need to rotate 180 degree and footprint
EC-B-13	17		3/5	Delete C419(NC),C459(NC),C71(NC),C73(NC)	SMT open issue. crt R,C too much and close that hard to rework
EC-B-14	21,22,30		3/6	Add C191,C192,C259,C395,C407,C419,C459 R236~R239 0ohm-->bead	EMI solution

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Size	Document Number	Rev
B	EC list	2A

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stage	EC NO.	Page	date	Location	description
EC-B-15		21	3/9	Delete C246~C249(NC)	
EC-B-16		3	3/9	Delete R325,R292,R232 add L43,L46~L50	delete audio reserve parts for RF request
EC-B-17		23	3/11	Delete U4,U6 Add R57	for ESD request
EC-B-18		18	3/12	Delete C181(NC),C182(NC) Add R123	for EMI request
EC-B-19		22	3/12	change R579,R580--> 0.1u	for LAN realtek design guide

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Size	Document Number	Rev
B	EC list	2A

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EC NO.	PG.	DATE	PART REFERENCE	DESCRIPTION
EC-A-01	34	12/24	PR10	Change Footprint
EC-A-02	34	12/24	PR12	Change to 2.2 ohm reduce phase ring
EC-A-03	34	12/24	PD6	Delete Footprint
EC-A-04	35	12/24	PJP7,PJP5,PJP6	Change Footprint
EC-A-05	35	12/24	PR94	Change to 5.36K for OCP
EC-A-06	35	12/24	PC145	Add 1000p for stability
EC-A-07	36	12/24	PJP3,PJP4,PJP1	Change Footprint
EC-A-08	36	12/24	PR139	Change to 3.4K for OCP
EC-A-09	36	12/24	PC110	Add 1000p for stability
EC-A-10	36	12/24	PL5,PR155	Reduce ripple voltage
EC-A-11	37	12/24	PR113	Change to 267K for OCP
EC-A-12	37	12/24	PC150,PC176	Change to 4.7u reduce H.F. noise reduce
EC-A-13	37	12/24	PD20,PD17	NA to reduce leakage current
EC-A-14	38	12/24	PR72	Change to 12.1K for OCP
EC-A-15	38	12/24	PR88	Change to 11.3K for frequency 300KHz
EC-A-16	38	12/24	PJP5,PJP6,PJP7	Modify schematic PQ30,PQ35 for NA

Title <Title>		
Size A	Document Number <Doc>	Rev <RevCode>
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