**Model Name :** *Diaz Discrete*
**Project Code :** *91.4AR01.001*
**Revision :** *08218-1*

# Diaz Discrete VGA ATI M82-S Schematics Document

## uFCPGA Mobile Merom
## Intel Crestline-PM + ICH8M

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## REV : A00

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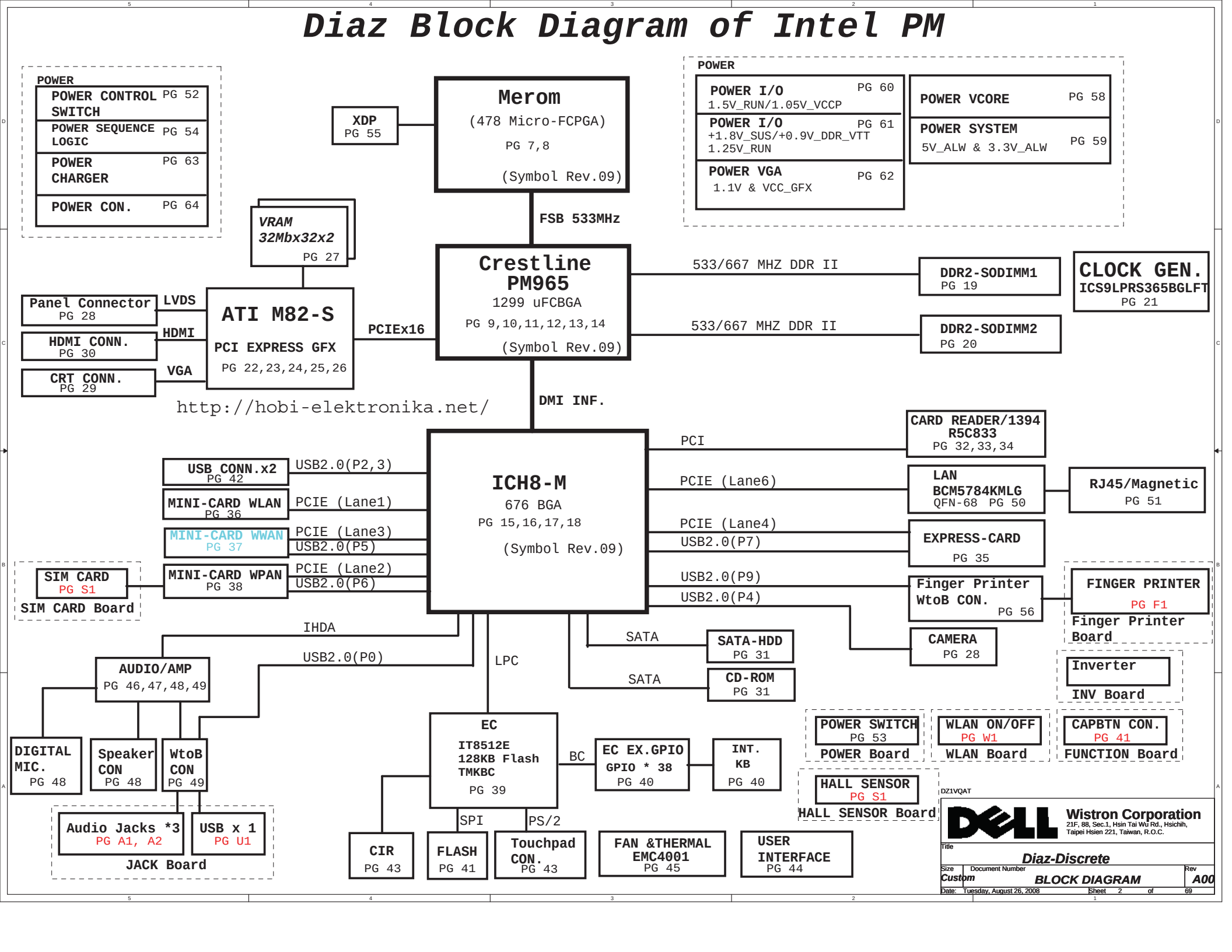
| Date: Monday, August 25, 2008 | Sheet 1 of 69 | |

# Diaz Block Diagram of Intel PM



# INDEX



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## Footprint Definition

| | |
|---|---|
| Resistor | Footprint is 0402 if there is no description |
| Capacitor | Footprint is 0402 if there is no description |
| Ferrite Bead | Footprint is 0603 if there is no description |

## Layout Note

For all of ESD diode, they should be placed as close as possible to connectors and the signals from connectors should be routed to ESD diodes first. There is no branch or via before diodes

## PCI TABLE

| PCI DEVICE | IDSEL | REQ#/GNT# | PIRQ |
|---|---|---|---|
| R5C833 | PCI_AD17 | PCI_REQ1#<br>PCI_GNT1# | PCI_PIRQC#<br>PCI_PIRQD# |
| | | | |

## PCI Express TABLE

| | |
|---|---|
| Lane 1 | WLAN / Mini Card |
| Lane 2 | WPAN / Mini Card |
| Lane 3 | WWAN / Mini Card |
| Lane 4 | ExpressCard |
| Lane 5 | |
| Lane 6 | LAN BCM5784KMLG |

## USB TABLE

| | |
|---|---|
| ICH8-0 (EHCI#1) | User1 (Single port , in USB BD) |
| ICH8-1 (EHCI#1) | |
| ICH8-2 (EHCI#1) | User2 (Dual port-bottom , in I/O BD) |
| ICH8-3 (EHCI#1) | User3 (Dual port-top , in I/O BD) |
| ICH8-4 (EHCI#1) | Camera |
| ICH8-5 (EHCI#1) | WWAN / Mini Card |
| ICH8-6 (EHCI#2) | WPAN / Mini Card |
| ICH8-7 (EHCI#2) | ExpressCard |
| ICH8-8 (EHCI#2) | |
| ICH8-9 (EHCI#2) | Finger Printer |

Note : No USB for WLAN

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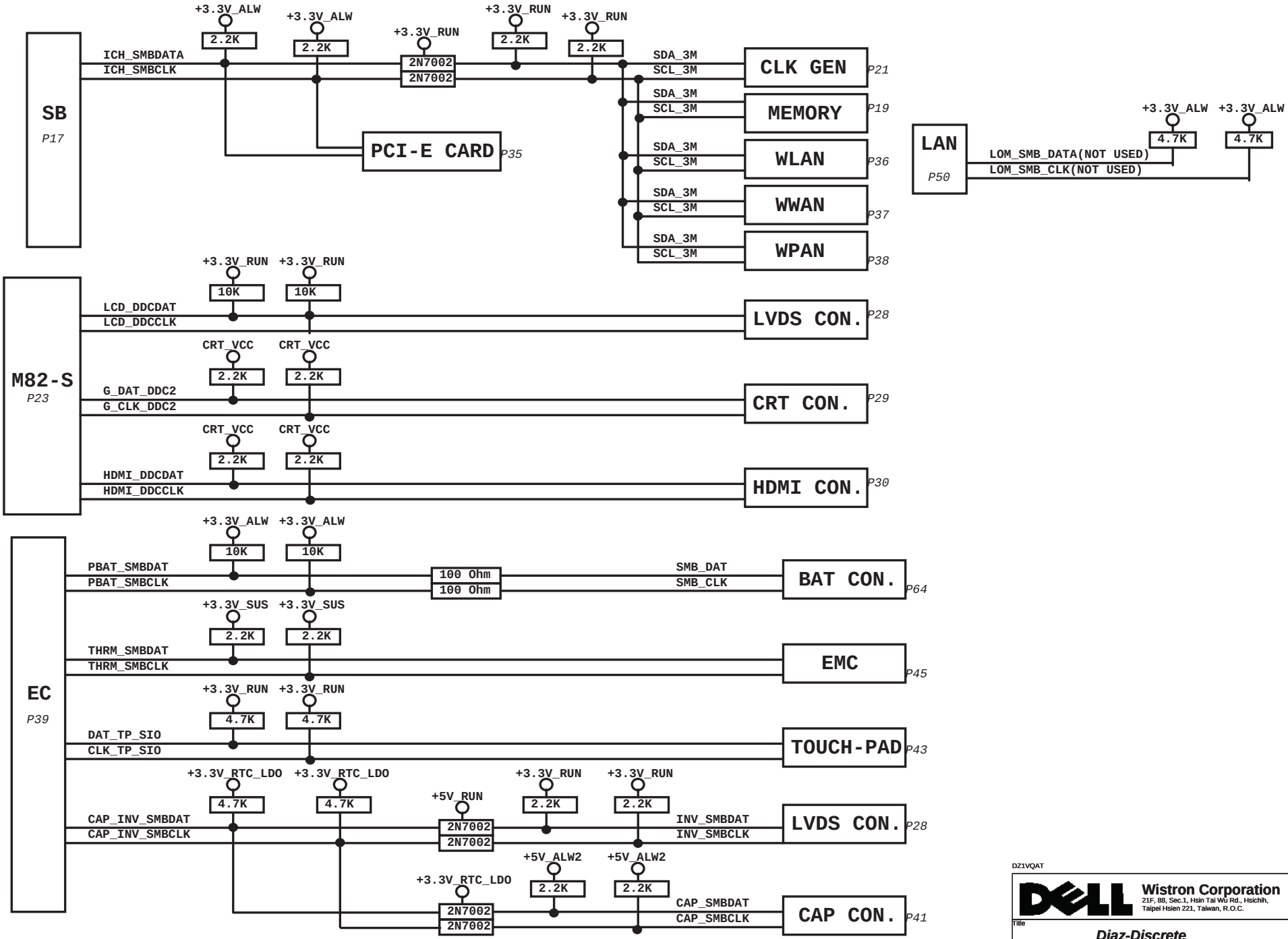


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|---|---|---|
| Custom | SM BUS | A00 |

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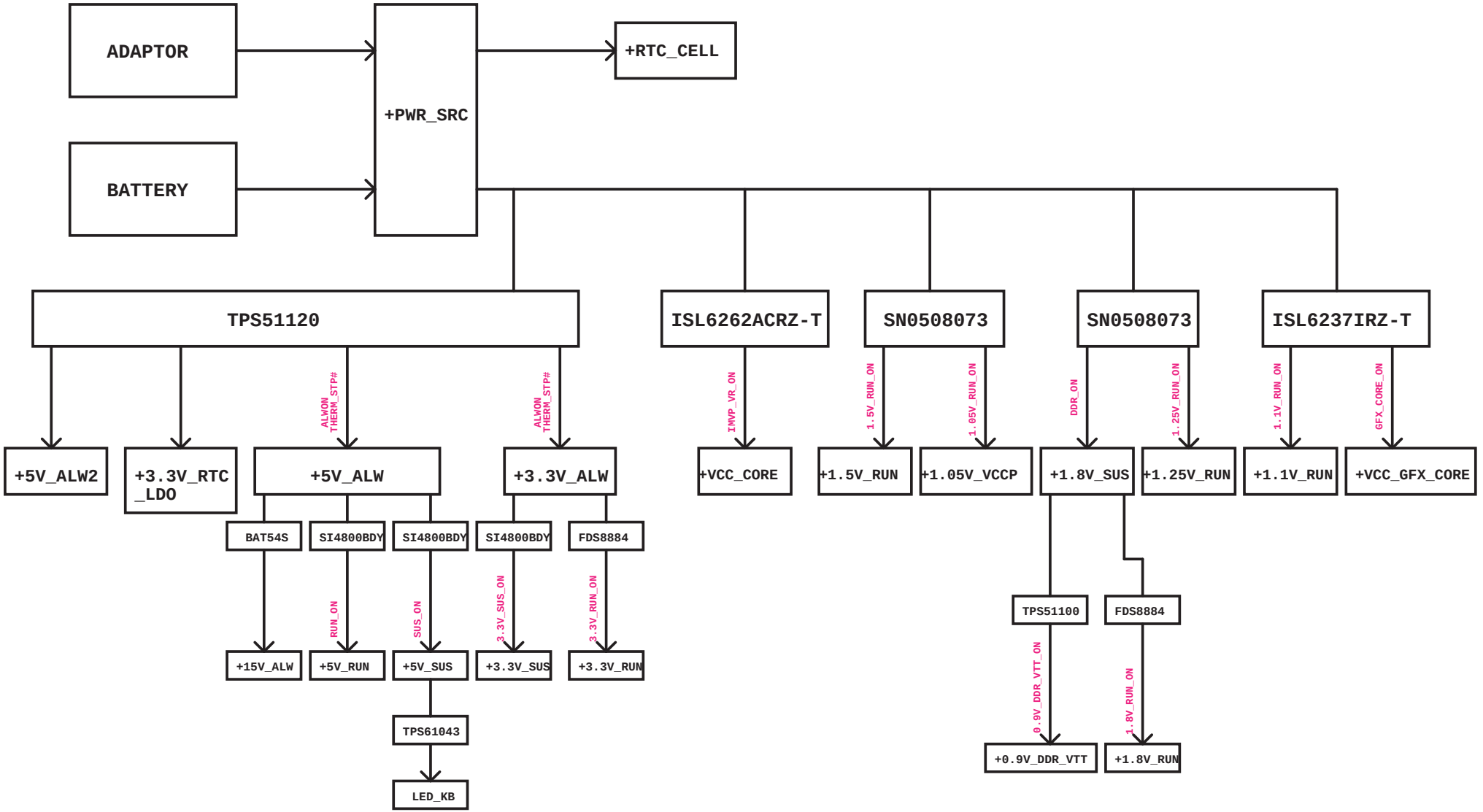


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Size: A3 | Document Number: *POWER RAIL* | Rev: *A00*

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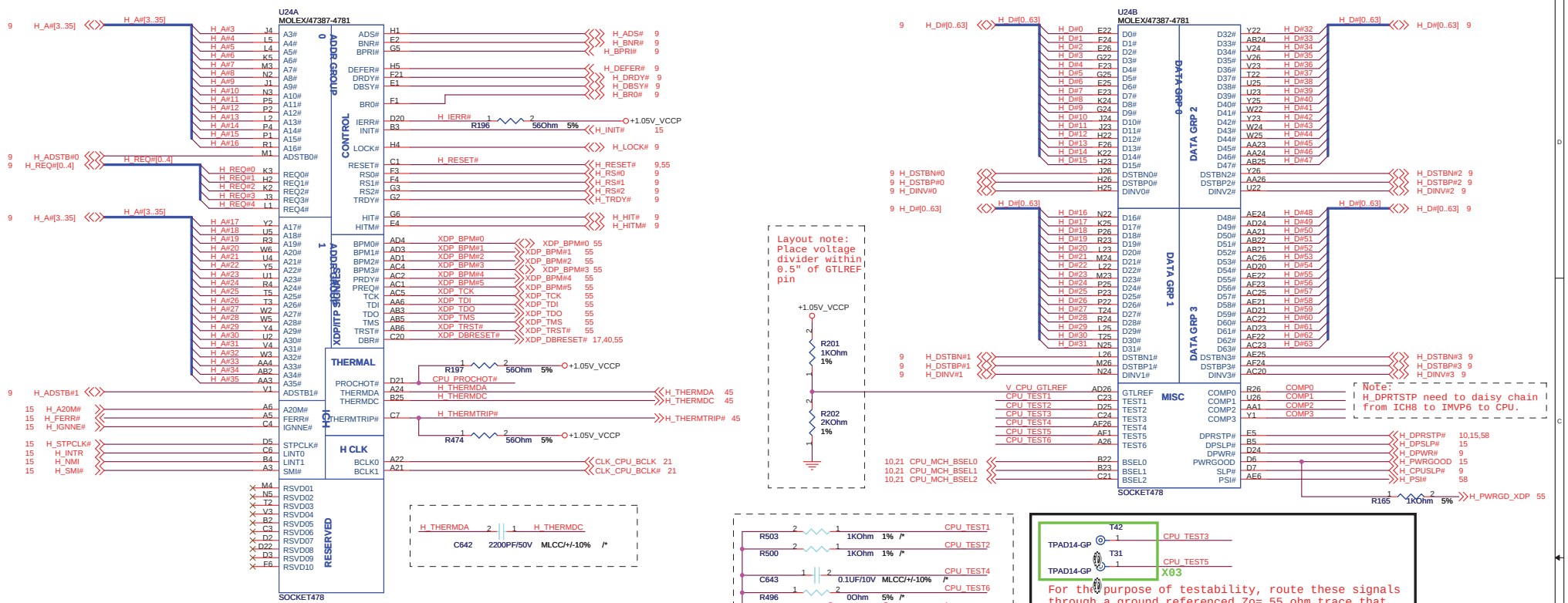


| FSB | BCLK | BSEL2 | BSEL1 | BSEL0 |
|---|---|---|---|---|
| 533 | 133 | 0 | 0 | 1 |
| 667 | 166 | 0 | 1 | 1 |
| 800 | 200 | 0 | 1 | 0 |

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|---|---|---|
| Custom | MEROM CPU (1) | A00 |

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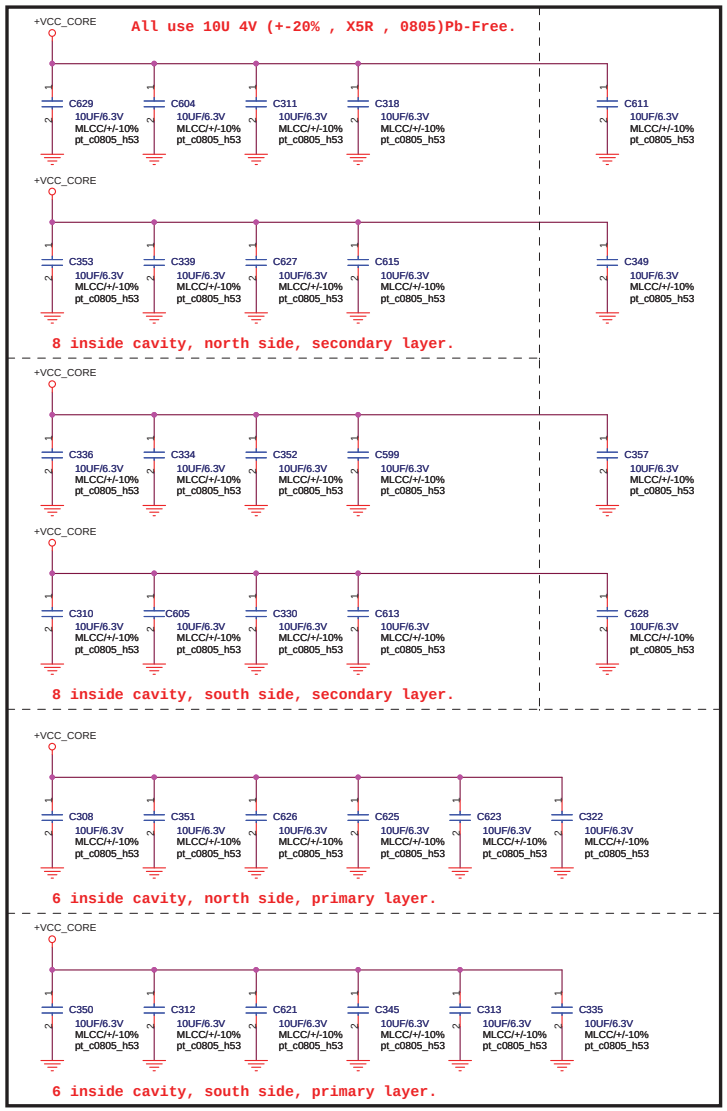


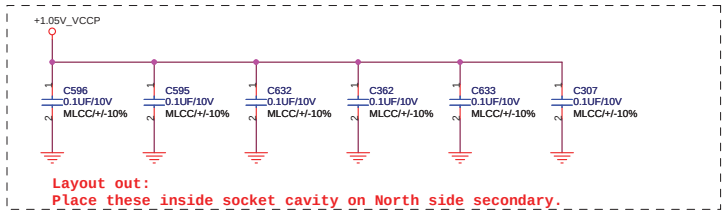


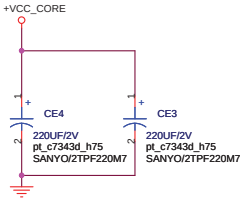


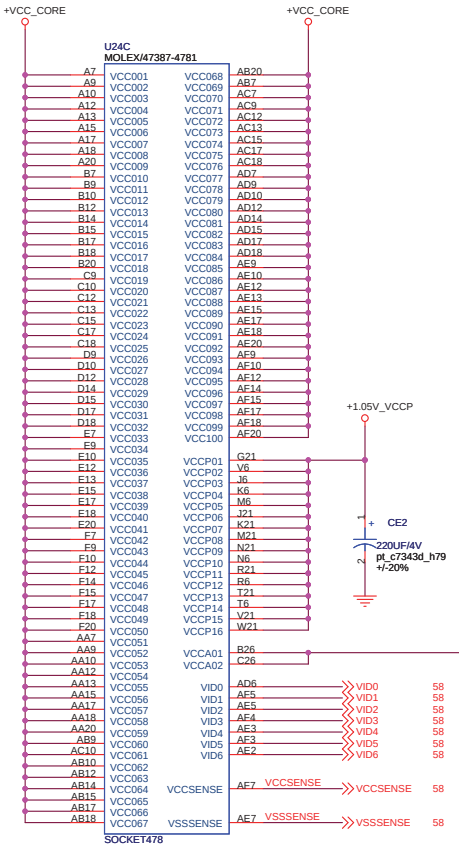


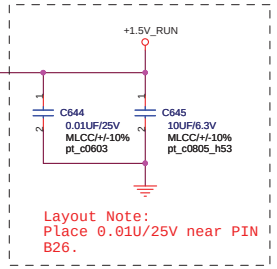


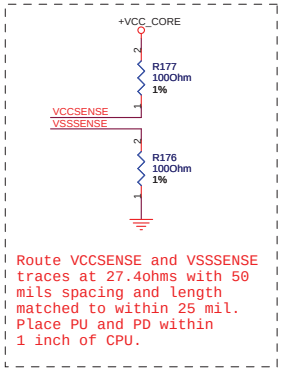


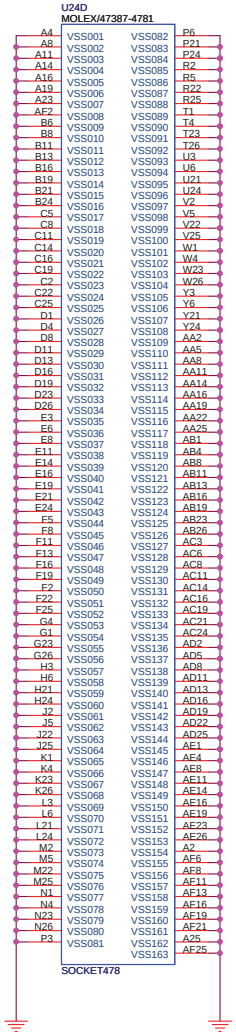


100U/25V *4 Remove to POWER CIRCUIT .

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| Size: Custom | Document Number: Merom CPU (2) | Rev: A00 |
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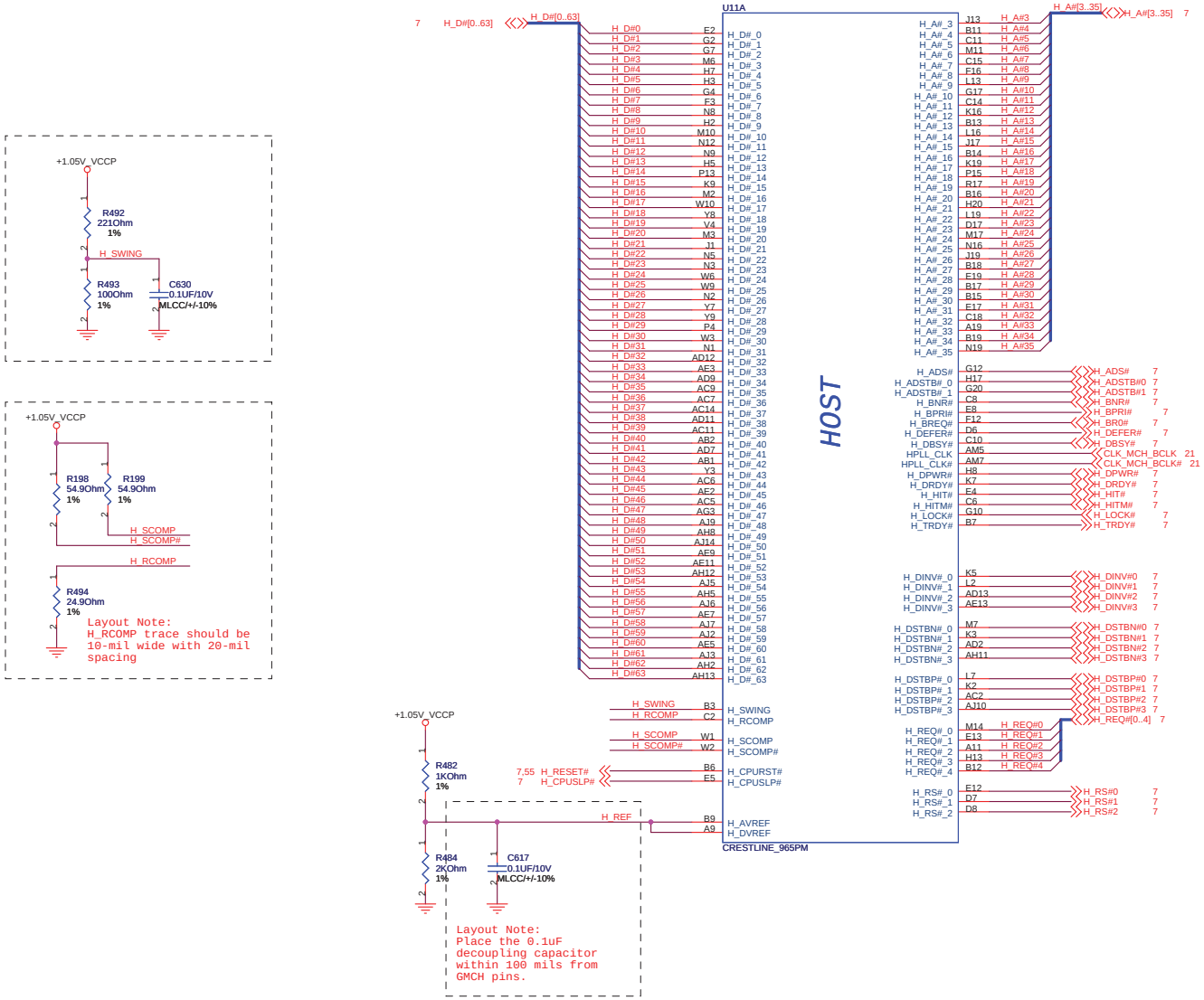


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| Size: Custom | Document Number: Crestline(HOST) | Rev: A00 |
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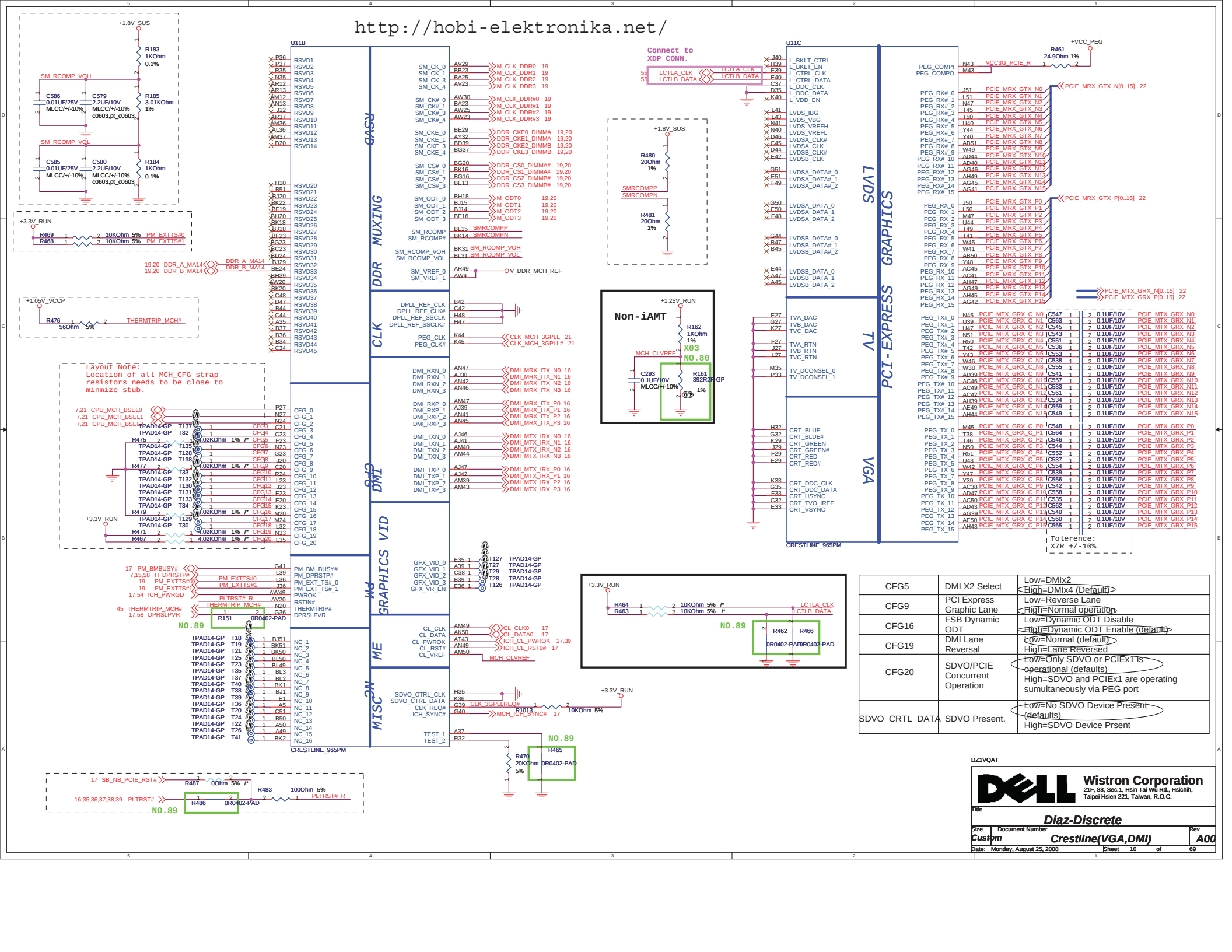


| | | |
|---|---|---|
| CFG5 | DMI X2 Select | Low=DMIx2<br>High=DMIx4 (Default) |
| CFG9 | PCI Express Graphic Lane | Low=Reverse Lane<br>High=Normal operation |
| CFG16 | FSB Dynamic ODT | Low=Dynamic ODT Disable<br>High=Dynamic ODT Enable (default) |
| CFG19 | DMI Lane Reversal | Low=Normal (default)<br>High=Lane Reversed |
| CFG20 | SDVO/PCIE Concurrent Operation | Low=Only SDVO or PCIEx1 is operational (defaults)<br>High=SDVO and PCIEx1 are operating sumultaneously via PEG port |
| SDVO_CRTL_DATA | SDVO Present. | Low=No SDVO Device Present (defaults)<br>High=SDVO Device Prsent |

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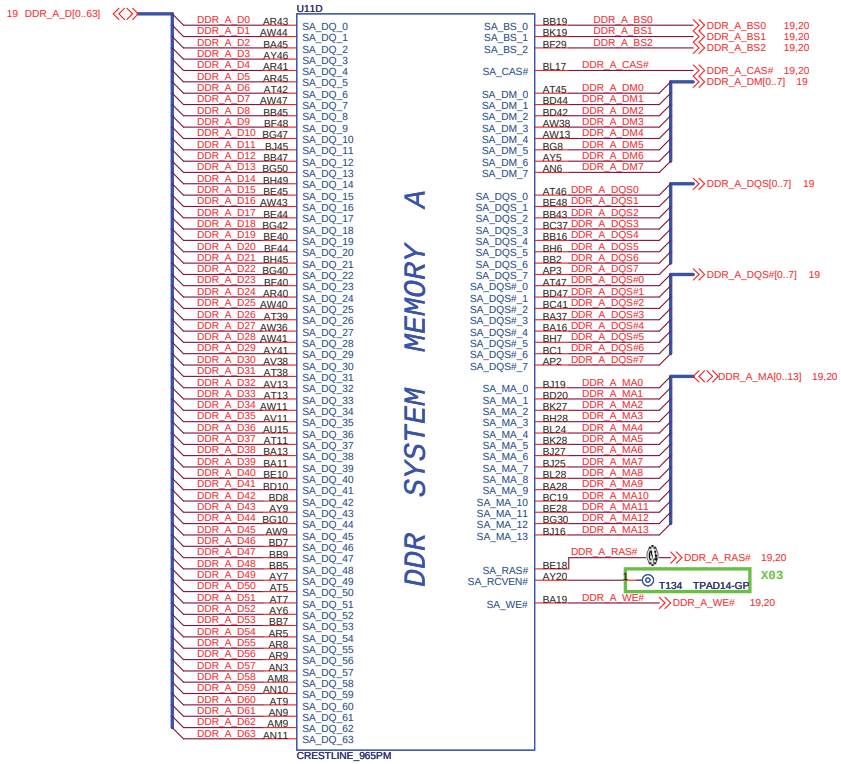


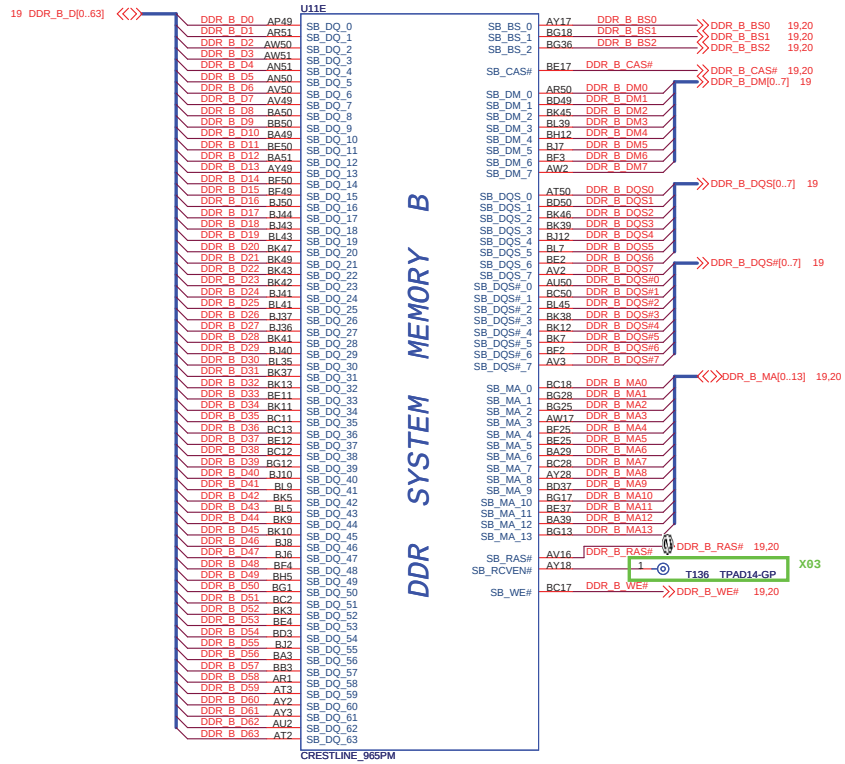


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| Size: *Custom* | Document Number: *Crestline(DDR2)* | Rev: *A00* |
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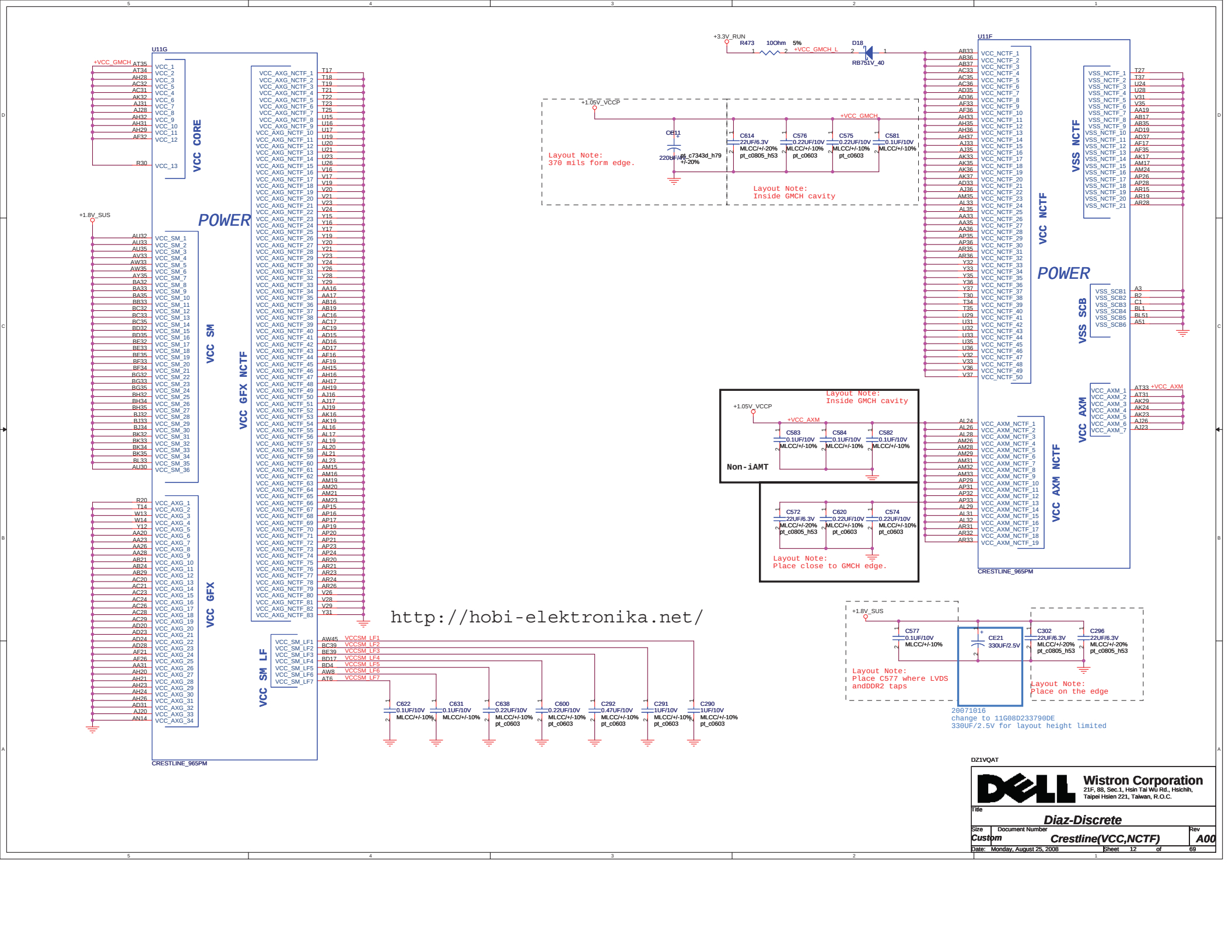


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|---|---|---|
| Custom | Crestline(VCC,NCTF) | A00 |

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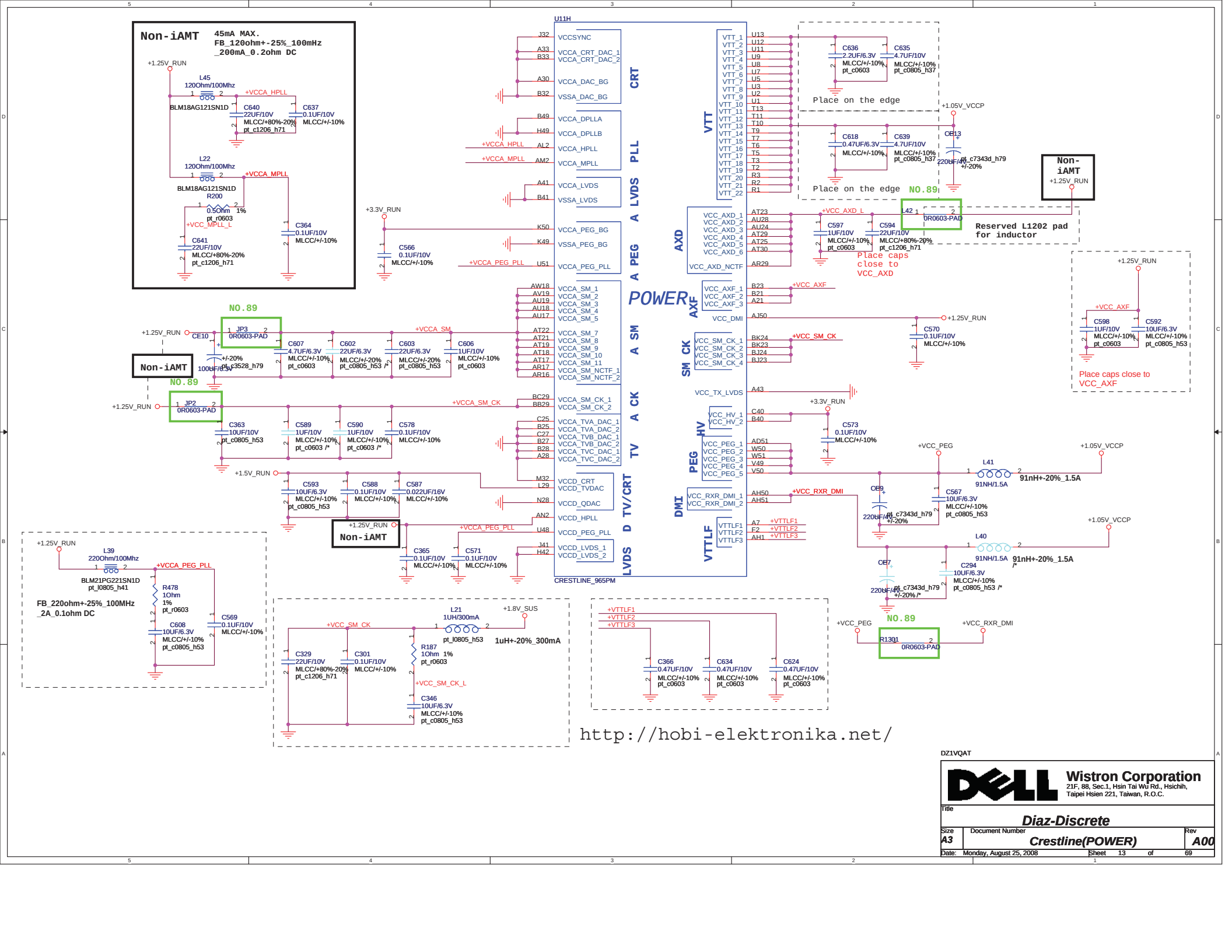


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| Size: A3 | Document Number: Crestline(POWER) | Rev: A00 |
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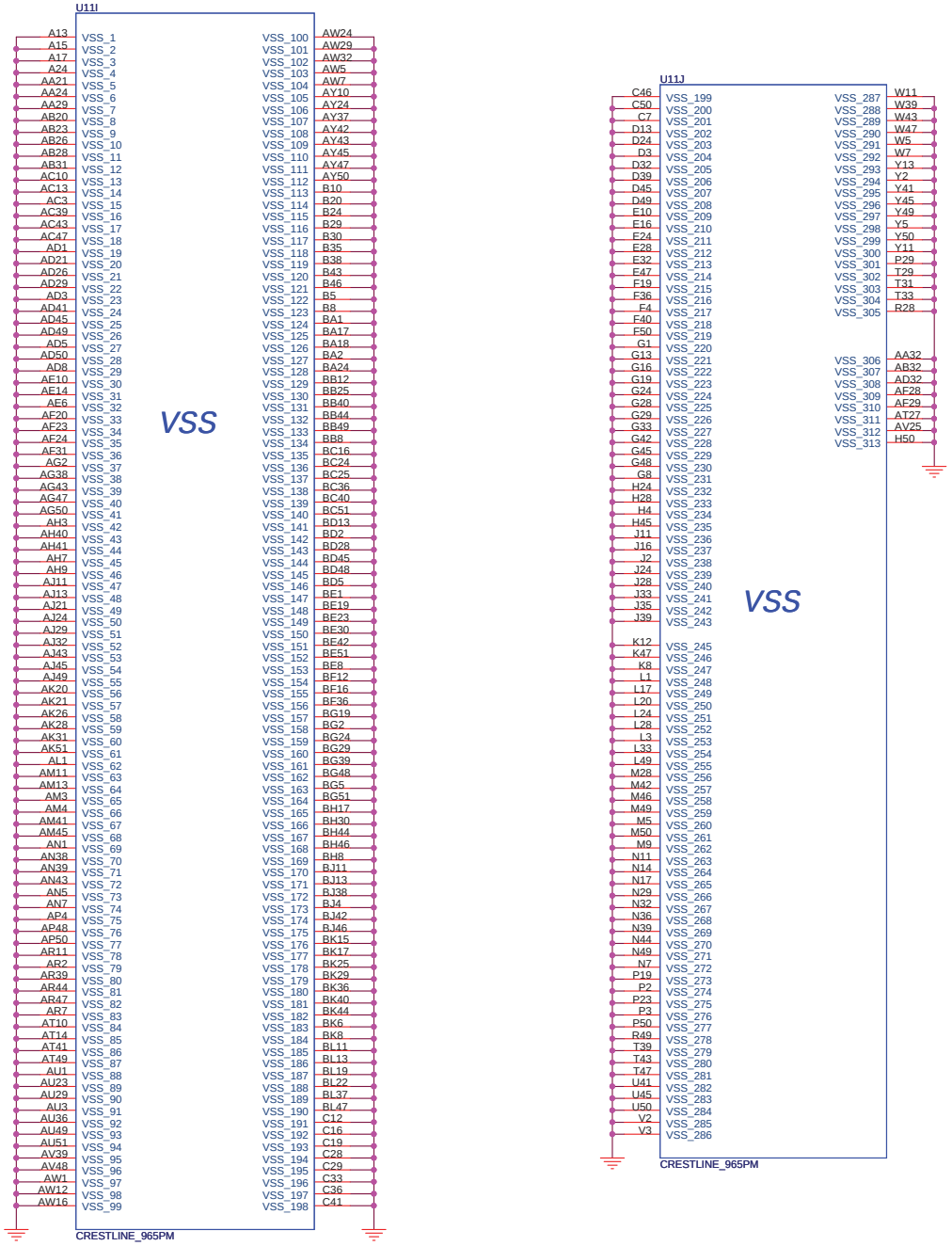


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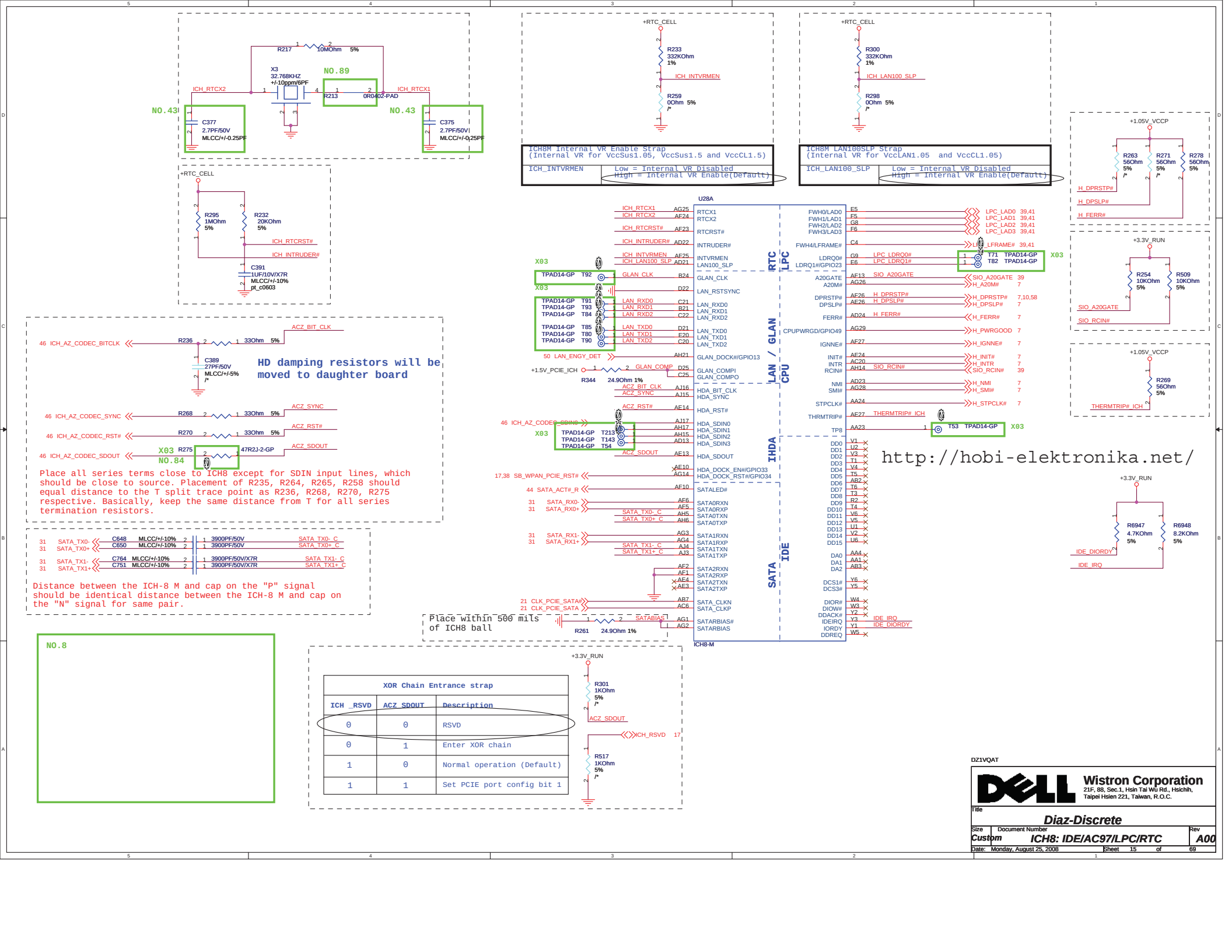
R217 10MOhm 5%
X3 32.768KHZ +/-10ppm/6PF
NO.89
R213 0R0402-PAD
ICH_RTCX2
ICH_RTCX1
NO.43
C377 2.7PF/50V MLCC/+/-0.25PF
C375 2.7PF/50V MLCC/+/-0.25PF
+RTC_CELL
R295 1MOhm 5%
R232 20KOhm 5%
ICH_RTCRST#
ICH_INTRUDER#
C391 1UF/10V/X7R MLCC/+/-10% pt_c0603
+RTC_CELL
R233 332KOhm 1%
ICH_INTVRMEN
R259 0Ohm 5% /*
ICH8M Internal VR Enable Strap
(Internal VR for VccSus1.05, VccSus1.5 and VccCL1.5)
ICH_INTVRMEN
Low = Internal VR Disabled
High = Internal VR Enable(Default)
+RTC_CELL
R300 332KOhm 1%
ICH_LAN100_SLP
R298 0Ohm 5% /*
ICH8M LAN100SLP Strap
(Internal VR for VccLAN1.05 and VccCL1.05)
ICH_LAN100_SLP
Low = Internal VR Disabled
High = Internal VR Enable(Default)
+1.05V_VCCP
R263 56Ohm 5% /*
R271 56Ohm 5% /*
R278 56Ohm 5%
H_DPRSTP#
H_DPSLP#
H_FERR#
+3.3V_RUN
R254 10KOhm 5%
R509 10KOhm 5%
SIO_A20GATE
SIO_RCIN#
+1.05V_VCCP
R269 56Ohm 5%
THERMTRIP#_ICH
U28A
RTC
LPC
GLAN
CPU
IHDA
IDE
SATA
ICH8-M
ICH_RTCX1 AG25
ICH_RTCX2 AF24
ICH_RTCRST# AF23
ICH_INTRUDER# AD22
ICH_INTVRMEN AF25
ICH_LAN100_SLP AD21
X03
TPAD14-GP T92
GLAN_CLK B24
D22
TPAD14-GP T91
TPAD14-GP T93
TPAD14-GP T84
LAN_RXD0 C21
LAN_RXD1 B21
LAN_RXD2 C22
TPAD14-GP T85
TPAD14-GP T80
TPAD14-GP T90
LAN_TXD0 D21
LAN_TXD1 E20
LAN_TXD2 C20
50 LAN_ENGY_DET AH21
+1.5V_PCIE_ICH
GLAN_COMP D25
C25
R344 24.9Ohm 1%
ACZ_BIT_CLK AJ16
ACZ_SYNC AJ15
ACZ_RST# AE14
46 ICH_AZ_CODEC_SDIN0
TPAD14-GP T213
TPAD14-GP T143
TPAD14-GP T54
AJ17
AH17
AH15
AD13
ACZ_SDOUT AE13
AE10
AG14
17,38 SB_WPAN_PCIE_RST#
44 SATA_ACT#_R AE10
31 SATA_RX0- AF6
31 SATA_RX0+ AF5
SATA_TX0- C AH5
SATA_TX0+ C AH6
31 SATA_RX1- AG3
31 SATA_RX1+ AG4
SATA_TX1- C AJ4
SATA_TX1+ C AJ3
AF2
AF1
AE4
AE3
21 CLK_PCIE_SATA# AB7
21 CLK_PCIE_SATA AC6
SATABIAS AG1
AG2
R261 24.9Ohm 1%
Place within 500 mils of ICH8 ball
RTCX1
RTCX2
RTCRST#
INTRUDER#
INTVRMEN
LAN100_SLP
GLAN_CLK
LAN_RSTSYNC
LAN_RXD0
LAN_RXD1
LAN_RXD2
LAN_TXD0
LAN_TXD1
LAN_TXD2
GLAN_DOCK#/GPIO13
GLAN_COMPI
GLAN_COMPO
HDA_BIT_CLK
HDA_SYNC
HDA_RST#
HDA_SDIN0
HDA_SDIN1
HDA_SDIN2
HDA_SDIN3
HDA_SDOUT
HDA_DOCK_EN#/GPIO33
HDA_DOCK_RST#/GPIO34
SATALED#
SATA0RXN
SATA0RXP
SATA0TXN
SATA0TXP
SATA1RXN
SATA1RXP
SATA1TXN
SATA1TXP
SATA2RXN
SATA2RXP
SATA2TXN
SATA2TXP
SATA_CLKN
SATA_CLKP
SATARBIAS#
SATARBIAS
FWH0/LAD0 E5
FWH1/LAD1 F5
FWH2/LAD2 G8
FWH3/LAD3 F6
FWH4/LFRAME# C4
LDRQ0# G9
LDRQ1#/GPIO23 E6
LPC_LDRQ0#
LPC_LDRQ1#
T71 TPAD14-GP
T82 TPAD14-GP
X03
A20GATE AF13
A20M# AG26
SIO_A20GATE
H_A20M#
DPRSTP# AF26
DPSLP# AE26
H_DPRSTP#
H_DPSLP#
FERR# AD24
H_FERR#
CPUPWRGD/GPIO49 AG29
H_PWRGOOD
IGNNE# AF27
H_IGNNE#
INIT# AE24
INTR AC20
RCIN# AH14
SIO_RCIN#
NMI AD23
SMI# AG28
H_NMI
H_SMI#
STPCLK# AA24
H_STPCLK#
THRMTRIP# AF27
THERMTRIP# ICH
TP8 AA23
T53 TPAD14-GP
DD0 V1
DD1 U2
DD2 V3
DD3 T1
DD4 V4
DD5 T5
DD6 AB2
DD7 T6
DD8 T3
DD9 R2
DD10 T4
DD11 V6
DD12 V5
DD13 U1
DD14 V2
DD15 U6
DA0 AA4
DA1 AA1
DA2 AB3
DCS1# Y6
DCS3# Y5
DIOR# W4
DIOW# W3
DDACK# Y2
IDEIRQ Y3
IORDY Y1
DDREQ W5
IDE_IRQ
IDE_DIORDY
+3.3V_RUN
R6947 4.7KOhm 5%
R6948 8.2KOhm 5%
IDE_DIORDY
IDE_IRQ
HD damping resistors will be moved to daughter board
46 ICH_AZ_CODEC_BITCLK
R236 33Ohm 5%
C389 27PF/50V MLCC/+/-5% /*
ACZ_BIT_CLK
46 ICH_AZ_CODEC_SYNC
R268 33Ohm 5%
ACZ_SYNC
46 ICH_AZ_CODEC_RST#
R270 33Ohm 5%
ACZ_RST#
46 ICH_AZ_CODEC_SDOUT
X03 R275 47R2J-2-GP
NO.84
ACZ_SDOUT
Place all series terms close to ICH8 except for SDIN input lines, which should be close to source. Placement of R235, R264, R265, R258 should equal distance to the T split trace point as R236, R268, R270, R275 respective. Basically, keep the same distance from T for all series termination resistors.
31 SATA_TX0-
31 SATA_TX0+
C648 MLCC/+/-10% 3900PF/50V
C650 MLCC/+/-10% 3900PF/50V
SATA_TX0- C
SATA_TX0+ C
31 SATA_TX1-
31 SATA_TX1+
C764 MLCC/+/-10% 3900PF/50V/X7R
C751 MLCC/+/-10% 3900PF/50V/X7R
SATA_TX1- C
SATA_TX1+ C
Distance between the ICH-8 M and cap on the "P" signal should be identical distance between the ICH-8 M and cap on the "N" signal for same pair.
NO.8
+3.3V_RUN
R301 1KOhm 5% /*
ACZ_SDOUT
ICH_RSVD 17
R517 1KOhm 5% /*
XOR Chain Entrance strap
ICH _RSVD | ACZ_SDOUT | Description
0 | 0 | RSVD
0 | 1 | Enter XOR chain
1 | 0 | Normal operation (Default)
1 | 1 | Set PCIE port config bit 1
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Title
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Place TX DC blocking caps close ICH8.

36 PCIE_TX1-
36 PCIE_TX1+
C434 C436 0.1UF/10V MLCC/+/-10%
PCIE_TXN1_C PCIE_TXP1_C

NO.90
37 PCIE_TX2-
37 PCIE_TX2+
C443 C439 0.1UF/10V MLCC/+/-10%
PCIE_TXN2_C PCIE_TXP2_C

38 PCIE_TX3-
38 PCIE_TX3+
C762 C761 0.1UF/10V MLCC/+/-10%
PCIE_TXN3_C PCIE_TXP3_C

35 PCIE_TX4-
35 PCIE_TX4+
C458 C461 0.1UF/10V MLCC/+/-10%
PCIE_TXN4_C PCIE_TXP4_C

50 PCIE_TX6-/GLAN_TX-
50 PCIE_TX6+/GLAN_TX+
C714 C713 0.1UF/10V MLCC/+/-10%
GLAN_TXN_C GLAN_TXP_C

U28D

36 PCIE_RX1-
36 PCIE_RX1+
MiniWLAN
PCIE_TXN1_C PCIE_TXP1_C
PERN1 PERP1 PETN1 PETP1

37 PCIE_RX2-
37 PCIE_RX2+
MiniWPAN
PCIE_TXN2_C PCIE_TXP2_C
PERN2 PERP2 PETN2 PETP2

38 PCIE_RX3-
38 PCIE_RX3+
MiniWWAN
PCIE_TXN3_C PCIE_TXP3_C
PERN3 PERP3 PETN3 PETP3

35 PCIE_RX4-
35 PCIE_RX4+
ExpressCard
PCIE_TXN4_C PCIE_TXP4_C
PERN4 PERP4 PETN4 PETP4

PERN5 PERP5 PETN5 PETP5

50 PCIE_RX6-/GLAN_RX-
50 PCIE_RX6+/GLAN_RX+
GLAN_TXN_C GLAN_TXP_C
PERN6/GLAN_RXN PERP6/GLAN_RXP PETN6/GLAN_TXN PETP6/GLAN_TXP

PCI-Express Direct Media Interface

DMI0RXN DMI0RXP DMI0TXN DMI0TXP
DMI_MTX_IRX_N0 10
DMI_MTX_IRX_P0 10
DMI_MRX_ITX_N0 10
DMI_MRX_ITX_P0 10

DMI1RXN DMI1RXP DMI1TXN DMI1TXP
DMI_MTX_IRX_N1 10
DMI_MTX_IRX_P1 10
DMI_MRX_ITX_N1 10
DMI_MRX_ITX_P1 10

DMI2RXN DMI2RXP DMI2TXN DMI2TXP
DMI_MTX_IRX_N2 10
DMI_MTX_IRX_P2 10
DMI_MRX_ITX_N2 10
DMI_MRX_ITX_P2 10

DMI3RXN DMI3RXP DMI3TXN DMI3TXP
DMI_MTX_IRX_N3 10
DMI_MTX_IRX_P3 10
DMI_MRX_ITX_N3 10
DMI_MRX_ITX_P3 10

DMI_CLKN DMI_CLKP
CLK_PCIE_ICH# 21
CLK_PCIE_ICH 21

DMI_ZCOMP DMI_IRCOMP
DMI_COMP 2 R286 24.9Ohm 1% +1.5V_PCIE_ICH

Place within 500 mils of ICH8

SPI

X03 T214 TPAD14-GP
ICH_SPI_CS1# R
SPI_CLK SPI_CS0# SPI_CS1# SPI_MOSI SPI_MISO

USB

49 USB_OC0_1#
42 USB_OC2_3#
USB_OC0_1# USB_OC2_3#
OC0# OC1#/GPIO40 OC2#/GPIO41 OC3#/GPIO42 OC4#/GPIO43 OC5#/GPIO29 OC6#/GPIO30 OC7#/GPIO31 OC8# OC9#

USBP0N USBP0P USBP1N USBP1P USBP2N USBP2P USBP3N USBP3P USBP4N USBP4P USBP5N USBP5P USBP6N USBP6P USBP7N USBP7P USBP8N USBP8P USBP9N USBP9P

ICH_USBP0- 49 USER1 Left side pair top/left
T94 TPAD14-GP X03
T173 TPAD14-GP USER2 Left side pair bottom/right
ICH_USBP1- 42 USER3 Right side pair top/left
ICH_USBP3- 42 USER3 Right side pair bottom/right
ICH_USBP2- 42 CCD
ICH_USBP4- 28 CCD
ICH_USBP2+ 42 CCD
ICH_USBP4+ 28 CCD
ICH_USBP5- 37 WWAN
ICH_USBP5+ 37 WWAN
ICH_USBP6- 38 WPAN
ICH_USBP6+ 38 WPAN
ICH_USBP7- 35 Express Card
T174 TPAD14-GP X03
T175 TPAD14-GP
ICH_USBP9- 56 FINGER PRINTER
ICH_USBP9+ 56 FINGER PRINTER

USBRBIAS# USBRBIAS

Short F2 and F3 at the package and keep length to less than 600mils. Trace Impedance should be 60ohms +/- 15%.

R561 22.6Ohm 1% pt_r0603

ICH8-M

BIOS should not enable the internal GPIO pull up resistor

SB_LOM_PCIE_RST# R354 20KOhm 5%
SB_WWAN_PCIE_RST# R356 20KOhm 5%
NO.90

PCI Pullups

PCI_STOP# R350 8.2KOhm 5% +3.3V_RUN
PCI_DEVSEL# RP4E 8.2KOhm 5% +3.3V_RUN
PCI_FRAME# RP4F 8.2KOhm 5% RP4D PCI_REQ1# 8.2KOhm 5%
SB_WWAN_PCIE_RST# RP4G 8.2KOhm 5% RP4C PCI_PIRQD# 8.2KOhm 5%
PCI_SERR# RP4H 8.2KOhm 5% RP4B 8.2KOhm 5%
RP4A PCI_TRDY# 8.2KOhm 5%
NO.90
PCI_REQ0# RP3E 8.2KOhm 5% +3.3V_RUN
RP3F PCI_PIRQC# 8.2KOhm 5%
PCI_PLOCK# RP3G 8.2KOhm 5% RP3C PCI_PIRQB# 8.2KOhm 5%
PCI_PERR# RP3H 8.2KOhm 5% RP3B PCI_PIRQA# 8.2KOhm 5%
RP3A PCI_IRDY# 8.2KOhm 5%

Non-iAMT

+3.3V_ALW
OC6# RP1E 10KOhm 5%
OC4# RP1F RP1D USB_OC2_3# 10KOhm 5%
OC7# RP1G RP1C OC8# 10KOhm 5%
OC9# RP1H RP1B OC5# 10KOhm 5%
RP1A USB_OC0_1# 10KOhm 5%

ICH_SPI_CS1# R
PCI_GNT0#
R347 1KOhm 5%
R337 1KOhm 5%

Boot BIOS Strap

| | GNT0# | SPI_CS1# |
|---|---|---|
| LPC 11 | No stuff | No stuff |
| PCI 10 | No stuff | Stuff |
| SPI 01 | Stuff | No stuff |

PCI Device

| | | | |
|---|---|---|---|
| R5C833 | IDSEL: AD17 | REQ1# GNT1# | PIRQC# PIRQD# |

(20070926) update

32 PCI_AD[0..31]
U28B

PCI_AD0 D20
PCI_AD1 E19
PCI_AD2 D19
PCI_AD3 A20
PCI_AD4 D17
PCI_AD5 A21
PCI_AD6 A19
PCI_AD7 C19
PCI_AD8 A18
PCI_AD9 B16
PCI_AD10 A12
PCI_AD11 E16
PCI_AD12 A14
PCI_AD13 G16
PCI_AD14 A15
PCI_AD15 B6
PCI_AD16 C11
PCI_AD17 A9
PCI_AD18 D11
PCI_AD19 B12
PCI_AD20 C12
PCI_AD21 D10
PCI_AD22 C7
PCI_AD23 F13
PCI_AD24 E11
PCI_AD25 E13
PCI_AD26 E12
PCI_AD27 D8
PCI_AD28 A6
PCI_AD29 E8
PCI_AD30 D6
PCI_AD31 A3

PCI

AD0 AD1 AD2 AD3 AD4 AD5 AD6 AD7 AD8 AD9 AD10 AD11 AD12 AD13 AD14 AD15 AD16 AD17 AD18 AD19 AD20 AD21 AD22 AD23 AD24 AD25 AD26 AD27 AD28 AD29 AD30 AD31

REQ0# GNT0# REQ1#/GPIO50 GNT1#/GPIO51 REQ2#/GPIO52 GNT2#/GPIO53 REQ3#/GPIO54 GNT3#/GPIO55

A4 PCI_REQ0#
D7 PCI_GNT0#
E18 PCI_REQ1# 32
C18 PCI_GNT1# 32
B19 SB_WWAN_PCIE_RST# 37
F18 PCI_GNT2#
A11 SB_LOM_PCIE_RST# 50
C10 PCI_GNT3#

T77 TPAD14-GP X03
T89 TPAD14-GP

C/BE0# C/BE1# C/BE2# C/BE3#
C17 PCI_C_BE0# 32
F15 PCI_C_BE1# 32
F16 PCI_C_BE2# 32
E17 PCI_C_BE3# 32

IRDY# PAR PCIRST# DEVSEL# PERR# PLOCK# SERR# STOP# TRDY# FRAME#
C8 PCI_IRDY# 32
D9 PCI_PAR 32
G6 PCI_RST#_G
D16 PCI_DEVSEL# 32
A7 PCI_PERR# 32
B7 PCI_PLOCK#
F10 PCI_SERR# 32
C16 PCI_STOP# 32
C9 PCI_TRDY# 32
A17 PCI_FRAME# 32

PLTRST# PCICLK PME#
AG24 PCI_PLTRST#
B10 CLK_PCI_ICH
G7 CLK_PCI_ICH 21
ICH_PME# 40

Interrupt I/F

PIRQA# PIRQB# PIRQC# PIRQD#
PIRQE#/GPIO2 PIRQF#/GPIO3 PIRQG#/GPIO4 PIRQH#/GPIO5

X03 T95 TPAD14-GP
32 PCI_PIRQA#
32 PCI_PIRQB#
32 PCI_PIRQC#
32 PCI_PIRQD#

F8 PCIE_WLAN_DET#
G11 USB_WLAN_DET#
F12 PCIE_WWAN_DET#
B3 USB_WWAN_DET#
PCIE_WLAN_DET# 36
USB_WLAN_DET# 36
PCIE_WWAN_DET# 37
USB_WWAN_DET# 37

ICH8-M

+3.3V_RUN
RP2D 100KOhm 5% PCIE_WLAN_DET#
RP2C 100KOhm 5% USB_WLAN_DET#
RP2B 100KOhm 5% PCIE_WWAN_DET#
RP2A 100KOhm 5% USB_WWAN_DET#

PCI_GNT3#
R346 1KOhm 5%

A16 away override strap.

| | |
|---|---|
| PCI_GNT3# | Low = A16 swap override enabled. High = Default. |

CLK_PCI_ICH
R355 10Ohm 5%
C475 8.2PF/50V MLCC/+/-0.25PF

Reserved for EMI. Place resister and cap close to ICH.

Non-iAMT

NO.44 +3.3V_ALW
C689 0.047UF/10V MLCC/+/-10%
U30 SN74AHC1G32DBVR
PCI_RST# G
PCI_RST# 32
R1601 47Ohm 5% NO.12
NO.44 +3.3V_ALW
C382 0.047UF/10V MLCC/+/-10%
U14 SN74AHC1G32DBVR
PCI_PLTRST#
PLTRST# 10,35,36,37,38,39
R1602 0R0402-PAD NO.89
NO.44 +3.3V_ALW
C747 0.047UF/10V MLCC/+/-10%
U37 SN74AHC1G32DBVR
PCI_PLTRST#
PLTRST_LAN_MINICARD# 50
R1603 0R0402-PAD
C758 47PF/50V MLCC/+/-5%
NO.89

Add Buffers as needed for Loading and fanout concerns.



DZ1VQAT

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: Diaz-Discrete
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Non-iAMT

+3.3V_ALW

RN36A 2.2KOhm 5% ICH_SMBDATA
RN36B 2.2KOhm 5% ICH_SMBCLK

Non-iAMT

+3.3V_ALW

R253 10KOhm 5% /* RSV_ICH_CL_RST1#
R307 10KOhm 5% AMT_SMBCLK
R283 10KOhm 5% AMT_SMBDAT
R282 10KOhm 5% ICH_RI#
R281 10KOhm 5% LOM_ICH_SMBALERT#
R315 1KOhm 5% ICH_PCIE_WAKE#

+3.3V_RUN

R513 8.2KOhm 5%

Place these close to ICH8

CLK_ICH_48M
NO.9
R339 10Ohm 5%
C456 10PF/50V MLCC/+/-0.5PF pt_c0402

CLK_ICH_14M
R272 10Ohm /* 5%
C395 4.7PF/50V /* MLCC/+/-0.25PF

TPAD14-GP T45 X03
35 ICH_SMBCLK ICH_SMBCLK AJ26
35 ICH_SMBDATA ICH_SMBDATA AD19
RSV_ICH_CL_RST1# AG21
AMT_SMBCLK AC17
AMT_SMBDAT AE19

X03 TPAD14-GP T74
ICH_RI# AF17
F4
AD15
AG12
10 PM_BMBUSY# BMBUSY#/GPIO0
LOM_ICH_SMBALERT# AG22
SMBALERT#/GPIO11

U28C

SMBCLK
SMBDATA
LINKALERT#
SMLINK0
SMLINK1
RI#
SUS_STAT#/LPCPD#
SYS_RESET#
WAKE#
SERIRQ
THRM#
VRMPWRGD
TP7
TACH1/GPIO1
TACH2/GPIO6
TACH3/GPIO7
GPIO8
GPIO12
TACH0/GPIO17
GPIO18
GPIO20
SCLOCK/GPIO22
QRT_STATE0/GPIO27
QRT_STATE1/GPIO28
SATACLKREQ#/GPIO35
SLOAD/GPIO38
SDATAOUT0/GPIO39
SDATAOUT1/GPIO48
SPKR
MCH_SYNC#
TP3

SMB
SATA GPIO
Clocks
SYS GPIO
Power MGT
GPIO
Controller Link
MISC

SATA0GP/GPIO21 AJ12
SATA1GP/GPIO19 AJ10 SB_NB_PCIE_RST# SB_NB_PCIE_RST# 10
SATA2GP/GPIO36 AF11
SATA3GP/GPIO37 AG11
CLK14 AG9 CLK_ICH_14M CLK_ICH_14M 21
CLK48 G5 CLK_ICH_48M CLK_ICH_48M 21
SUSCLK D3 ICH_SUSCLK
SLP_S3# AG23 SIO_SLP_S3# 39
SLP_S4# AF21 SIO_SLP_S4#
SLP_S5# AD18 SIO_SLP_S5# 39
S4_STATE#/GPIO26 AH27 SIO_S4_STATE#
PWROK AE23 ICH_PWRGD ICH_PWRGD 10,54
DPRSLPVR/GPIO16 AJ14 DPRSLPVR DPRSLPVR 10,58
BATLOW# AF21 ICH_BATLOW#
PWRBTN# C2 SIO_PWRBTN# 39
LAN_RST# AH20 ICH_LAN_RST#
RSMRST# AG27 ICH_RSMRST# 39
CK_PWRGD E1 CLK_PWRGD 21
CLPWROK E3 ICH_CL_PWROK ICH_CL_PWROK 10,39
SLP_M# AJ25 RSV_SIO_SLP_M#
CL_CLK0 F23 CL_CLK0 10
CL_CLK1 AE18 RSV_ICH_CL_CLK1
CL_DATA0 F22 CL_DATA0 10
CL_DATA1 AF19 RSV_ICH_CL_DATA1
CL_VREF0 D24 CL_VREF0
CL_VREF1 AH23 CL_VREF1
CL_RST# AJ23 ICH_CL_RST0# 10
CLGPIO0/GPIO24 AJ27 SUPER_IDDQ SUPER_IDDQ 50
CLGPIO1/GPIO10 AJ24 ME_EC_ALERT
CLGPIO2/GPIO14 AF22 EC_ME_ALERT
WOL_EN/GPIO9 AG19 WOL_EN

ICH8-M

X03 TPAD14-GP T156
X03 TPAD14-GP T49
X03 TPAD14-GP T147

ICH_PWRGD R266 10KOhm 5%
DPRSLPVR R515 100KOhm 5%
WOL_EN R256 100KOhm 5%
SUSPWROK R249 10KOhm 5% /*
ICH_LAN_RST# R516 10KOhm 5%
ICH_CL_PWROK R340 1MOhm 5%

R299 8.2KOhm 5% +3.3V_ALW
R252 0R0402-PAD NO.89
R251 0Ohm 5% /*

X03 TPAD14-GP T146
X03 TPAD14-GP T48
X03 TPAD14-GP T47
X03 TPAD14-GP T140
X03 TPAD14-GP T141
X03 TPAD14-GP T46

Non-iAMT

+3.3V_ALW
EC_ME_ALERT R231 8.2KOhm 5%

+3.3V_RUN

R512 8.2KOhm 5%
CLKRUN#
R507 10Ohm 5% /*

Option to "Disable " clkrun. Pulling it down will keep the clks running.

X03 TPAD14-GP T139
USB_IDE# AJ8
28 CCD_VDD_ON CCD_VDD_ON AJ9
40 SIO_EXT_WAKE# SIO_EXT_WAKE# AH9
39 SIO_EXT_SMI# SIO_EXT_SMI# AE16
39 SIO_EXT_SCI# SIO_EXT_SCI# AC19
38 PCIE_WPAN_DET# PCIE_WPAN_DET# AG8
TPAD14-GP T158 RSVD_GPIO18 AH12
TPAD14-GP T157 RSVD_GPIO20 AE11
38 USB_WPAN_DET# USB_WPAN_DET# AG10
TPAD14-GP T218 AH25
TPAD14-GP T176 SATA_CLKREQ# AG13
TPAD14-GP T210 PLTRST_DELAY# AF9
22 PLTRST_DELAY#
36 SB_WLAN_PCIE_RST# SB_WLAN_PCIE_RST# AJ11
TPAD14-GP T144 RSVD_GPIO48 AD10
46 NO.89 SPKR SPKR AD9
10 MCH_ICH_SYNC# R508 0R0402-PAD MCH_ICH_SYNC# R AJ13
15 ICH_RSVD AJ21

USB_IDE# R506 8.2KOhm 5% +3.3V_RUN
SIO_EXT_SCI# R297 10KOhm 5% +3.3V_ALW
PCIE_WPAN_DET# R613 100KOhm 5% +3.3V_RUN

http://hobi-elektronika.net/

Pull up for each detect line

NO.39
+3.3V_RUN
USB_WPAN_DET# R341 1MOhm 5%

RP2E 100KOhm 5%
RP2F 100KOhm 5%
RP2G 100KOhm 5%
RP2H 100KOhm 5%

+3.3V_RUN
R280 1KOhm 5% /*
SPKR

No Reboot strap.

| SPKR | Low=Default<br>High=No Reboot |
|---|---|

Non-iAMT

SMBus address D2

These are for backdrive issue

+3.3V_RUN
RN35A 2.2KOhm 5%
RN35B 2.2KOhm 5%
35 ICH_SMBDATA
Q40 2N7002 Id=180mA/Pd=300mW
SDA_3M 19,21,36,37,38

+3.3V_RUN
35 ICH_SMBCLK
Q41 2N7002 Id=180mA/Pd=300mW
SCL_3M 19,21,36,37,38

+3.3V_RUN

R620 100KOhm 5% RSVD_GPIO20
R303 10KOhm 5% RSV_THRM#
R514 10KOhm 5% /* MCH_ICH_SYNC# R
R276 10KOhm 5% IRQ_SERIRQ
R511 10KOhm 5% RSVD_GPIO48
R262 10KOhm 5% PLTRST_DELAY#
R264 10KOhm 5% SUPER_IDDQ
R610 100KOhm 5% SB_WLAN_PCIE_RST#
R611 100KOhm 5% SB_NB_PCIE_RST#
R257 100KOhm 5% SB_WPAN_PCIE_RST# 15,38
R609 100KOhm 5% CCD_VDD_ON

+3.3V_ALW
R309 10KOhm 5% SIO_EXT_SMI#
R621 10KOhm 5% ME_EC_ALERT

Non-iAMT

+3.3V_RUN
R352 3.24KOhm 1%
CL_VREF0
C466 0.1UF/10V MLCC/+80-20%
R351 453Ohm 1%

+3.3V_ALW
R218 3.24KOhm 1% /*
CL_VREF1
C378 0.1UF/10V MLCC/+80-20% /*
R219 453Ohm 1% /*

DZ1VQAT

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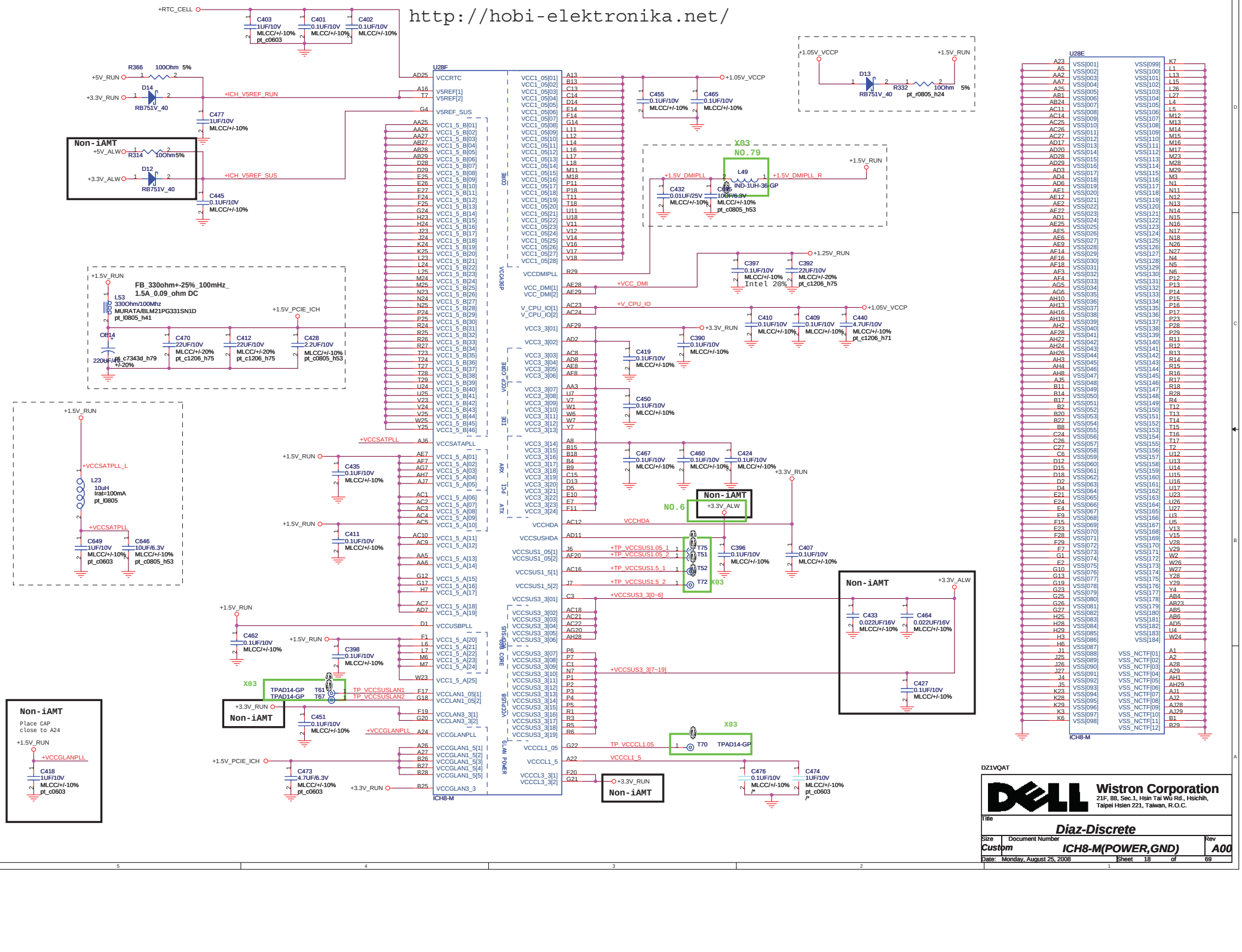
Title: Diaz-Discrete

| Size | Document Number | Rev |
|---|---|---|
| Custom | ICH8: SMB/PWR/CLK/GPIO | A00 |

Date: Monday, August 25, 2008 Sheet 17 of 69




DZ1VQAT

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Title: Diaz-Discrete

| Size | Document Number | Rev |
|---|---|---|
| Custom | ICH8-M(POWER,GND) | A00 |

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A is required to route to Top SODIMM for AMT to function
Ch.A SODIMM needs to be populated for Intel AMT support.

## TOP

+1.8V_SUS
V_DDR_MCH_REF

DDR_A_DM[0..7] 11
DDR_A_D[0..63] 11
DDR_A_DQS[0..7] 11
DDR_A_DQS#[0..7] 11
DDR_A_MA[0..13] 11,20

V_DDR_MCH_REF
C280 0.1UF/10V MLCC/+80-20%
C278 2.2UF/6.3V MLCC/+/-10% pt_c0805_h53

CON14

| | | | | | |
|---|---|---|---|---|---|
| | 1 | VREF | VSS46 | 2 | |
| DDR_A_D0 | 3 | VSS47 | DQ4 | 4 | DDR_A_D5 |
| DDR_A_D4 | 5 | DQ0 | DQ5 | 6 | DDR_A_D7 |
| | 7 | DQ1 | VSS15 | 8 | |
| DDR_A_DQS#0 | 9 | VSS37 | DM0 | 10 | DDR_A_DM0 |
| DDR_A_DQS0 | 11 | DQS#0 | VSS5 | 12 | DDR_A_D6 |
| | 13 | DQS0 | DQ6 | 14 | DDR_A_D2 |
| DDR_A_D1 | 15 | VSS48 | DQ7 | 16 | |
| DDR_A_D3 | 17 | DQ2 | VSS16 | 18 | DDR_A_D8 |
| | 19 | DQ3 | DQ12 | 20 | DDR_A_D12 |
| DDR_A_D13 | 21 | VSS38 | DQ13 | 22 | |
| DDR_A_D15 | 23 | DQ8 | VSS17 | 24 | DDR_A_DM1 |
| | 25 | DQ9 | DM1 | 26 | |
| DDR_A_DQS#1 | 27 | VSS49 | VSS53 | 28 | |
| DDR_A_DQS1 | 29 | DQS#1 | CK0 | 30 | M_CLK_DDR0 10 |
| | 31 | DQS1 | CK0# | 32 | M_CLK_DDR#0 10 |
| DDR_A_D9 | 33 | VSS39 | VSS41 | 34 | |
| DDR_A_D11 | 35 | DQ10 | DQ14 | 36 | DDR_A_D10 |
| | 37 | DQ11 | DQ15 | 38 | DDR_A_D14 |
| | 39 | VSS50 | VSS54 | 40 | |
| | 41 | VSS18 | VSS20 | 42 | |
| DDR_A_D17 | 43 | DQ16 | DQ20 | 44 | DDR_A_D21 |
| DDR_A_D18 | 45 | DQ17 | DQ21 | 46 | DDR_A_D20 |
| | 47 | VSS1 | VSS6 | 48 | |
| DDR_A_DQS#2 | 49 | DQS#2 | NC3 | 50 | PM_EXTTS#0 PM_EXTTS#0 10 |
| DDR_A_DQS2 | 51 | DQS2 | DM2 | 52 | DDR_A_DM2 |
| | 53 | VSS19 | VSS21 | 54 | |
| DDR_A_D19 | 55 | DQ18 | DQ22 | 56 | DDR_A_D22 |
| DDR_A_D16 | 57 | DQ19 | DQ23 | 58 | DDR_A_D23 |
| | 59 | VSS22 | VSS24 | 60 | |
| DDR_A_D25 | 61 | DQ24 | DQ28 | 62 | DDR_A_D28 |
| DDR_A_D24 | 63 | DQ25 | DQ29 | 64 | DDR_A_D29 |
| | 65 | VSS23 | VSS25 | 66 | |
| DDR_A_DM3 | 67 | DM3 | DQS#3 | 68 | DDR_A_DQS#3 |
| | 69 | NC4 | DQS3 | 70 | DDR_A_DQS3 |
| DDR_A_D30 | 71 | VSS9 | VSS10 | 72 | |
| DDR_A_D31 | 73 | DQ26 | DQ30 | 74 | DDR_A_D27 |
| | 75 | DQ27 | DQ31 | 76 | DDR_A_D26 |
| | 77 | VSS4 | VSS8 | 78 | |
| 10,20 DDR_CKE0_DIMMA | 79 | CKE0 | CKE1 | 80 | DDR_CKE1_DIMMA 10,20 |
| | 81 | VDD7 | VDD8 | 82 | |
| | 83 | NC1 | A15 | 84 | |
| 11,20 DDR_A_BS2 | 85 | A16_BA2 | A14 | 86 | DDR_A_MA14 DDR_A_MA14 10,20 |
| | 87 | VDD9 | VDD11 | 88 | |
| DDR_A_MA12 | 89 | A12 | A11 | 90 | DDR_A_MA11 |
| DDR_A_MA9 | 91 | A9 | A7 | 92 | DDR_A_MA7 |
| DDR_A_MA8 | 93 | A8 | A6 | 94 | DDR_A_MA6 |
| | 95 | VDD5 | VDD4 | 96 | |
| DDR_A_MA5 | 97 | A5 | A4 | 98 | DDR_A_MA4 |
| DDR_A_MA3 | 99 | A3 | A2 | 100 | DDR_A_MA2 |
| DDR_A_MA1 | 101 | A1 | A0 | 102 | DDR_A_MA0 |
| | 103 | VDD10 | VDD12 | 104 | |
| DDR_A_MA10 | 105 | A10/AP | BA1 | 106 | DDR_A_BS1 11,20 |
| 11,20 DDR_A_BS0 | 107 | BA0 | RAS# | 108 | DDR_A_RAS# 11,20 |
| 11,20 DDR_A_WE# | 109 | WE# | S0# | 110 | DDR_CS0_DIMMA# 10,20 |
| | 111 | VDD2 | VDD1 | 112 | |
| 11,20 DDR_A_CAS# | 113 | CAS# | ODT0 | 114 | M_ODT0 M_ODT0 10,20 |
| 10,20 DDR_CS1_DIMMA# | 115 | S1# | A13 | 116 | DDR_A_MA13 |
| | 117 | VDD3 | VDD6 | 118 | |
| 10,20 M_ODT1 | 119 | ODT1 | NC2 | 120 | |
| | 121 | VSS11 | VSS12 | 122 | |
| DDR_A_D32 | 123 | DQ32 | DQ36 | 124 | DDR_A_D33 |
| DDR_A_D38 | 125 | DQ33 | DQ37 | 126 | DDR_A_D36 |
| | 127 | VSS26 | VSS28 | 128 | |
| DDR_A_DQS#4 | 129 | DQS#4 | DM4 | 130 | DDR_A_DM4 |
| DDR_A_DQS4 | 131 | DQS4 | VSS42 | 132 | |
| | 133 | VSS2 | DQ38 | 134 | DDR_A_D37 |
| DDR_A_D34 | 135 | DQ34 | DQ39 | 136 | DDR_A_D35 |
| DDR_A_D39 | 137 | DQ35 | VSS55 | 138 | |
| | 139 | VSS27 | DQ44 | 140 | DDR_A_D41 |
| DDR_A_D40 | 141 | DQ40 | DQ45 | 142 | DDR_A_D43 |
| DDR_A_D44 | 143 | DQ41 | VSS43 | 144 | |
| DDR_A_DM5 | 145 | VSS29 | DQS#5 | 146 | DDR_A_DQS#5 |
| | 147 | DM5 | DQS5 | 148 | DDR_A_DQS5 |
| DDR_A_D47 | 149 | VSS51 | VSS56 | 150 | |
| DDR_A_D45 | 151 | DQ42 | DQ46 | 152 | DDR_A_D46 |
| | 153 | DQ43 | DQ47 | 154 | DDR_A_D42 |
| DDR_A_D48 | 155 | VSS40 | VSS44 | 156 | |
| DDR_A_D53 | 157 | DQ48 | DQ52 | 158 | DDR_A_D52 |
| | 159 | DQ49 | DQ53 | 160 | DDR_A_D49 |
| | 161 | VSS52 | VSS57 | 162 | |
| | 163 | NCTEST | CK1 | 164 | M_CLK_DDR1 10 |
| | 165 | VSS30 | CK1# | 166 | M_CLK_DDR#1 10 |
| DDR_A_DQS#6 | 167 | DQS#6 | VSS45 | 168 | |
| DDR_A_DQS6 | 169 | DQS6 | DM6 | 170 | DDR_A_DM6 |
| | 171 | VSS31 | VSS32 | 172 | |
| DDR_A_D55 | 173 | DQ50 | DQ54 | 174 | DDR_A_D50 |
| DDR_A_D51 | 175 | DQ51 | DQ55 | 176 | DDR_A_D54 |
| | 177 | VSS33 | VSS35 | 178 | |
| DDR_A_D59 | 179 | DQ56 | DQ60 | 180 | DDR_A_D56 |
| DDR_A_D60 | 181 | DQ57 | DQ61 | 182 | DDR_A_D57 |
| | 183 | VSS3 | VSS7 | 184 | |
| DDR_A_DM7 | 185 | DM7 | DQS#7 | 186 | DDR_A_DQS#7 |
| | 187 | VSS34 | DQS7 | 188 | DDR_A_DQS7 |
| DDR_A_D61 | 189 | DQ58 | VSS36 | 190 | |
| DDR_A_D62 | 191 | DQ59 | DQ62 | 192 | DDR_A_D58 |
| | 193 | VSS14 | DQ63 | 194 | DDR_A_D63 |
| 17,21,36,37,38 SDA_3M | 195 | SDA | VSS13 | 196 | |
| 17,21,36,37,38 SCL_3M | 197 | SCL | SA0 | 198 | |
| +3.3V_RUN | 199 | VDDSPD | SA1 | 200 | |
| | 201 | GND0 | GND1 | 202 | |
| | 203 | NP_NC1 | NP_NC2 | 204 | |

REV
FOXCONN/AS0A426-N2RN-7F

CLOCK 0 , 1
CKE 0 , 1

R505 10KOhm 5%
R501 10KOhm 5%

+3.3V_RUN Non-iAMT
C373 2.2UF/6.3V MLCC/+/-10%
C374 0.1UF/10V MLCC/+80-20%
pt_c0805_h53

Non-iAMT
SDA_3M SCL_3M
SMbus address A0

## BOT

20071004

+1.8V_SUS
V_DDR_MCH_REF

DDR_B_DM[0..7] 11
DDR_B_D[0..63] 11
DDR_B_DQS[0..7] 11
DDR_B_DQS#[0..7] 11
DDR_B_MA[0..13] 11,20

V_DDR_MCH_REF
C281 0.1UF/10V MLCC/+80-20%
C275 2.2UF/6.3V MLCC/+/-10% pt_c0805_h53

CON15

| | | | | | |
|---|---|---|---|---|---|
| | 1 | VREF | VSS46 | 2 | |
| DDR_B_D0 | 3 | VSS47 | DQ4 | 4 | DDR_B_D1 |
| DDR_B_D4 | 5 | DQ0 | DQ5 | 6 | DDR_B_D5 |
| | 7 | DQ1 | VSS15 | 8 | |
| DDR_B_DQS#0 | 9 | VSS37 | DM0 | 10 | DDR_B_DM0 |
| DDR_B_DQS0 | 11 | DQS#0 | VSS5 | 12 | DDR_B_D6 |
| | 13 | DQS0 | DQ6 | 14 | DDR_B_D7 |
| DDR_B_D3 | 15 | VSS48 | DQ7 | 16 | |
| DDR_B_D2 | 17 | DQ2 | VSS16 | 18 | DDR_B_D11 |
| | 19 | DQ3 | DQ12 | 20 | DDR_B_D12 |
| DDR_B_D14 | 21 | VSS38 | DQ13 | 22 | |
| DDR_B_D15 | 23 | DQ8 | VSS17 | 24 | DDR_B_DM1 |
| | 25 | DQ9 | DM1 | 26 | |
| DDR_B_DQS#1 | 27 | VSS49 | VSS53 | 28 | |
| DDR_B_DQS1 | 29 | DQS#1 | CK0 | 30 | M_CLK_DDR2 10 |
| | 31 | DQS1 | CK0# | 32 | M_CLK_DDR#2 10 |
| DDR_B_D13 | 33 | VSS39 | VSS41 | 34 | |
| DDR_B_D10 | 35 | DQ10 | DQ14 | 36 | DDR_B_D9 |
| | 37 | DQ11 | DQ15 | 38 | DDR_B_D8 |
| | 39 | VSS50 | VSS54 | 40 | |
| | 41 | VSS18 | VSS20 | 42 | |
| DDR_B_D17 | 43 | DQ16 | DQ20 | 44 | DDR_B_D21 |
| DDR_B_D20 | 45 | DQ17 | DQ21 | 46 | DDR_B_D16 |
| | 47 | VSS1 | VSS6 | 48 | |
| DDR_B_DQS#2 | 49 | DQS#2 | NC3 | 50 | PM_EXTTS#1 PM_EXTTS#1 10 |
| DDR_B_DQS2 | 51 | DQS2 | DM2 | 52 | DDR_B_DM2 |
| | 53 | VSS19 | VSS21 | 54 | |
| DDR_B_D19 | 55 | DQ18 | DQ22 | 56 | DDR_B_D23 |
| DDR_B_D18 | 57 | DQ19 | DQ23 | 58 | DDR_B_D22 |
| | 59 | VSS22 | VSS24 | 60 | |
| DDR_B_D28 | 61 | DQ24 | DQ28 | 62 | DDR_B_D29 |
| DDR_B_D25 | 63 | DQ25 | DQ29 | 64 | DDR_B_D24 |
| | 65 | VSS23 | VSS25 | 66 | |
| DDR_B_DM3 | 67 | DM3 | DQS#3 | 68 | DDR_B_DQS#3 |
| | 69 | NC4 | DQS3 | 70 | DDR_B_DQS3 |
| DDR_B_D30 | 71 | VSS9 | VSS10 | 72 | |
| DDR_B_D27 | 73 | DQ26 | DQ30 | 74 | DDR_B_D31 |
| | 75 | DQ27 | DQ31 | 76 | DDR_B_D26 |
| | 77 | VSS4 | VSS8 | 78 | |
| 10,20 DDR_CKE2_DIMMB | 79 | CKE0 | CKE1 | 80 | DDR_CKE3_DIMMB 10,20 |
| | 81 | VDD7 | VDD8 | 82 | |
| | 83 | NC1 | A15 | 84 | |
| 11,20 DDR_B_BS2 | 85 | A16_BA2 | A14 | 86 | DDR_B_MA14 DDR_B_MA14 10,20 |
| | 87 | VDD9 | VDD11 | 88 | |
| DDR_B_MA12 | 89 | A12 | A11 | 90 | DDR_B_MA11 |
| DDR_B_MA9 | 91 | A9 | A7 | 92 | DDR_B_MA7 |
| DDR_B_MA8 | 93 | A8 | A6 | 94 | DDR_B_MA6 |
| | 95 | VDD5 | VDD4 | 96 | |
| DDR_B_MA5 | 97 | A5 | A4 | 98 | DDR_B_MA4 |
| DDR_B_MA3 | 99 | A3 | A2 | 100 | DDR_B_MA2 |
| DDR_B_MA1 | 101 | A1 | A0 | 102 | DDR_B_MA0 |
| | 103 | VDD10 | VDD12 | 104 | |
| DDR_B_MA10 | 105 | A10/AP | BA1 | 106 | DDR_B_BS1 11,20 |
| 11,20 DDR_B_BS0 | 107 | BA0 | RAS# | 108 | DDR_B_RAS# 11,20 |
| 11,20 DDR_B_WE# | 109 | WE# | S0# | 110 | DDR_CS2_DIMMB# 10,20 |
| | 111 | VDD2 | VDD1 | 112 | |
| DDR_B_CAS# | 113 | CAS# | ODT0 | 114 | M_ODT2 M_ODT2 10,20 |
| 11,20 DDR_B_CAS# | 115 | S1# | A13 | 116 | DDR_B_MA13 |
| 10,20 DDR_CS3_DIMMB# | 117 | VDD3 | VDD6 | 118 | |
| 10,20 M_ODT3 | 119 | ODT1 | NC2 | 120 | |
| | 121 | VSS11 | VSS12 | 122 | |
| DDR_B_D38 | 123 | DQ32 | DQ36 | 124 | DDR_B_D36 |
| DDR_B_D32 | 125 | DQ33 | DQ37 | 126 | DDR_B_D37 |
| | 127 | VSS26 | VSS28 | 128 | |
| DDR_B_DQS#4 | 129 | DQS#4 | DM4 | 130 | DDR_B_DM4 |
| DDR_B_DQS4 | 131 | DQS4 | VSS42 | 132 | |
| | 133 | VSS2 | DQ38 | 134 | DDR_B_D39 |
| DDR_B_D34 | 135 | DQ34 | DQ39 | 136 | DDR_B_D33 |
| DDR_B_D35 | 137 | DQ35 | VSS55 | 138 | |
| | 139 | VSS27 | DQ44 | 140 | DDR_B_D45 |
| DDR_B_D44 | 141 | DQ40 | DQ45 | 142 | DDR_B_D40 |
| DDR_B_D41 | 143 | DQ41 | VSS43 | 144 | |
| DDR_B_DM5 | 145 | VSS29 | DQS#5 | 146 | DDR_B_DQS#5 |
| | 147 | DM5 | DQS5 | 148 | DDR_B_DQS5 |
| DDR_B_D47 | 149 | VSS51 | VSS56 | 150 | |
| DDR_B_D46 | 151 | DQ42 | DQ46 | 152 | DDR_B_D43 |
| | 153 | DQ43 | DQ47 | 154 | DDR_B_D42 |
| DDR_B_D49 | 155 | VSS40 | VSS44 | 156 | |
| DDR_B_D52 | 157 | DQ48 | DQ52 | 158 | DDR_B_D48 |
| | 159 | DQ49 | DQ53 | 160 | DDR_B_D53 |
| | 161 | VSS52 | VSS57 | 162 | |
| | 163 | NCTEST | CK1 | 164 | M_CLK_DDR3 10 |
| | 165 | VSS30 | CK1# | 166 | M_CLK_DDR#3 10 |
| DDR_B_DQS#6 | 167 | DQS#6 | VSS45 | 168 | |
| DDR_B_DQS6 | 169 | DQS6 | DM6 | 170 | DDR_B_DM6 |
| | 171 | VSS31 | VSS32 | 172 | |
| DDR_B_D54 | 173 | DQ50 | DQ54 | 174 | DDR_B_D50 |
| DDR_B_D51 | 175 | DQ51 | DQ55 | 176 | DDR_B_D55 |
| | 177 | VSS33 | VSS35 | 178 | |
| DDR_B_D56 | 179 | DQ56 | DQ60 | 180 | DDR_B_D61 |
| DDR_B_D57 | 181 | DQ57 | DQ61 | 182 | DDR_B_D60 |
| | 183 | VSS3 | VSS7 | 184 | |
| DDR_B_DM7 | 185 | DM7 | DQS#7 | 186 | DDR_B_DQS#7 |
| | 187 | VSS34 | DQS7 | 188 | DDR_B_DQS7 |
| DDR_B_D63 | 189 | DQ58 | VSS36 | 190 | |
| DDR_B_D62 | 191 | DQ59 | DQ62 | 192 | DDR_B_D58 |
| | 193 | VSS14 | DQ63 | 194 | DDR_B_D59 |
| SDA_3M | 195 | SDA | VSS13 | 196 | |
| SCL_3M | 197 | SCL | SA0 | 198 | |
| +3.3V_RUN | 199 | VDDSPD | SA1 | 200 | |
| | 201 | GND0 | GND1 | 202 | |
| | 203 | NP_NC1 | NP_NC2 | 204 | |

REV
FOXCONN/AS0A426-NARN-7F

CLOCK 2 , 3
CKE 2 , 3

Non-iAMT
+3.3V_RUN
SMbus address A4

R211 2 1
R212 10KOhm 5%

+3.3V_RUN Non-iAMT
C651 2.2UF/6.3V MLCC/+/-10%
C647 0.1UF/10V MLCC/+80-20%
pt_c0805_h53

Non-iAMT

Please these Caps near So-Dimm1

+1.8V_SUS
C327 C300 C333 C341 C342
2.2UF/6.3V MLCC/+/-10% pt_c0603
2.2UF/6.3V MLCC/+/-10% pt_c0603
2.2UF/6.3V MLCC/+/-10% pt_c0603
2.2UF/6.3V MLCC/+/-10% pt_c0603
2.2UF/6.3V MLCC/+/-10% pt_c0603

Please these Caps near So-Dimm2

+1.8V_SUS
C321 C619 C591 C331 C317
2.2UF/6.3V MLCC/+/-10% pt_c0603
2.2UF/6.3V MLCC/+/-10% pt_c0603
2.2UF/6.3V MLCC/+/-10% pt_c0603
2.2UF/6.3V MLCC/+/-10% pt_c0603
2.2UF/6.3V MLCC/+/-10% pt_c0603

Please these Caps near So-Dimm1

+1.8V_SUS
C315 C325 C319 C323
0.1UF/10V MLCC/+80-20%
0.1UF/10V MLCC/+80-20%
0.1UF/10V MLCC/+80-20%
0.1UF/10V MLCC/+80-20%

Please these Caps near So-Dimm2

+1.8V_SUS
C340 C601 C609 C616
0.1UF/10V MLCC/+80-20%
0.1UF/10V MLCC/+80-20%
0.1UF/10V MLCC/+80-20%
0.1UF/10V MLCC/+80-20%

DZ1VQAT

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: Diaz-Discrete
Size: Custom
Document Number: DDR2 SO-DIMM (0)
Rev: A00
Date: Monday, August 25, 2008
Sheet 19 of 69

## TOP

+0.9V_DDR_VTT

Layout note : Place 1 cap close to every 1 R-pack terminated to SMDDR_VTERM.

C326 0.1UF/10V MLCC/+80-20% | C361 0.1UF/10V MLCC/+80-20% | C305 0.1UF/10V MLCC/+80-20% | C344 0.1UF/10V MLCC/+80-20% | C359 0.1UF/10V MLCC/+80-20% | C314 0.1UF/10V MLCC/+80-20% | C358 0.1UF/10V MLCC/+80-20% | C356 0.1UF/10V MLCC/+80-20% | C316 0.1UF/10V MLCC/+80-20% | C324 0.1UF/10V MLCC/+80-20% | C328 0.1UF/10V MLCC/+80-20% | C304 0.1UF/10V MLCC/+80-20% | C348 0.1UF/10V MLCC/+80-20%

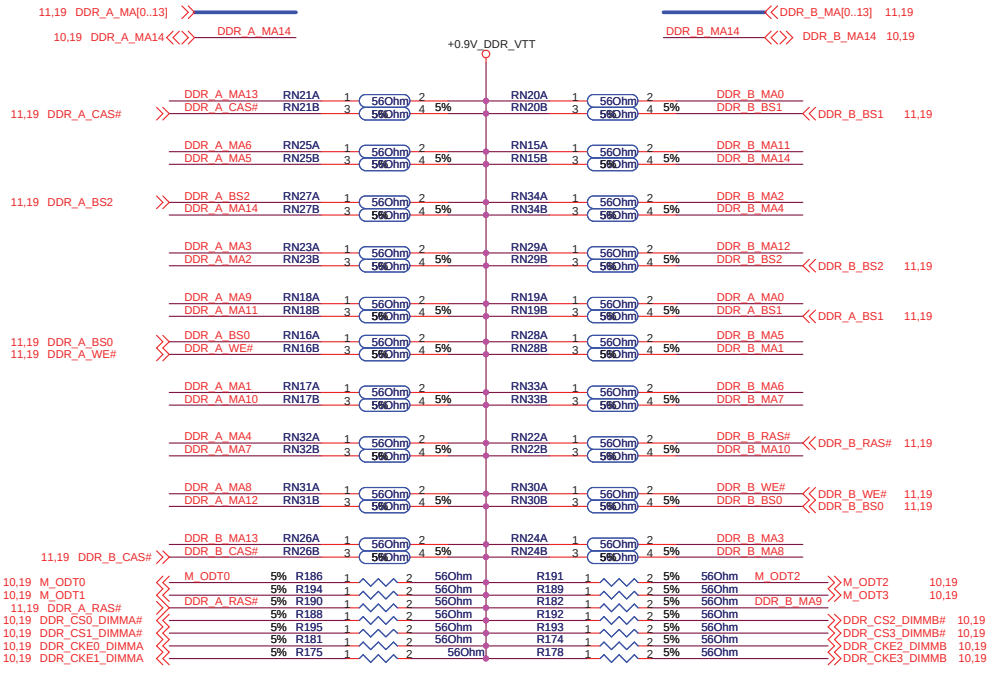
+0.9V_DDR_VTT

## BOT

C332 0.1UF/10V MLCC/+80-20% | C355 0.1UF/10V MLCC/+80-20% | C309 0.1UF/10V MLCC/+80-20% | C338 0.1UF/10V MLCC/+80-20% | C299 0.1UF/10V MLCC/+80-20% | C303 0.1UF/10V MLCC/+80-20% | C347 0.1UF/10V MLCC/+80-20% | C306 0.1UF/10V MLCC/+80-20% | C360 0.1UF/10V MLCC/+80-20% | C320 0.1UF/10V MLCC/+80-20% | C343 0.1UF/10V MLCC/+80-20% | C337 0.1UF/10V MLCC/+80-20% | C354 0.1UF/10V MLCC/+80-20%

http://hobi-elektronika.net/

Please these resistor closely DIMMA, all trace length<750 mil.




Please these resistor closely DIMMB, all trace length<750 mil.

DZ1VQAT

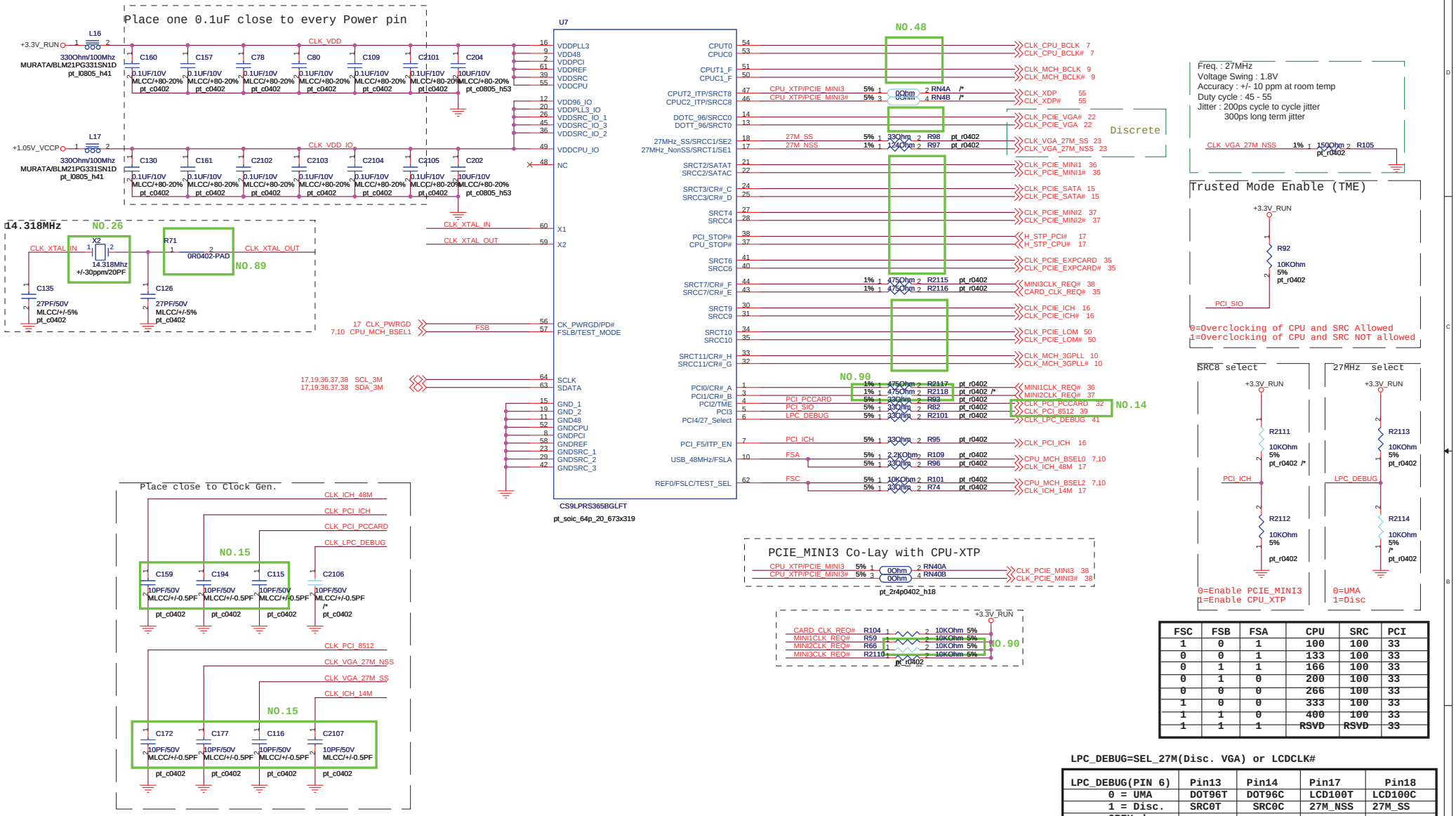
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: Diaz-Discrete

Size: A3 | Document Number: DDR2 SO-DIMM (1) | Rev: A00

Date: Monday, August 25, 2008 | Sheet 20 of 69

http://hobi-elektronika.net/




| FSC | FSB | FSA | CPU | SRC | PCI |
|---|---|---|---|---|---|
| 1 | 0 | 1 | 100 | 100 | 33 |
| 0 | 0 | 1 | 133 | 100 | 33 |
| 0 | 1 | 1 | 166 | 100 | 33 |
| 0 | 1 | 0 | 200 | 100 | 33 |
| 0 | 0 | 0 | 266 | 100 | 33 |
| 1 | 0 | 0 | 333 | 100 | 33 |
| 1 | 1 | 0 | 400 | 100 | 33 |
| 1 | 1 | 1 | RSVD | RSVD | 33 |

LPC_DEBUG=SEL_27M(Disc. VGA) or LCDCLK#

| LPC_DEBUG(PIN 6) | Pin13 | Pin14 | Pin17 | Pin18 |
|---|---|---|---|---|
| 0 = UMA | DOT96T | DOT96C | LCD100T | LCD100C |
| 1 = Disc. | SRC0T | SRC0C | 27M_NSS | 27M_SS |
| GRFX down | | | | |

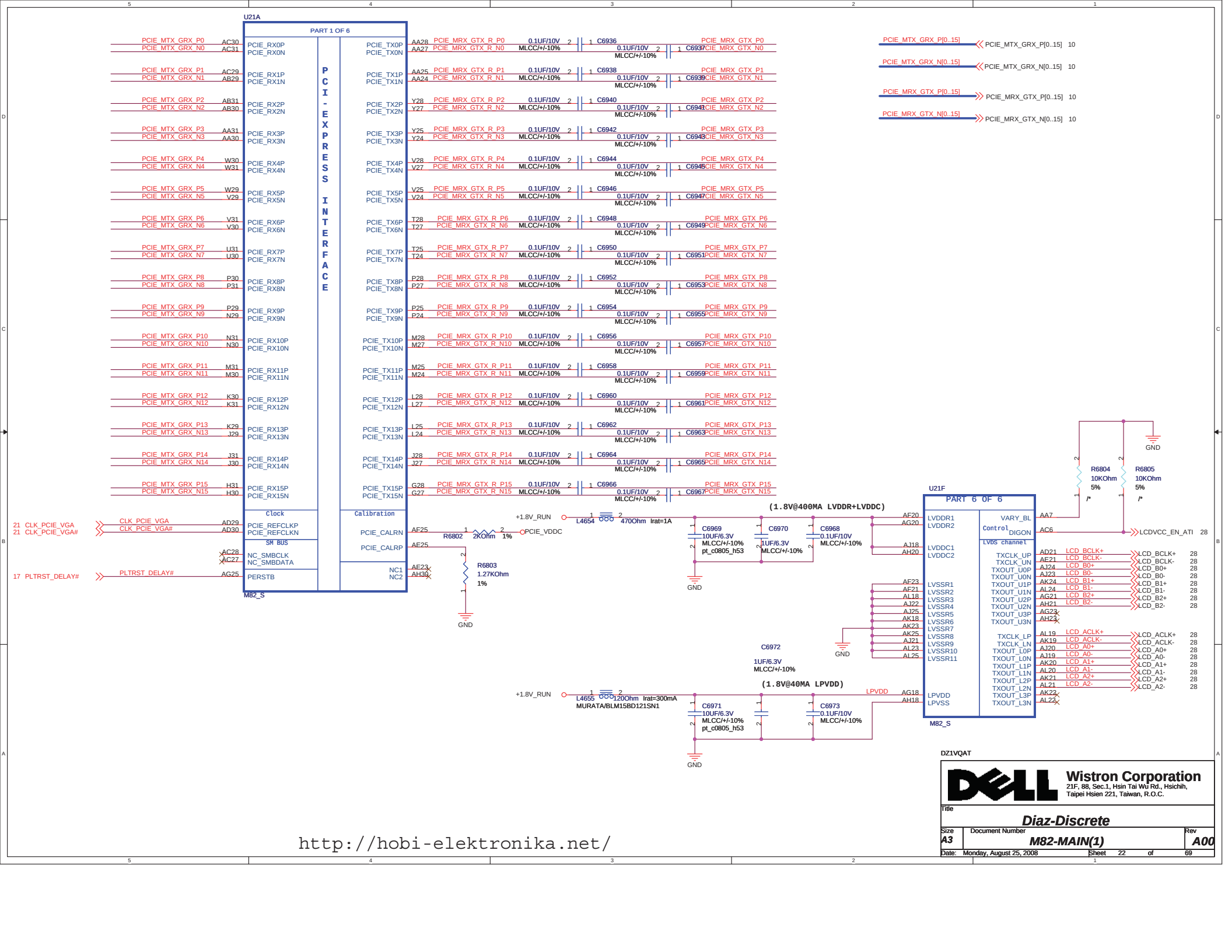
DZ1VQAT

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: Diaz-Discrete

Size: Custom | Document Number: CLK GEN. ICS9LPRS365BGLFT | Rev: A00

Date: Monday, August 25, 2008 | Sheet 21 of 69





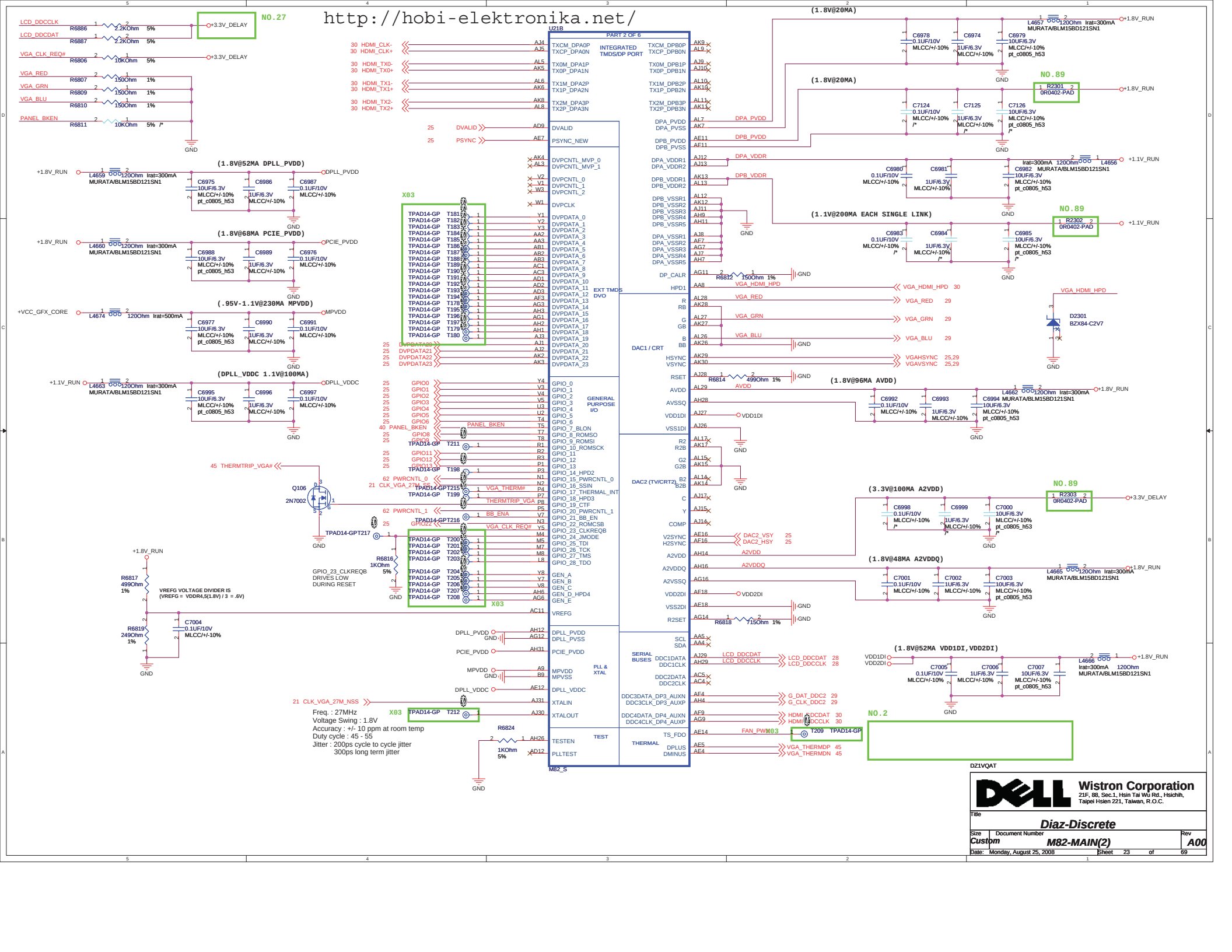

DZ1VQAT

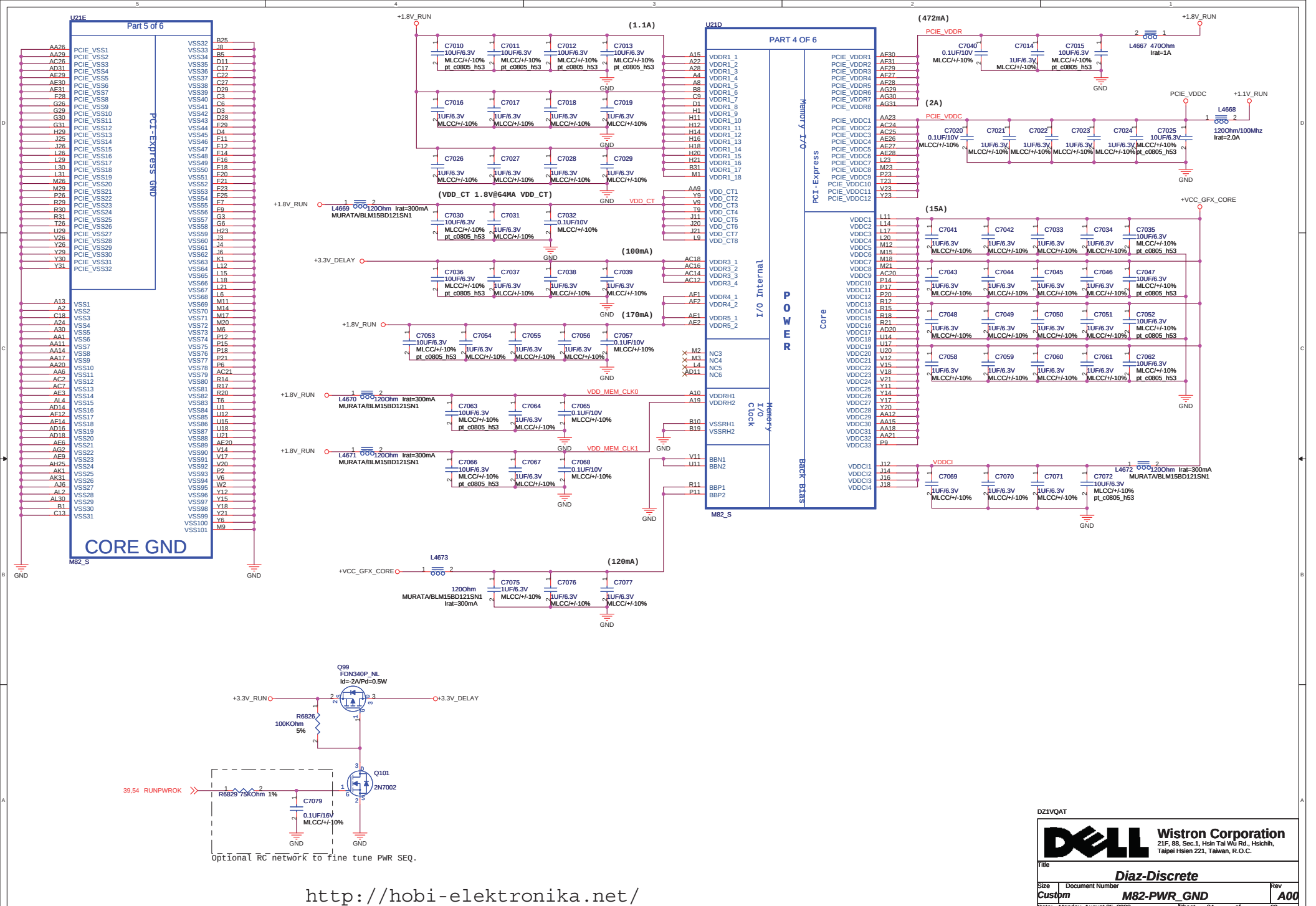
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: Diaz-Discrete

| Size | Document Number | Rev |
|---|---|---|
| A3 | M82-MAIN(1) | A00 |

Date: Monday, August 25, 2008 Sheet 22 of 69


http://hobi-elektronika.net/
NO.27
NO.89
NO.89
NO.89
NO.2
U21B
PART 2 OF 6
INTEGRATED TMDS/DP PORT
EXT TMDS DVO
GENERAL PURPOSE I/O
PLL & XTAL
TEST
THERMAL
SERIAL BUSES
DAC1 / CRT
DAC2 (TV/CRT2)
M82_S
(1.8V@20MA)
(1.8V@20MA)
(1.8V@52MA DPLL_PVDD)
(1.8V@68MA PCIE_PVDD)
(.95V-1.1V@230MA MPVDD)
(DPLL_VDDC 1.1V@100MA)
(1.1V@200MA EACH SINGLE LINK)
(1.8V@96MA AVDD)
(3.3V@100MA A2VDD)
(1.8V@48MA A2VDDQ)
(1.8V@52MA VDD1DI,VDD2DI)
VREFG VOLTAGE DIVIDER IS (VREFG = VDDR4,5(1.8V) / 3 = .6V)
GPIO_23_CLKREQB DRIVES LOW DURING RESET
Freq. : 27MHz
Voltage Swing : 1.8V
Accuracy : +/- 10 ppm at room temp
Duty cycle : 45 - 55
Jitter : 200ps cycle to cycle jitter
300ps long term jitter
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title
Diaz-Discrete
Size
Custom
Document Number
M82-MAIN(2)
Rev
A00
Date: Monday, August 25, 2008
Sheet 23 of 69




http://hobi-elektronika.net/

DZ1VQAT

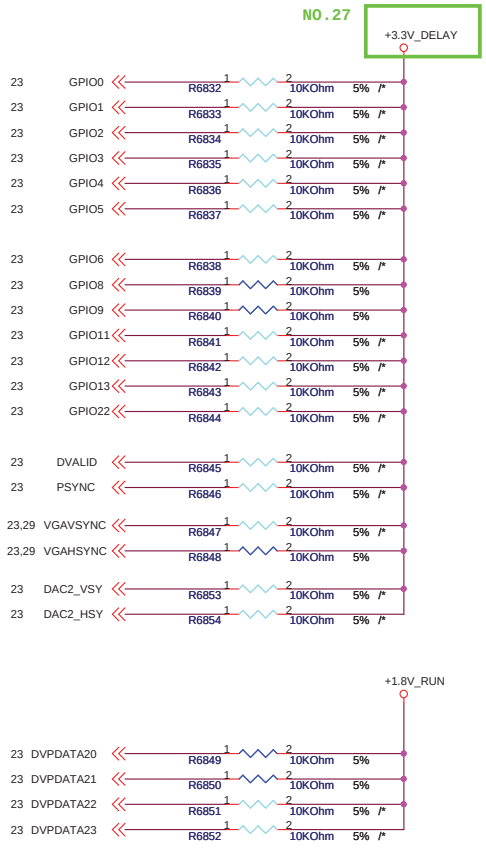
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: Diaz-Discrete

| Size | Document Number | Rev |
|---|---|---|
| Custom | M82-PWR_GND | A00 |

Date: Monday, August 25, 2008 Sheet 24 of 69

NO.27




| STRAPS | PIN | DESCRIPTION |
|---|---|---|
| TX_PWRS_ENB (Internal PD) | GPIO0 | Tansmitter Power Savings Enable<br>V 0= 50% Tx output swing<br>1= Full Tx output swing |
| TX_DEEMPH_EN (Internal PD) | GPIO1 | Transmitter De-emphasis Enable<br>V 0= Tx de-emphasis disabled<br>1= Tx de-emphasis enabled |
| DEBUG_ACCESS (Internal PD) | GPIO4 | DEBUG SIGNALS MUXED OUT |
| BIF_GEN2_EN_A | GPIO5 | V 0 = Advertises the PCI-E device as 2.5GT/s<br>1 = Advertises the PCI-E device as 5GT/s |
| DEBUG_I2C_ENABLE (Internal PD) | GPIO6 | Internal use only |
| AUDIO_EN (Internal PD) | GPIO8 | 0= Disable HD Audio<br>1= Enable HD Audio<br>V |
| ROMIDCFG[3:0] (Internal PD) | GPIO[13:11,9] | if BIOS_ROM_EN=1,then Config[3:0] defines the ROM type<br>if BIOS_ROM_EN=0,then Config[3:0] defines the primary memory apeture size |
| BIOS_ROM_EN (Internal PD) | GPIO_22_ROMCSB | Enable external BIOS ROM device<br>V 0= Disable external BIOS ROM device<br>1= Enable external BIOS ROM device |
| VGA DIS (Internal PD) | PSYNC | V 0 = VGA Controller capacity enabled<br>1 = The device will not be recognized as the system's VGA Controller |
| HDMI_EN (Internal PD) | HSYNC | 0 = Disable HDMI<br>1 = Enable HDMI<br>V |

## ATI RESERVED CONFIGURATION STRAPS

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

GPIO2 , GPIO3 , DVALID , H2SYNC , V2SYNC

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

| If BIOS_ROM_EN (GPIO22) = 0 | | If BIOS_ROM_EN (GPIO22) = 1 | | |
|---|---|---|---|---|
| Size of the primary memory apertures | GPIO[13:11,9] | Manufacturer | Part Number | GPIO[13:11,9] |
| 128MB | x000 | ST Microelectronics | M25P05A | 0100 |
| 256MB | x001 | | M25P10A | 0101 |
| V 64MB | x010 | | M25P20 | 0101 |
| 32MB | x011 | | M25P40 | 0101 |
| 512MB | x100 | | M25P80 | 0101 |
| 1GB | x101 | | | |
| 2GB | x110 | | | |
| 4GB | x111 | | | |
| | | Chingis (formerly PMC) | Pm25LV512 | 0100 |
| | | | Pm25LV010 | 0101 |

| STRAPS | PIN | DESCRIPTION |
|---|---|---|
| MEM_TYPE | DVPDATA(23:20) (Internal PD) | MEMORY TYPE,MAKE AND SIZE INFO<br>0000 - GDDR3 16Mx32 Qimonda / HYB18H512321BF-14<br>0001 - GDDR3 16Mx32 Hynix / H5RS5223CFR-14<br>0010 - GDDR3 32Mx32 Qimonda / HYB18H1G321AF-14<br>0011 - GDDR3 32Mx32 Samsung / K4J10324QD-HC14<br>V 0100 - TBD<br>0101 - TBD<br>0110 - TBD<br>0111 - TBD<br>1000 - TBD |

NO.11

DZ1VQAT

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: Diaz-Discrete

Size: A3 | Document Number: M82-STRAPPING | Rev: A00

Date: Monday, August 25, 2008 | Sheet 25 of 69

Place Close to VRAM

+1.8V_RUN

| | | | | | | |
|---|---|---|---|---|---|---|
| 27 | RASA0# | RASA0# | R6864 | 121Ohm | 1% | |
| 27 | RASA1# | RASA1# | R6863 | 121Ohm | 1% | |
| 27 | CASA0# | CASA0# | R6866 | 121Ohm | 1% | |
| 27 | CASA1# | CASA1# | R6865 | 121Ohm | 1% | |
| 27 | WEA0# | WEA0# | R6867 | 121Ohm | 1% | |
| 27 | WEA1# | WEA1# | R6868 | 121Ohm | 1% | |
| 27 | CSA0_0# | CSA0_0# | R6869 | 121Ohm | 1% | |
| 27 | CSA1_0# | CSA1_0# | R6870 | 121Ohm | 1% | |
| 27 | CSA0_1# | CSA0_1# | R6921 | 121Ohm | 1% | |
| 27 | CSA1_1# | CSA1_1# | R6922 | 121Ohm | 1% | |
| 27 | CKEA0 | CKEA0 | R6871 | 121Ohm | 1% | |
| 27 | CKEA1 | CKEA1 | R6872 | 121Ohm | 1% | |
| 27 | CLKA0 | CLKA0 | R6873 | 60.4Ohm | 1% | |
| 27 | CLKA0# | CLKA0# | R6874 | 60.4Ohm | 1% | |
| 27 | CLKA1 | CLKA1 | R6875 | 60.4Ohm | 1% | |
| 27 | CLKA1# | CLKA1# | R6876 | 60.4Ohm | 1% | |

Used for dual rank type 32Mx32 MEM only

U21C

Part 3 of 6

MEMORY INTERFACE

27 MDA[0..63]

MDA0 E29 DQ_0
MDA1 E30 DQ_1
MDA2 E31 DQ_2
MDA3 D31 DQ_3
MDA4 C29 DQ_4
MDA5 B29 DQ_5
MDA6 B30 DQ_6
MDA7 A29 DQ_7
MDA8 E26 DQ_8
MDA9 D26 DQ_9
MDA10 E25 DQ_10
MDA11 D25 DQ_11
MDA12 G23 DQ_12
MDA13 G21 DQ_13
MDA14 E21 DQ_14
MDA15 D21 DQ_15
MDA16 C28 DQ_16
MDA17 B28 DQ_17
MDA18 B27 DQ_18
MDA19 A27 DQ_19
MDA20 C25 DQ_20
MDA21 A25 DQ_21
MDA22 C24 DQ_22
MDA23 B24 DQ_23
MDA24 C23 DQ_24
MDA25 B23 DQ_25
MDA26 A23 DQ_26
MDA27 B22 DQ_27
MDA28 C20 DQ_28
MDA29 B20 DQ_29
MDA30 A20 DQ_30
MDA31 C19 DQ_31
MDA32 C8 DQ_32
MDA33 C7 DQ_33
MDA34 B7 DQ_34
MDA35 A7 DQ_35
MDA36 A5 DQ_36
MDA37 C4 DQ_37
MDA38 B4 DQ_38
MDA39 A3 DQ_39
MDA40 G9 DQ_40
MDA41 F9 DQ_41
MDA42 D9 DQ_42
MDA43 G7 DQ_43
MDA44 G5 DQ_44
MDA45 F5 DQ_45
MDA46 G4 DQ_46
MDA47 F4 DQ_47
MDA48 B3 DQ_48
MDA49 B2 DQ_49
MDA50 C2 DQ_50
MDA51 C1 DQ_51
MDA52 E3 DQ_52
MDA53 F3 DQ_53
MDA54 F2 DQ_54
MDA55 F1 DQ_55
MDA56 G2 DQ_56
MDA57 G1 DQ_57
MDA58 H3 DQ_58
MDA59 H2 DQ_59
MDA60 K2 DQ_60
MDA61 L3 DQ_61
MDA62 L2 DQ_62
MDA63 L1 DQ_63

F30 MVREFD
F31 MVREFS

L5 TEST_MCLK
L7 TEST_YCLK
J7 MEMTEST

M82_S

B14 MA_0 MAA0
A14 MA_1 MAA1
B13 MA_2 MAA2
E14 MA_3 MAA3
B17 MA_4 MAA4
A17 MA_5 MAA5
C15 MA_6 MAA6
G16 MA_7 MAA7
E16 MA_8 MAA8
C14 MA_9 MAA9
A12 MA_10 MAA10
B12 MA_11 MAA11
C12 MA_BA0 BA0
D14 MA_BA1 BA1
B15 MA_A12 MAA12_R
G14 MA_BA2 BA2

MAA[0..11] 27

BA0 27
BA1 27
BA2 27

Used for dual rank type 32Mx32 MEM only

R6926 2 1 0Ohm 5% MAA12 27

D30 DQMB_0 DQMA#0
G25 DQMB_1 DQMA#1
C26 DQMB_2 DQMA#2
C21 DQMB_3 DQMA#3
C5 DQMB_4 DQMA#4
D6 DQMB_5 DQMA#5
D2 DQMB_6 DQMA#6
K3 DQMB_7 DQMA#7

DQMA#[0..7] 27

write strobe read strobe

C30 QS_0 RDQSA0
D23 QS_1 RDQSA1
B26 QS_2 RDQSA2
B21 QS_3 RDQSA3
B6 QS_4 RDQSA4
E7 QS_5 RDQSA5
E2 QS_6 RDQSA6
J2 QS_7 RDQSA7

RDQSA[0..7] 27

C31 QS_0B WDQSA0
E23 QS_1B WDQSA1
A26 QS_2B WDQSA2
A21 QS_3B WDQSA3
A6 QS_4B WDQSA4
D7 QS_5B WDQSA5
E1 QS_6B WDQSA6
J1 QS_7B WDQSA7

WDQSA[0..7] 27

E20 ODT0
C11 ODT1

ODT[0:1] : Used for DDR2 only . NC for GDDR3 .

A18 CLK0 CLKA0
A11 CLK1 CLKA1

CLKA0 27
CLKA1 27

B18 CLK0B CLKA0#
B11 CLK1B CLKA1#

CLKA0# 27
CLKA1# 27

G20 RAS0B RASA0#
D12 RAS1B RASA1#

RASA0# 27
RASA1# 27

D20 CAS0B CASA0#
E12 CAS1B CASA1#

CASA0# 27
CASA1# 27

NO.89

Used for dual rank type 32Mx32 MEM only

F18 CS0B_0 CSA0_0#
G18 CS0B_1 CSA0_1#_R

CSA0_0# 27

R6923 2 1 0R0402-PAD CSA0_1# 27

G11 CS1B_0 CSA1_0#
E11 CS1B_1 CSA1_1#_R

CSA1_0# 27

R6925 2 1 0R0402-PAD CSA1_1# 27

D18 CKE0 CKEA0
G12 CKE1 CKEA1

CKEA0 27
CKEA1 27

D16 WE0B WEA0#
C10 WE1B WEA1#

WEA0# 27
WEA1# 27

J5 DRAM_RST

MEM_RST 27

R6884 1 2 4.7KOhm 5% +1.8V_RUN

( 0.5 * VDDR1 ) ( for SSTL-1.8/SSTL-2/DDR1/GDDR1/DDR2 )
( 0.7 * VDDR1 ) ( for GDDR3/GDDR4 )

| DIVIDER RESISTORS | DDR2 | DDR3 |
|---|---|---|
| MVREF TO 1.8V | 100R | 40.2R |
| MVREF TO GND | 100R | 100R |

+1.8V_RUN

R6877 40.2Ohm 1%
R6878 100Ohm 1%
C7085 0.1UF/10V MLCC/+/-10%
GND

+1.8V_RUN

R6879 40.2Ohm 1%
R6880 100Ohm 1%
C7086 0.1UF/10V MLCC/+/-10%
GND

R6881 4.7KOhm 5%
R6882 4.7KOhm 5%
R6883 240Ohm 1%
GND GND GND

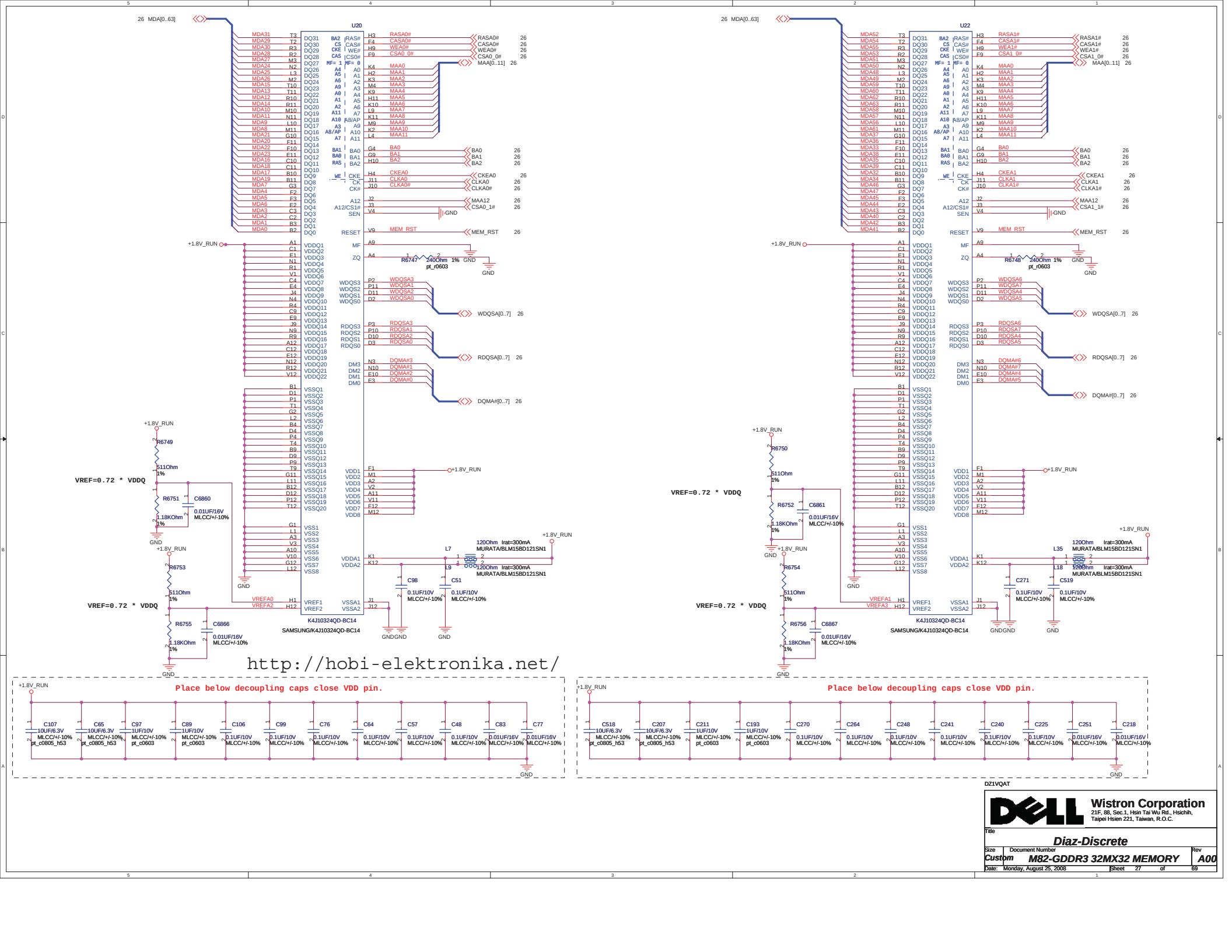
DZ1VQAT

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: Diaz-Discrete

Size: A3 | Document Number: M82-MEMORY INTERFACE | Rev: A00

Date: Monday, August 25, 2008 | Sheet 26 of 69

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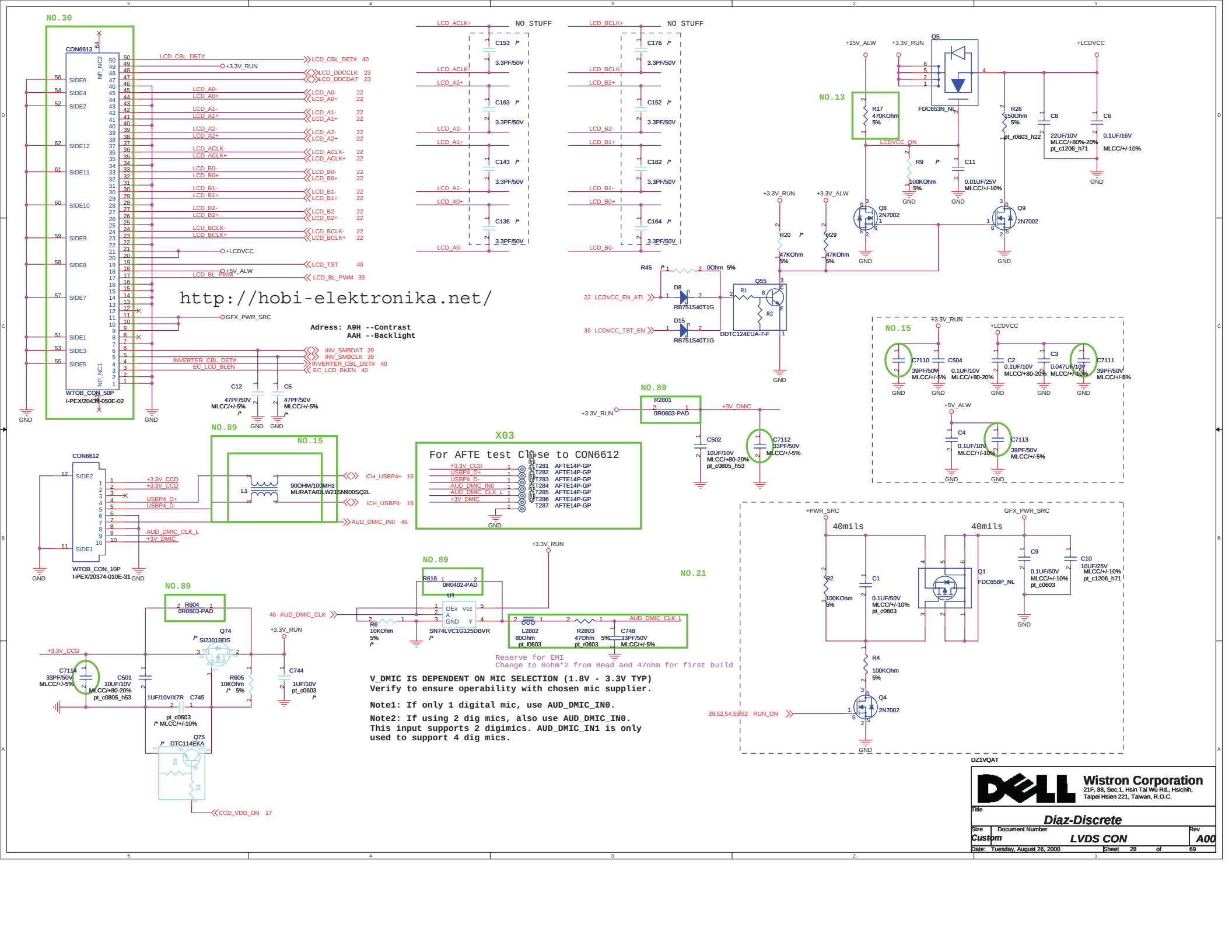
Title: Diaz-Discrete

| Size | Document Number | Rev |
|---|---|---|
| Custom | M82-GDDR3 32MX32 MEMORY | A00 |

Date: Monday, August 25, 2008 Sheet 27 of 69


NO.30
CON6613
WTOB_CON_50P
I-PEX/20439-050E-02
LCD_CBL_DET#
+3.3V_RUN
LCD_DDCCLK
LCD_DDCDAT
LCD_A0-
LCD_A0+
LCD_A1-
LCD_A1+
LCD_A2-
LCD_A2+
LCD_ACLK-
LCD_ACLK+
LCD_B0-
LCD_B0+
LCD_B1-
LCD_B1+
LCD_B2-
LCD_B2+
LCD_BCLK-
LCD_BCLK+
+LCDVCC
LCD_TST
+5V_ALW
LCD_BL_PWM
GFX_PWR_SRC
INV_SMBDAT
INV_SMBCLK
INVERTER_CBL_DET#
EC_LCD_BLEN
EC_LCD_BKEN
C12
47PF/50V
MLCC/+/-5%
C5
GND
http://hobi-elektronika.net/
Adress: A9H --Contrast
AAH --Backlight
LCD_ACLK+
NO STUFF
C153
3.3PF/50V
C163
C143
C136
LCD_BCLK+
C176
C152
C182
C164
NO.13
R17
470KOhm
5%
FDC653N_NL
Q5
+15V_ALW
+3.3V_RUN
+LCDVCC
R26
150Ohm
pt_r0603_h22
C8
22UF/10V
MLCC/+80%-20%
pt_c1206_h71
C6
0.1UF/16V
MLCC/+/-10%
LCDVCC_ON
R9
100KOhm
C11
0.01UF/25V
Q8
2N7002
Q9
R20
47KOhm
R29
R45
0Ohm
Q55
DDTC124EUA-7-F
D8
RB751S40T1G
D15
22 LCDVCC_EN_ATI
39 LCDVCC_TST_EN
NO.89
R2801
0R0603-PAD
+3V_DMIC
C502
10UF/10V
MLCC/+80-20%
pt_c0805_h53
C7112
33PF/50V
MLCC/+/-5%
NO.15
C7110
39PF/50V
C504
0.1UF/10V
C2
C3
0.047UF/10V
C7111
C4
C7113
X03
For AFTE test Close to CON6612
+3.3V_CCD
USBP4_D+
USBP4_D-
AUD_DMIC_CLK_L
+3V_DMIC
T281 AFTE14P-GP
T282 AFTE14P-GP
T283 AFTE14P-GP
T284 AFTE14P-GP
T285 AFTE14P-GP
T286 AFTE14P-GP
T287 AFTE14P-GP
CON6612
WTOB_CON_10P
I-PEX/20374-010E-31
L1
90OHM/100MHz
MURATA/DLW21SN900SQ2L
ICH_USBP4+
ICH_USBP4-
AUD_DMIC_IN0
NO.89
R604
0R0603-PAD
Q74
SI2301BDS
C7114
33PF/50V
C501
10UF/10V
R605
10KOhm
5%
C744
1UF/10V
pt_c0603
1UF/10V/X7R
C745
pt_c0603
/* MLCC/+/-10%
Q75
DTC114EKA
CCD_VDD_ON
NO.89
R616
0R0402-PAD
U1
SN74LVC1G125DBVR
R6
10KOhm
5%
46 AUD_DMIC_CLK
L2802
80Ohm
pt_l0603
R2803
47Ohm
pt_r0603
C748
33PF/50V
MLCC/+/-5%
AUD_DMIC_CLK_L
NO.21
Reserve for EMI
Change to 0ohm*2 from Bead and 47ohm for first build
V_DMIC IS DEPENDENT ON MIC SELECTION (1.8V - 3.3V TYP)
Verify to ensure operability with chosen mic supplier.
Note1: If only 1 digital mic, use AUD_DMIC_IN0.
Note2: If using 2 dig mics, also use AUD_DMIC_IN0.
This input supports 2 digimics. AUD_DMIC_IN1 is only
used to support 4 dig mics.
+PWR_SRC
40mils
GFX_PWR_SRC
C1
0.1UF/50V
Q1
FDC658P_NL
C9
0.1UF/50V
C10
10UF/25V
R4
100KOhm
Q4
2N7002
39,52,54,59,62 RUN_ON
DZ1VQAT
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
Diaz-Discrete
Size
Custom
Document Number
LVDS CON
Rev
A00
Date: Tuesday, August 26, 2008
Sheet 28 of 69

Setting R,G,B treac impedance to 50 ohm.

In addition to these 150 ohm terminations at the connector, 150 ohm terminations are also required at the Source. Route from source (GPU) at 50 ohm terget impedance.

Put D2202, 2203, 2204 as close as possible to CON2201 (D-sub connector)

M08 USE CH501

M08 USE CH501

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Place near U2202 < 200 mils

For AFTE test Close to CON6607

PLACE NEAR CON1 <200 mils

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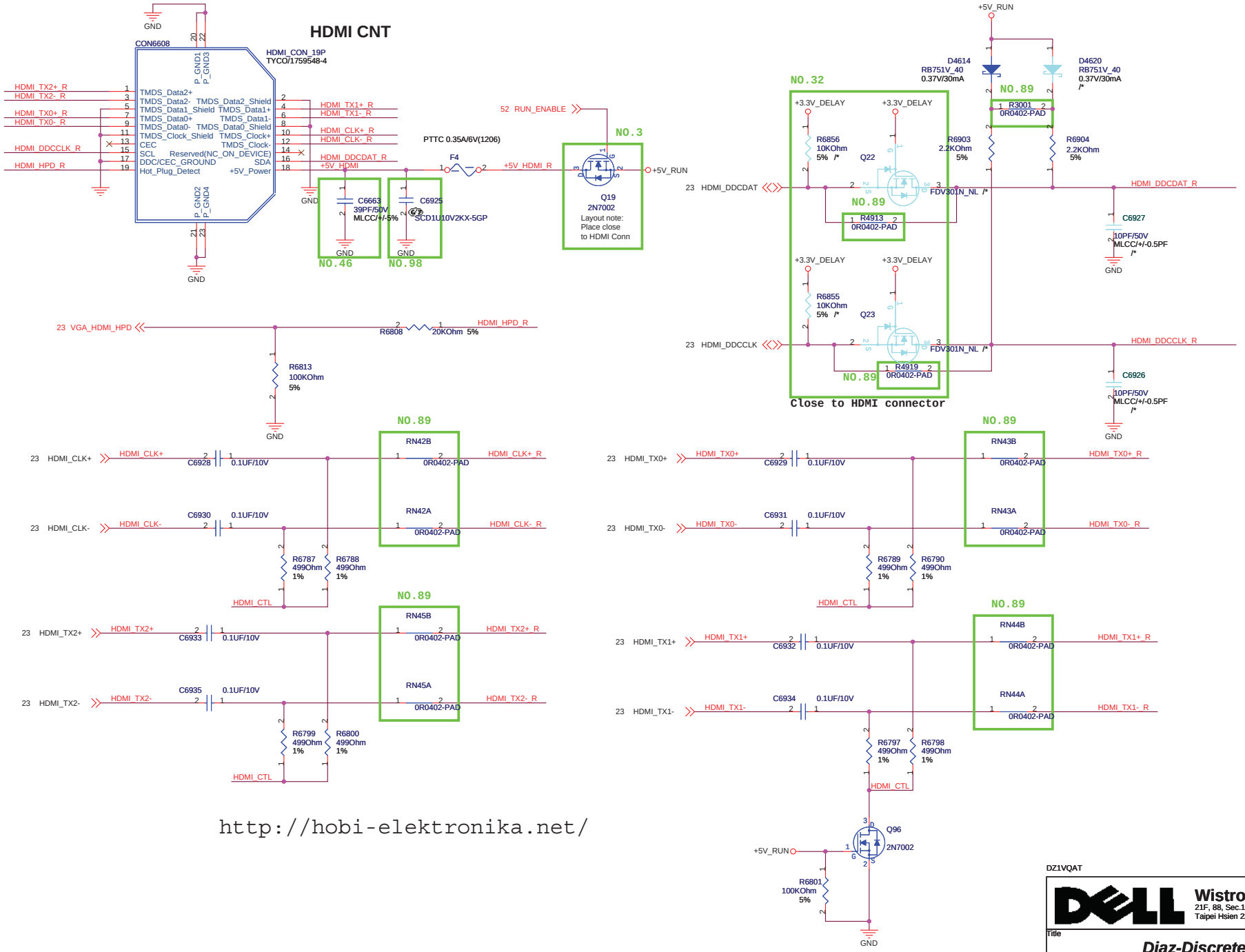
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: Diaz-Discrete

Size: A3 | Document Number: VGA CRT CON | Rev: A00

Date: Monday, August 25, 2008 | Sheet 29 of 69

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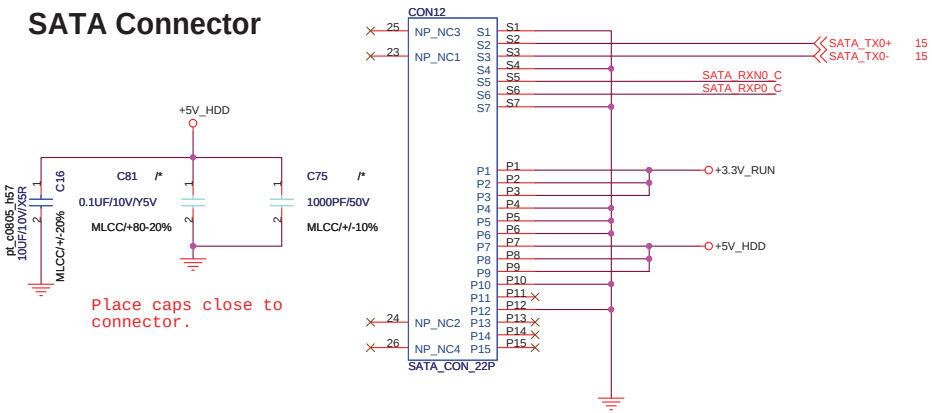
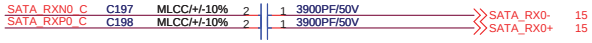
Title: Diaz-Discrete

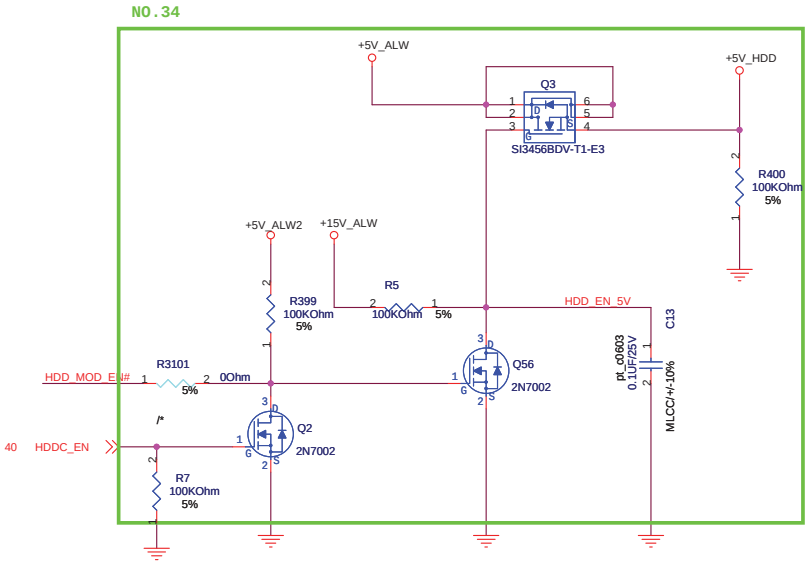
| Size | Document Number | Rev |
|---|---|---|
| A3 | HDMI | A00 |

Date: Monday, August 25, 2008 Sheet 30 of 69

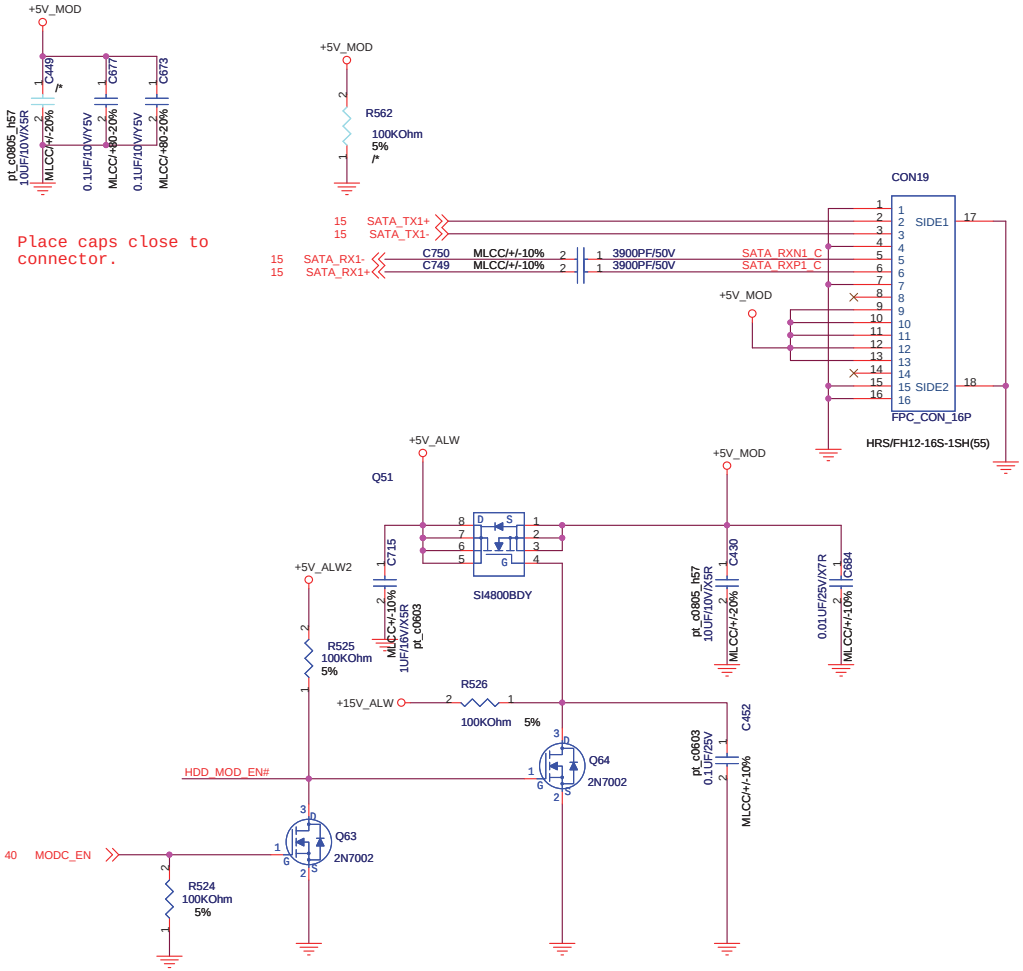
## SATA Connector




## ODD Connector




DZ1VQAT

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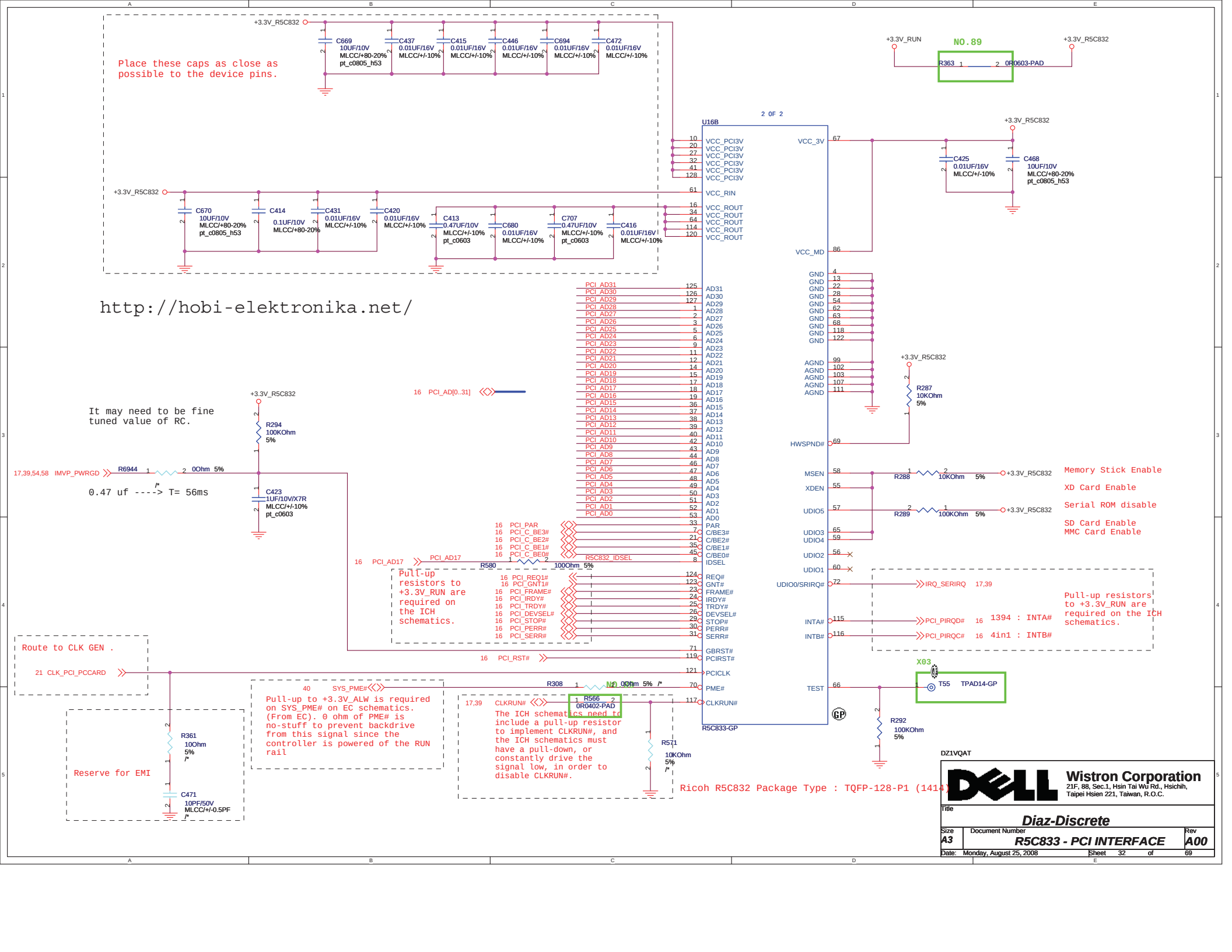
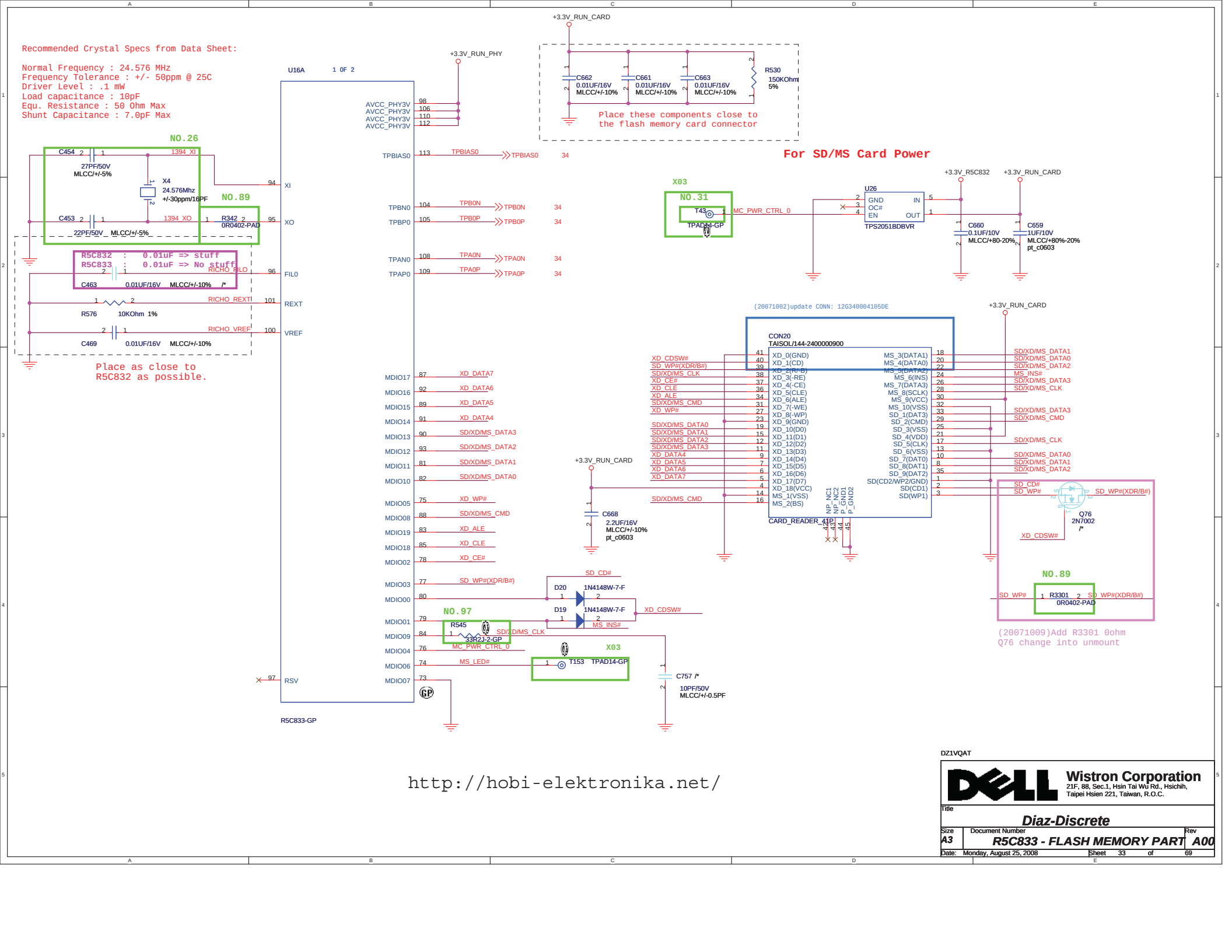
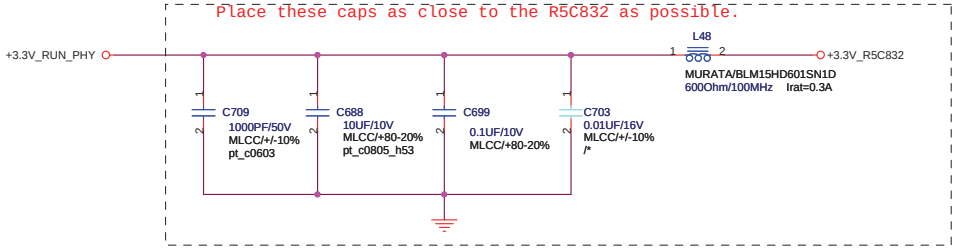
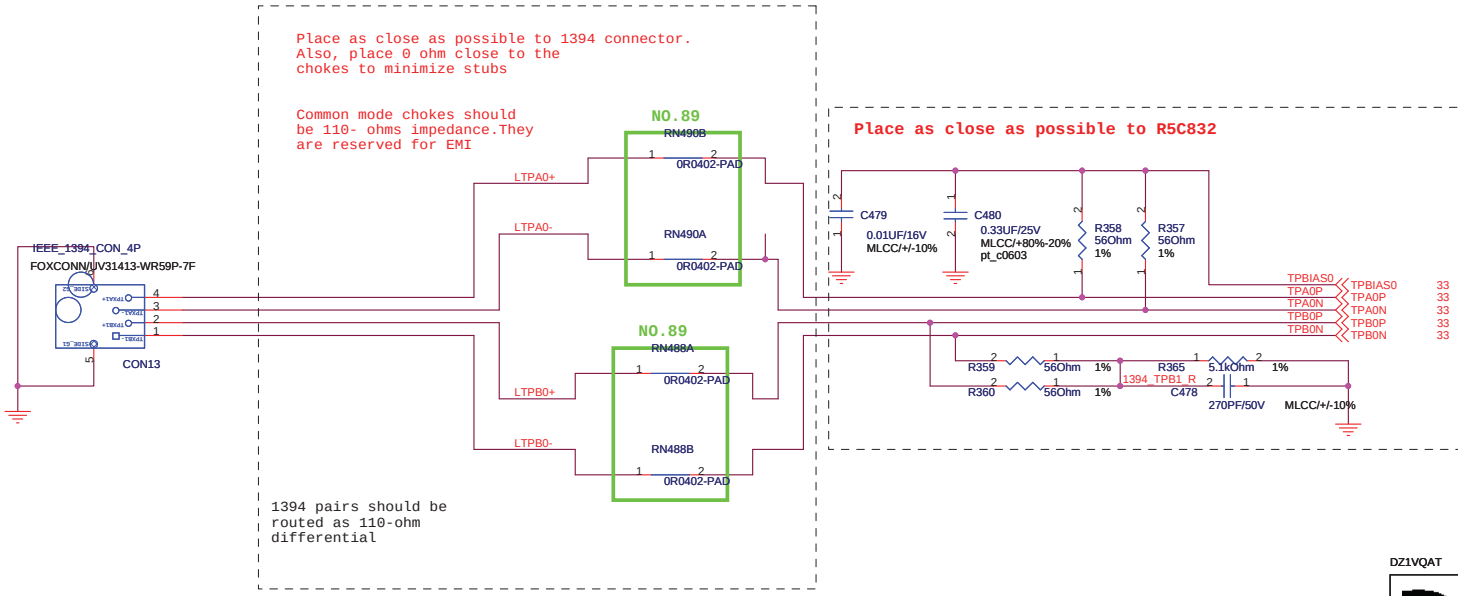
| | | |
|---|---|---|
| Title | Diaz-Discrete | |
| Size: A3 | Document Number: SATA(HDD & CD_ROM) | Rev: A00 |
| Date: Monday, August 25, 2008 | Sheet 31 of 69 | |


Place these caps as close as possible to the device pins.
+3.3V_R5C832
C669 10UF/10V MLCC/+80-20% pt_c0805_h53
C437 0.01UF/16V MLCC/+/-10%
C415 0.01UF/16V MLCC/+/-10%
C446 0.01UF/16V MLCC/+/-10%
C694 0.01UF/16V MLCC/+/-10%
C472 0.01UF/16V MLCC/+/-10%
+3.3V_RUN
NO.89
R363 0R0603-PAD
2 0F 2
U16B
VCC_PCI3V
VCC_RIN
VCC_ROUT
VCC_3V
VCC_MD
C670 10UF/10V MLCC/+80-20% pt_c0805_h53
C414 0.1UF/10V MLCC/+80-20%
C431 0.01UF/16V MLCC/+/-10%
C420 0.01UF/16V MLCC/+/-10%
C413 0.47UF/10V MLCC/+/-10% pt_c0603
C680 0.01UF/16V MLCC/+/-10%
C707 0.47UF/10V MLCC/+/-10% pt_c0603
C416 0.01UF/16V MLCC/+/-10%
C425 0.01UF/16V MLCC/+/-10%
C468 10UF/10V MLCC/+80-20% pt_c0805_h53
http://hobi-elektronika.net/
GND
AGND
HWSPND#
R287 10KOhm 5%
R288 10KOhm 5%
R289 100KOhm 5%
Memory Stick Enable
XD Card Enable
Serial ROM disable
SD Card Enable
MMC Card Enable
It may need to be fine tuned value of RC.
R294 100KOhm 5%
17,39,54,58 IMVP_PWRGD
R6944 0Ohm 5%
0.47 uf ----> T= 56ms
C423 1UF/10V/X7R MLCC/+/-10% pt_c0603
16 PCI_AD[0..31]
PCI_AD31
PCI_AD30
PCI_AD29
PCI_AD28
PCI_AD27
PCI_AD26
PCI_AD25
PCI_AD24
PCI_AD23
PCI_AD22
PCI_AD21
PCI_AD20
PCI_AD19
PCI_AD18
PCI_AD17
PCI_AD16
PCI_AD15
PCI_AD14
PCI_AD13
PCI_AD12
PCI_AD11
PCI_AD10
PCI_AD9
PCI_AD8
PCI_AD7
PCI_AD6
PCI_AD5
PCI_AD4
PCI_AD3
PCI_AD2
PCI_AD1
PCI_AD0
AD31
AD30
AD29
AD28
AD27
AD26
AD25
AD24
AD23
AD22
AD21
AD20
AD19
AD18
AD17
AD16
AD15
AD14
AD13
AD12
AD11
AD10
AD9
AD8
AD7
AD6
AD5
AD4
AD3
AD2
AD1
AD0
16 PCI_PAR
16 PCI_C_BE3#
16 PCI_C_BE2#
16 PCI_C_BE1#
16 PCI_C_BE0#
PAR
C/BE3#
C/BE2#
C/BE1#
C/BE0#
16 PCI_AD17
R580 100Ohm 5%
R5C832_IDSEL
IDSEL
Pull-up resistors to +3.3V_RUN are required on the ICH schematics.
16 PCI_REQ1#
16 PCI_GNT1#
16 PCI_FRAME#
16 PCI_IRDY#
16 PCI_TRDY#
16 PCI_DEVSEL#
16 PCI_STOP#
16 PCI_PERR#
16 PCI_SERR#
REQ#
GNT#
FRAME#
IRDY#
TRDY#
DEVSEL#
STOP#
PERR#
SERR#
UDIO0/SRIRQ#
IRQ_SERIRQ 17,39
INTA#
INTB#
PCI_PIRQD# 16 1394 : INTA#
PCI_PIRQC# 16 4in1 : INTB#
Pull-up resistors to +3.3V_RUN are required on the ICH schematics.
16 PCI_RST#
GBRST#
PCIRST#
Route to CLK GEN .
21 CLK_PCI_PCCARD
PCICLK
X03
T55 TPAD14-GP
TEST
R308 0Ohm 5% /*
40 SYS_PME#
Pull-up to +3.3V_ALW is required on SYS_PME# on EC schematics. (From EC). 0 ohm of PME# is no-stuff to prevent backdrive from this signal since the controller is powered of the RUN rail
PME#
17,39 CLKRUN#
R566 0R0402-PAD
The ICH schematics need to include a pull-up resistor to implement CLKRUN#, and the ICH schematics must have a pull-down, or constantly drive the signal low, in order to disable CLKRUN#.
CLKRUN#
R571 10KOhm 5% /*
R292 100KOhm 5%
Reserve for EMI
R361 10Ohm 5% /*
C471 10PF/50V MLCC/+/-0.5PF /*
R5C833-GP
Ricoh R5C832 Package Type : TQFP-128-P1 (1414)
DZ1VQAT
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title
Diaz-Discrete
Size A3
Document Number R5C833 - PCI INTERFACE
Rev A00
Date: Monday, August 25, 2008
Sheet 32 of 69


Recommended Crystal Specs from Data Sheet:
Normal Frequency : 24.576 MHz
Frequency Tolerance : +/- 50ppm @ 25C
Driver Level : .1 mW
Load capacitance : 10pF
Equ. Resistance : 50 Ohm Max
Shunt Capacitance : 7.0pF Max
NO.26
NO.89
C454 27PF/50V MLCC/+/-5%
X4 24.576Mhz +/-30ppm/16PF
C453 22PF/50V MLCC/+/-5%
R342 0R0402-PAD
R5C832 : 0.01uF => stuff
R5C833 : 0.01uF => No stuff
C463 0.01UF/16V MLCC/+/-10% /*
R576 10KOhm 1%
C469 0.01UF/16V MLCC/+/-10%
Place as close to R5C832 as possible.
U16A 1 OF 2
R5C833-GP
+3.3V_RUN_PHY
+3.3V_RUN_CARD
C662 0.01UF/16V MLCC/+/-10%
C661 0.01UF/16V MLCC/+/-10%
C663 0.01UF/16V MLCC/+/-10%
R530 150KOhm 5%
Place these components close to the flash memory card connector
For SD/MS Card Power
X03
NO.31
T43 TPAD14-GP
MC_PWR_CTRL_0
U26
GND IN
OC#
EN OUT
TPS2051BDBVR
+3.3V_R5C832
C660 0.1UF/10V MLCC/+80-20%
C659 1UF/10V MLCC/+80%-20% pt_c0603
(20071002)update CONN: 12G340004105DE
CON20
TAISOL/144-2400000900
CARD_READER_41P
C668 2.2UF/16V MLCC/+/-10% pt_c0603
D20 1N4148W-7-F
D19 1N4148W-7-F
R545 33R2J-2-GP
T153 TPAD14-GP
C757 /* 10PF/50V MLCC/+/-0.5PF
Q76 2N7002 /*
R3301 0R0402-PAD
(20071009)Add R3301 0ohm
Q76 change into unmount
http://hobi-elektronika.net/
DZ1VQAT
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
Diaz-Discrete
Size A3
Document Number R5C833 - FLASH MEMORY PART
Rev A00
Date: Monday, August 25, 2008
Sheet 33 of 69




DZ1VQAT

**Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

| | | |
|---|---|---|
| Title | *Diaz-Discrete* | |
| Size: *A3* | Document Number: *R5C833 - IEEE1394 PART* | Rev: *A00* |
| Date: Monday, August 25, 2008 | Sheet 34 of 69 | |

# Express Card

NO.89

RN499B
16 ICH_USBP7- — 1 — 2 — 0R0402-PAD — USBP7_D-
RN499A
16 ICH_USBP7+ — 1 — 2 — 0R0402-PAD — USBP7_D+

(20071005)for choke & 0ohm colayout

+3.3V_CARD
C657 0.1UF/10V MLCC/+80-20%
C656 0.1UF/10V MLCC/+80-20%
C658 10UF/10V MLCC/+80-20% pt_c0805_h53

Please the cap near connector.

+1.5V_CARD
C379 0.1UF/10V MLCC/+80-20%
C381 0.1UF/10V MLCC/+80-20%

Please the cap near connector.

+1.5V_CARD Max. 650mA, Average 500mA.
+3V_CARD Max. 1300mA, Average 1000mA.

+1.5V_RUN +3.3V_RUN +3.3V_SUS +3.3V_CARDAUX +3.3V_CARD +1.5V_CARD

NO.5

U13
AUXIN 3.3VIN NC1 1.5VIN NC4
AUXOUT 3.3VOUT NC2 1.5VOUT NC3
SHDN# STBY# SYSRST#
PERST# CPPE# CPUSB# OC#
NC5 GND1
GND2 RCLKEN
TPS2231MRGPR

+3.3V_SUS R221 100KOhm 5%
40 EXPRCRD_STDBY# R230 0Ohm 5% /*
10,16,36,37,38,39 PLTRST#
R36 100Ohm 1%

NO.12

CARD_RESET#
EXPRCRD_PWREN# R216 100KOhm 5%
CPUSB# R220 100KOhm 5%

CON8
JAE/PX10ABSB00
1 P_GND1 2 NP_NC1 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 NP_NC2 26 P_GND2
29 27 28 30
EXPRESS_CARD_26P

USBP7_D-
USBP7_D+
CPUSB#
17 ICH_SMBCLK
17 ICH_SMBDATA
+1.5V_CARD
+3.3V_CARDAUX 36,37,38,39,50 PCIE_WAKE#
CARD_RESET#
+3.3V_CARD
21 CARD_CLK_REQ#
40 EXPRCRD_PWREN# EXPRCRD_PWREN#
21 CLK_PCIE_EXPCARD#
21 CLK_PCIE_EXPCARD
16 PCIE_RX4-
16 PCIE_RX4+
16 PCIE_TX4-
16 PCIE_TX4+

PCI-Express TX and RX direct to connector .

+1.5V_RUN
C371 0.1UF/10V MLCC/+80-20%
Please the cap near pin 12 & 14 (1.5VIN).

+3.3V_RUN
C385 0.1UF/10V MLCC/+80-20%
Please the cap near pin 2 & 4 (3.3VIN).

+3.3V_SUS
C376 0.1UF/10V MLCC/+80-20%
Please the cap near pin 17 (AUXIN).

+3.3V_CARDAUX
C370 0.1UF/10V MLCC/+80-20%
Please the cap near pin 15 (AUXOUT).

+3.3V_CARD
C384 0.1UF/10V MLCC/+80-20%
Please the cap near pin 3 & 5 (3.3VOUT).

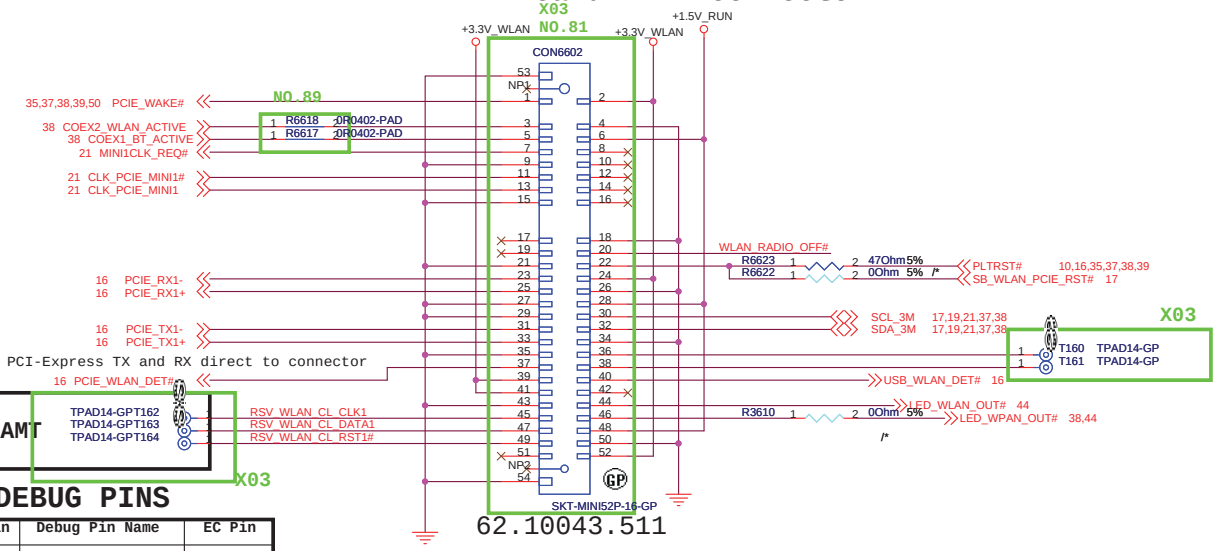
+1.5V_CARD
C372 0.1UF/10V MLCC/+80-20%
Please the cap near pin 11 & 13 (1.5VOUT).

DZ1VQAT

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

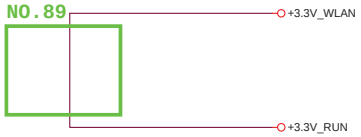
Title: Diaz-Discrete
Size: A3 | Document Number: PCI-Express Card | Rev: A00
Date: Monday, August 25, 2008 | Sheet 35 of 69

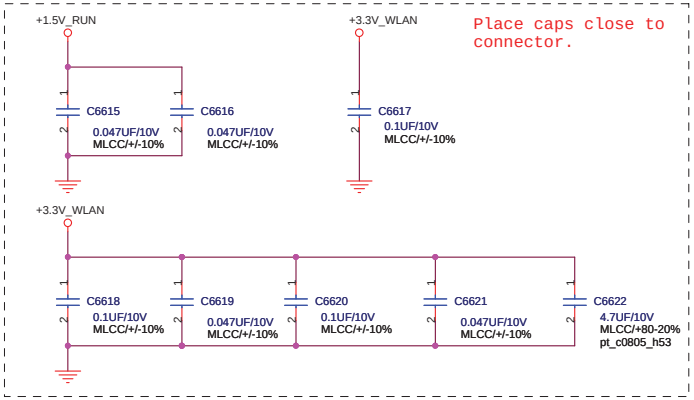
# MiniCard WLAN connector

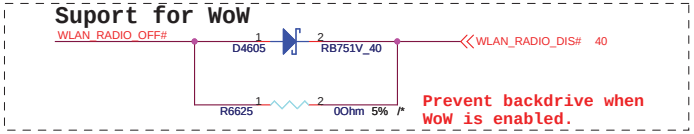



## DEBUG PINS

| JMINI Pin | Debug Pin Name | EC Pin |
|---|---|---|
| 16 | HOST_DEBUG_TX | 70 |
| 17 | HOST_DEBUG_RX | 71 |
| 19 | 8051_TX | 82 |
| 42 | 8051_RX | 81 |
| | | |



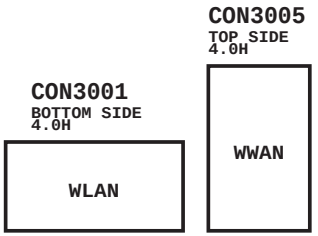




DZ1VQAT

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

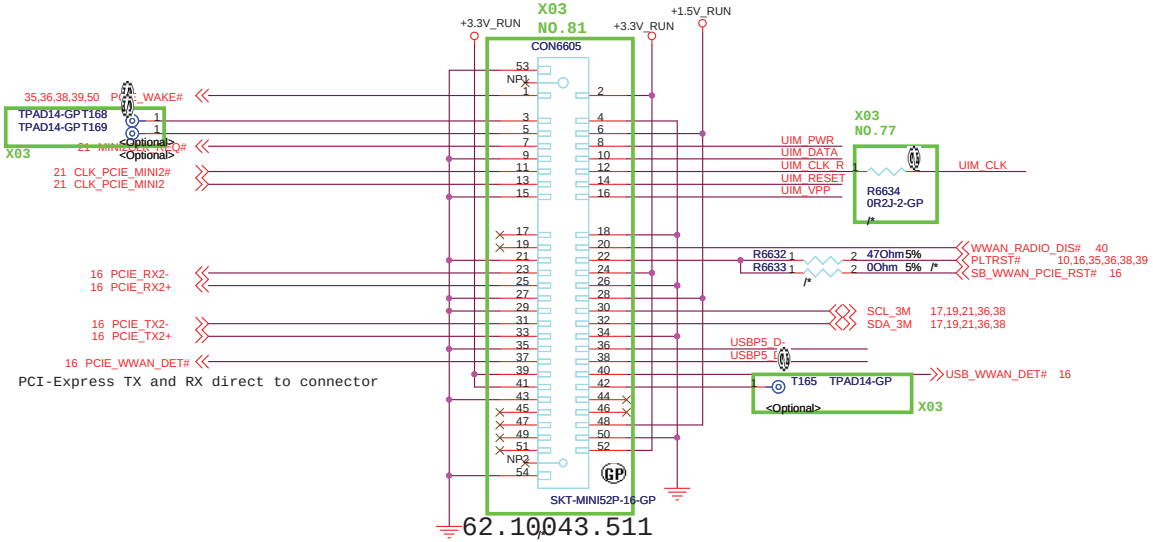
| | | |
|---|---|---|
| Title | Diaz-Discrete | |
| Size: A3 | Document Number: MINI CARD - Kedron | Rev: A00 |
| Date: Monday, August 25, 2008 | Sheet 36 of 69 | |

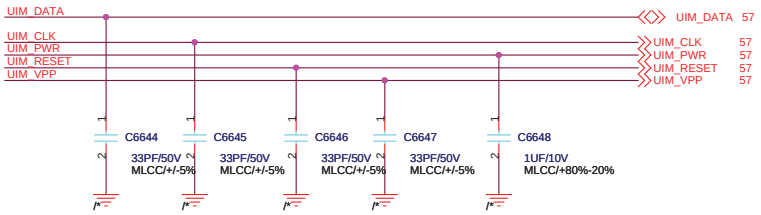
## MiniCard Relative Location ( TOP VIEW ):

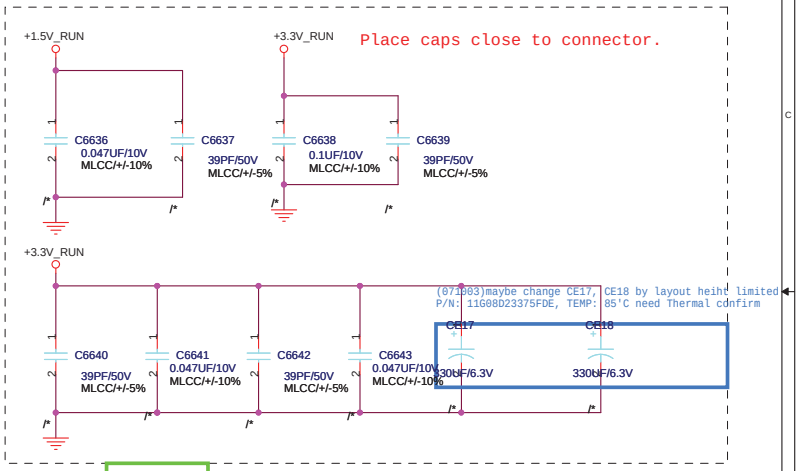


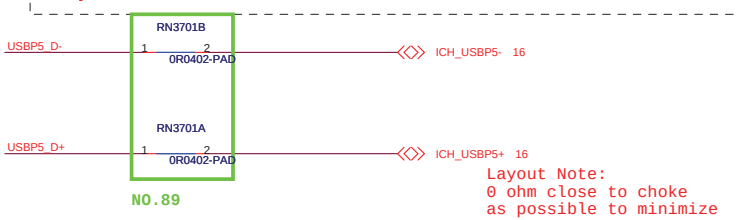

MiniCard * 2 Absolutely Location ( TOP VIEW ):
Upper / Right side on MB

# MiniCard WWAN connector



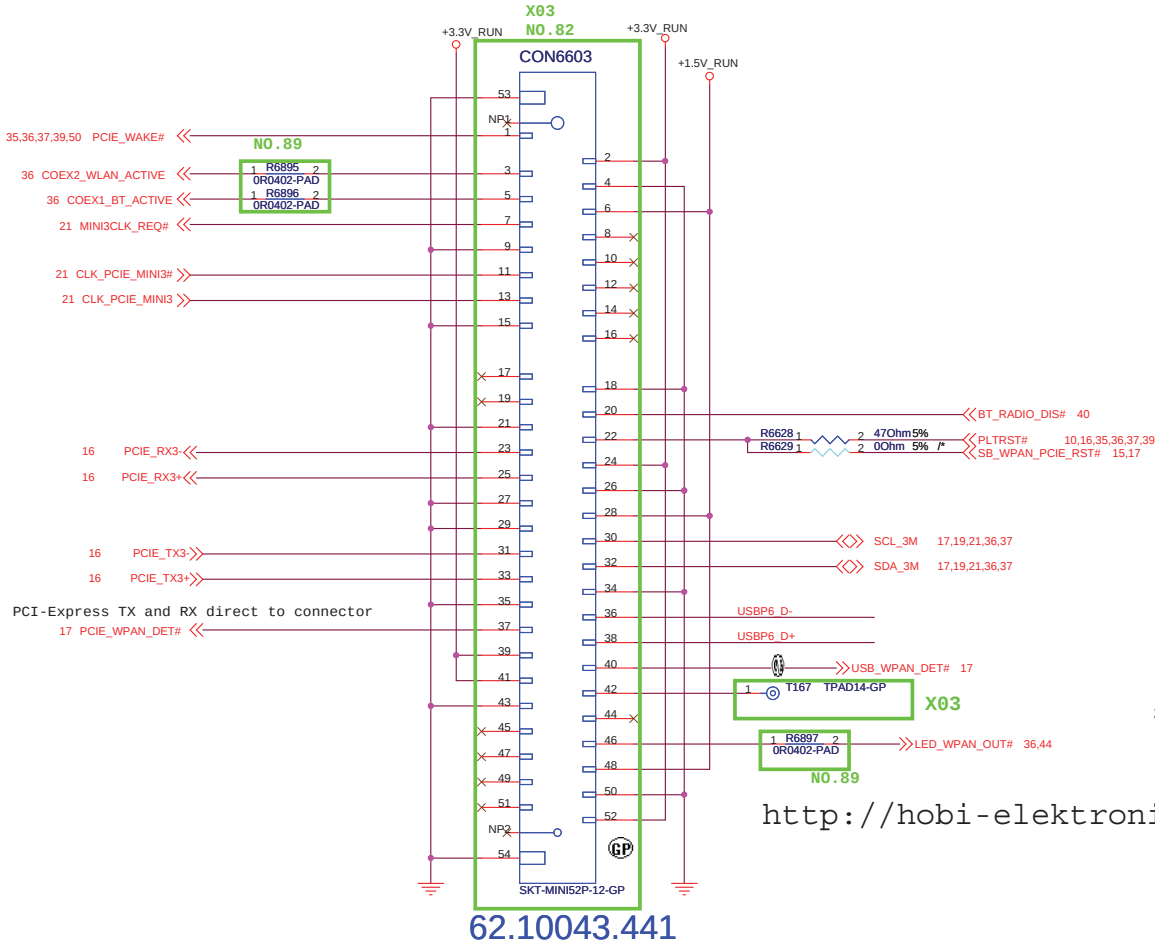

Layout Note:
0 ohm close to choke as possible to minimize stubs.

DZ1VQAT

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

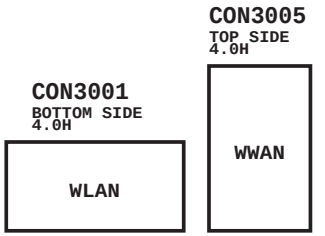
| | | |
|---|---|---|
| Title | Diaz-Discrete | |
| Size: A3 | Document Number: MINI CARD - Robson | Rev: A00 |
| Date: Monday, August 25, 2008 | Sheet 37 of 69 | |

# MiniCard WPAN connector

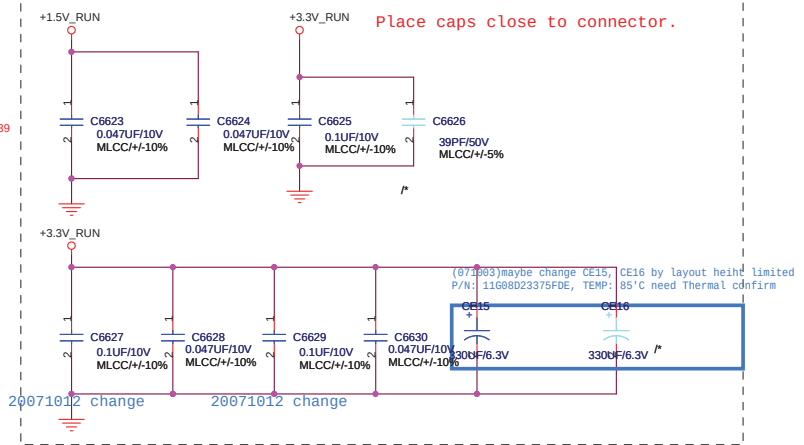



62.10043.441

## MiniCard Relative Location ( TOP VIEW ):




MiniCard * 2 Absolutely Location ( TOP VIEW ):
Upper / Right side on MB

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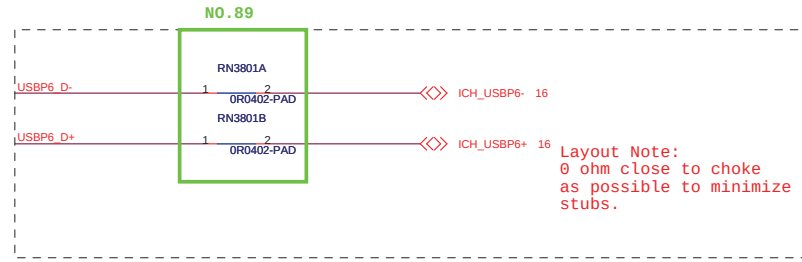
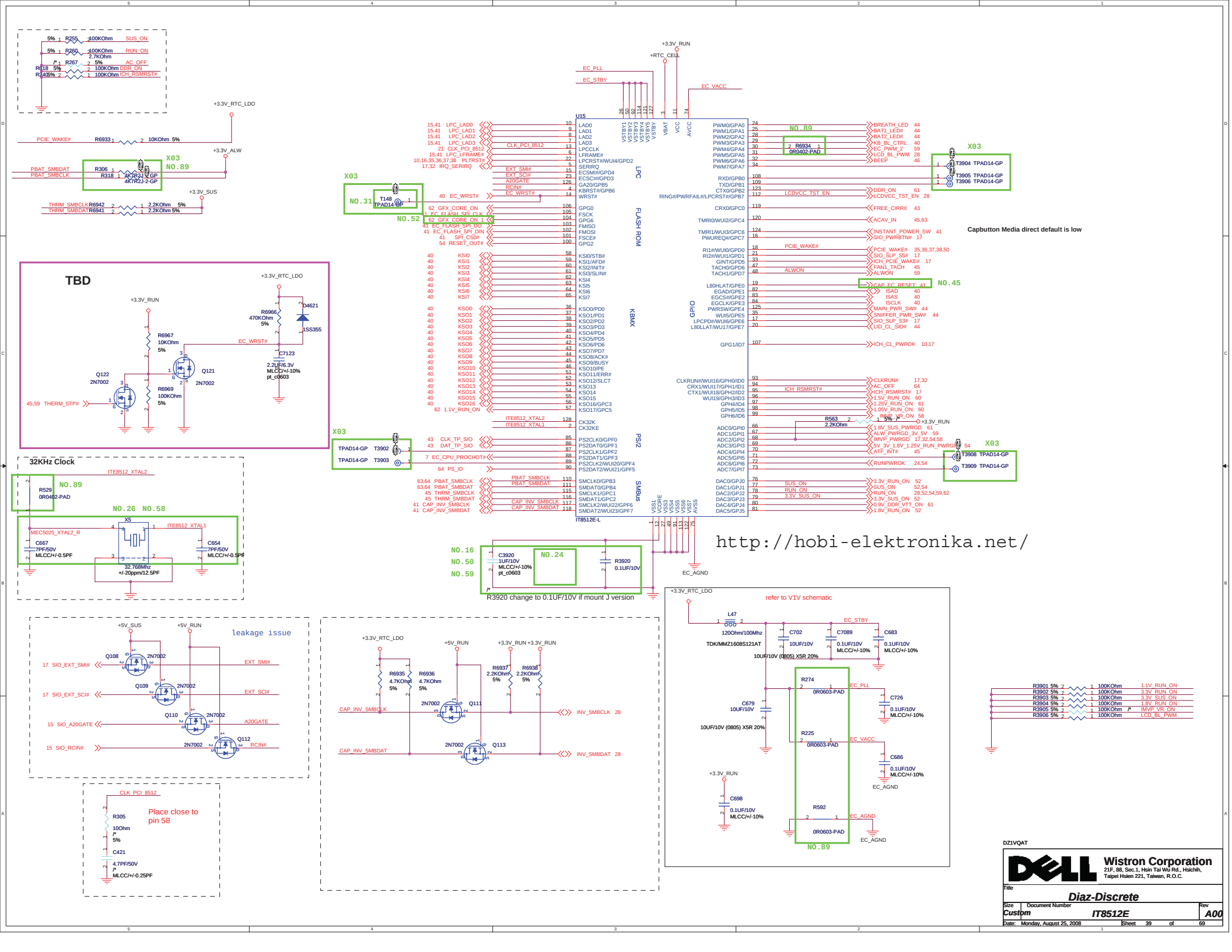



DZ1VQAT

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

| | | |
|---|---|---|
| Title | Diaz-Discrete | |
| Size: A3 | Document Number: MINI CARD - Robson | Rev: A00 |
| Date: Monday, August 25, 2008 | Sheet 38 of 69 | |


R255 100KOhm SUS_ON
R260 100KOhm 2.7KOhm RUN_ON
R267 5% AC_OFF
R618 100KOhm DDR_ON
R240 100KOhm ICH_RSMRST#
+3.3V_RTC_LDO
PCIE_WAKE# R6933 10KOhm 5%
+3.3V_ALW
PBAT_SMBDAT PBAT_SMBCLK R306 R318 4K7R2J-2-GP
X03 NO.89
+3.3V_SUS
THRM_SMBCLK R6942 2.2KOhm 5%
THRM_SMBDAT R6941 2.2KOhm 5%
TBD
+3.3V_RUN
+3.3V_RTC_LDO
R6967 10KOhm 5%
R6966 470KOhm 5%
D4621 1SS355
EC_WRST#
C7123 2.2UF/6.3V MLCC/+/-10% pt_c0603
Q122 2N7002
Q121 2N7002
R6969 100KOhm 5%
45,59 THERM_STP#
32KHz Clock
ITE8512_XTAL2
R529 0R0402-PAD NO.89
NO.26 NO.58
X5
MEC5025_XTAL2_R
ITE8512_XTAL1
C667 7PF/50V MLCC/+/-0.5PF
C654 7PF/50V MLCC/+/-0.5PF
32.768Mhz +/-20ppm/12.5PF
U15
LAD0 LAD1 LAD2 LAD3 LPCCLK LFRAME# LPCRST#/WUI4/GPD2 SERIRQ ECSMI#/GPD4 ECSCI#/GPD3 GA20/GPB5 KBRST#/GPB6 WRST#
LPC
GPG0 FSCK GPG6 FMISO FMOSI FSCE# GPG2
FLASH ROM
KSI0/STB# KSI1/AFD# KSI2/INIT# KSI3/SLIN# KSI4 KSI5 KSI6 KSI7
KSO0/PD0 KSO1/PD1 KSO2/PD2 KSO3/PD3 KSO4/PD4 KSO5/PD5 KSO6/PD6 KSO7/PD7 KSO8/ACK# KSO9/BUSY KSO10/PE KSO11/ERR# KSO12/SLCT KSO13 KSO14 KSO15 KSO16/GPC3 KSO17/GPC5
KBMX
CK32K CK32KE
PS2CLK0/GPF0 PS2DAT0/GPF1 PS2CLK1/GPF2 PS2DAT1/GPF3 PS2CLK2/WUI20/GPF4 PS2DAT2/WUI21/GPF5
PS2
SMCLK0/GPB3 SMDAT0/GPB4 SMCLK1/GPC1 SMDAT1/GPC2 SMCLK2/WUI22/GPF6 SMDAT2/WUI23/GPF7
SMBUS
IT8512E-L
PWM0/GPA0 PWM1/GPA1 PWM2/GPA2 PWM3/GPA3 PWM4/GPA4 PWM5/GPA5 PWM6/GPA6 PWM7/GPA7
RXD/GPB0 TXD/GPB1 CTX0/GPB2 RING#/PWRFAIL#/LPCRST#/GPB7 CRX0/GPC0 TMRI0/WUI2/GPC4 TMRI1/WUI3/GPC6 PWUREQ#/GPC7
RI1#/WUI0/GPD0 RI2#/WUI1/GPD1 GINT/GPD5 TACH0/GPD6 TACH1/GPD7 L80HLAT/GPE0 EGAD/GPE1 EGCS#/GPE2 EGCLK/GPE3 PWRSW/GPE4 WUI5/GPE5 LPCPD#/WUI6/GPE6 L80LLAT/WUI7/GPE7 GPG1/ID7
GPIO
CLKRUN#/WUI16/GPH0/ID0 CRX1/WUI17/GPH1/ID1 CTX1/WUI18/GPH2/ID2 WUI19/GPH3/ID3 GPH4/ID4 GPH5/ID5 GPH6/ID6
ADC0/GPI0 ADC1/GPI1 ADC2/GPI2 ADC3/GPI3 ADC4/GPI4 ADC5/GPI5 ADC6/GPI6 ADC7/GPI7
DAC0/GPJ0 DAC1/GPJ1 DAC2/GPJ2 DAC3/GPJ3 DAC4/GPJ4 DAC5/GPJ5
VSS1 VCORE VSS3 VSS4 VSS5 VSS6 VSS7 AVSS
VBAT VCC AVCC
VSTBY1 VSTBY2 VSTBY3 VSTBY4 VSTBY5 VSTBY
+3.3V_RUN +RTC_CELL EC_PLL EC_STBY EC_VACC
X03 NO.31 T148 TPAD14-GP
NO.52
X03 TPAD14-GP T3902 TPAD14-GP T3903
NO.16 NO.59 NO.24
C3920 1UF/10V MLCC/+/-10% pt_c0603
R3920 0.1UF/10V
R3920 change to 0.1UF/10V if mount J version
EC_AGND
NO.89 R6934 0R0402-PAD
X03 T3904 TPAD14-GP T3905 TPAD14-GP T3906 TPAD14-GP
BREATH_LED BAT1_LED# BAT2_LED# KB_BL_CTRL EC_PWM_2 LCD_BL_PWM BEEP
DDR_ON LCDVCC_TST_EN LCDVCC_TST_EN
FREE_CIRRX ACAV_IN
INSTANT_POWER_SW SIO_PWRBTN#
PCIE_WAKE# SIO_SLP_S5# ICH_PCIE_WAKE# FAN1_TACH ALWON
CAP_EC_RESET
NO.45
ISAD ISAS ISCLK MAIN_PWR_SW# SNIFFER_PWR_SW# SIO_SLP_S3# LID_CL_SI0#
ICH_CL_PWROK
Capbutton Media direct default is low
CLKRUN# AC_OFF ICH_RSMRST# 1.5V_RUN_ON 1.25V_RUN_ON 1.05V_RUN_ON IMVP_VR_ON
R563 2.2KOhm +3.3V_RUN
1.8V_SUS_PWRGD ALW_PWRGD_3V_5V IMVP_PWRGD 5V_3V_1.8V_1.25V_RUN_PWRGD ATF_INT#
X03 T3908 TPAD14-GP T3909 TPAD14-GP
RUNPWROK
SUS_ON RUN_ON 3.3V_SUS_ON
3.3V_RUN_ON SUS_ON RUN_ON 3.3V_SUS_ON 0.9V_DDR_VTT_ON 1.8V_RUN_ON
http://hobi-elektronika.net/
leakage issue
+5V_SUS +5V_RUN
Q108 2N7002 17 SIO_EXT_SMI# EXT_SMI#
Q109 2N7002 17 SIO_EXT_SCI# EXT_SCI#
Q110 2N7002 15 SIO_A20GATE A20GATE
Q112 2N7002 15 SIO_RCIN# RCIN#
+3.3V_RTC_LDO +5V_RUN +3.3V_RUN +3.3V_RUN
R6935 4.7KOhm 5%
R6936 4.7KOhm 5%
R6937 2.2KOhm 5%
R6938 2.2KOhm 5%
Q111 2N7002
Q113 2N7002
CAP_INV_SMBCLK INV_SMBCLK 28
CAP_INV_SMBDAT INV_SMBDAT 28
CLK_PCI_8512
R305 10Ohm /* 5%
C421 4.7PF/50V /* MLCC/+/-0.25PF
Place close to pin 58
+3.3V_RTC_LDO
refer to V1V schematic
L47 120Ohm/100Mhz TDK/MMZ1608S121AT
C702 10UF/10V
C7089 0.1UF/10V MLCC/+/-10%
C683 0.1UF/10V MLCC/+/-10%
10UF/10V (0805) X5R 20%
R274 0R0603-PAD EC_PLL
C679 10UF/10V
C726 0.1UF/10V MLCC/+/-10%
R225 0R0603-PAD EC_VACC
C686 0.1UF/10V MLCC/+/-10%
EC_AGND
+3.3V_RUN
C698 0.1UF/10V MLCC/+/-10%
R592 0R0603-PAD EC_AGND
NO.89
R3901 5% 100KOhm 1.1V_RUN_ON
R3902 5% 100KOhm 3.3V_RUN_ON
R3903 5% 100KOhm 3.3V_SUS_ON
R3904 5% 100KOhm 1.8V_RUN_ON
R3905 5% 100KOhm /* IMVP_VR_ON
R3906 5% 100KOhm LCD_BL_PWM
DZ1VQAT
DELL
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title
Diaz-Discrete
Size Custom
Document Number IT8512E
Rev A00
Date: Monday, August 25, 2008
Sheet 39 of 69

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Discrete

X03 NO.92

+3.3V_RTC_LDO

Board ID Straps

NO.42

R541 10KOhm 5%

R537 10KOhm 5%

R535 10KOhm /* 5%

BID0

BID1

VGA_IDENTIFY

R542 10KOhm /* 5%

R536 10KOhm N/A 5%

R534 10KOhm 5%

UMA

VGA_IDENTIFY
1 = Discrete Gfx
0 = UMA

| BID1 | BID0 | M09 | M09B |
|---|---|---|---|
| 0 | 0 | A00 | A00 |
| 0 | 1 | A01 | A01 |
| 1 | 0 | A02 | A02 |
| 1 | 1 | A03 | A03 |

NO.92

+3.3V_RTC_LDO

C7105 0.1UF/10V MLCC/+/-10%

U29

IT8301E

NO.89

R241 0R0402-PAD

LED_MASK# 44

SIO_EXT_WAKE# 17

ICH_PME# 16

WLAN_RADIO_DIS# 36

WIRELESS_ON/OFF# 44

BT_RADIO_DIS# 38

WWAN_RADIO_DIS# 37

EXPRCRD_PWREN# 35

EXPRCRD_STDBY# 35

EC_LCD_BKEN 28

LCD_TST 28

PLATFORM_ID0

PLATFORM_ID1

NUM_LED#

CAP_LED#

INT_KB_DET#

BID2

LED_BL_DET_R

INVERTER_CBL_DET# 28

LCD_CBL_DET# 28

VGA_IDENTIFY

+3.3V_RTC_LDO

C7106 MLCC/+/-10% 0.1UF/10V

X03 T4001 TPAD14-GP

X03 T4002 TPAD14-GP

NO.96

R4029 10KR2J-3-GP

LED_BL_DET

R4030 20KR2J-L-GP

RGB(128,255,255)

R568 100KOhm 5% LCD_TST

R328 100KOhm 5% PANEL_BKEN

R4020 1MOhm 5% /* EC_LCD_BKEN

+3.3V_RUN

R6943 10KOhm

R324 200KOhm 5%

R304 200KOhm 5%

R4011 200KOhm 5%

INT_KB_DET#

INVERTER_CBL_DET#

LCD_CBL_DET#

SYS_PME#

NO.17,NO.25

PLATFORM_ID0

PLATFORM_ID1

R4026 10KOhm 5%

R4028 10KOhm 5%

| ID1 | ID0 | PLATFORM |
|---|---|---|
| 0 | 0 | INTEL SR |
| 0 | 1 | INTEL MV |
| 1 | 0 | AMD |

+5V_RUN

R4012 100KOhm 5%

R4013 10KOhm 5%

Q4010 2N7002

Q4011 PMBS3906

+3.3V_RUN

NUM_LED#

R4014 330Ohm

NUM_LED_R

R4016 100KOhm 5%

R4017 10KOhm 5%

Q4012 2N7002

Q4013 PMBS3906

CAP_LED#

R4015 330Ohm

CAP_LED_R

LED Connector

+5V_RUN

F4001 0.5A

L4001 180Ohm

+5V_KB_BL

RGB(128,255,255)

C4001 22UF/10V

C4002 0.1UF/16V

NO.18

FPC_CON_4P

LED_BL_DET

KB_BL_CTRL#

CON4010

+3.3V_RUN

R4018 100KOhm

U4001 FDC653N_NL

39 KB_BL_CTRL

R4019 100KOhm

X03

+5V_KB_BL

KB_BL_CTRL#

T528 AFTE14P-GP

T529 AFTE14P-GP

For AFTE test Close to CON4010

Keyboard Connector

CON5

FPC_CON_30P

INT_KB_DET#

CAP_LED_R

NUM_LED_R

KSI7 KSI6 KSI4 KSI2 KSI5 KSI1 KSI3 KSI0 KSO5 KSO4 KSO7 KSO6 KSO8 KSO3 KSO1 KSO2 KSO0 KSO12 KSO16 KSO15 KSO13 KSO14 KSO9 KSO11 KSO10

X03

| | | |
|---|---|---|
| INT_KB_DET# | T500 | AFTE14P-GP |
| KSI7 | T501 | AFTE14P-GP |
| KSI6 | T502 | AFTE14P-GP |
| KSI4 | T503 | AFTE14P-GP |
| KSI2 | T504 | AFTE14P-GP |
| KSI5 | T505 | AFTE14P-GP |
| KSI1 | T506 | AFTE14P-GP |
| KSI3 | T507 | AFTE14P-GP |
| KSI0 | T508 | AFTE14P-GP |
| KSO5 | T509 | AFTE14P-GP |
| KSO4 | T510 | AFTE14P-GP |
| KSO7 | T511 | AFTE14P-GP |
| KSO6 | T512 | AFTE14P-GP |
| KSO8 | T513 | AFTE14P-GP |
| KSO3 | T514 | AFTE14P-GP |
| KSO1 | T515 | AFTE14P-GP |
| KSO2 | T516 | AFTE14P-GP |
| KSO0 | T517 | AFTE14P-GP |
| KSO12 | T518 | AFTE14P-GP |
| KSO16 | T519 | AFTE14P-GP |
| KSO15 | T520 | AFTE14P-GP |
| KSO13 | T521 | AFTE14P-GP |
| KSO14 | T522 | AFTE14P-GP |
| KSO9 | T523 | AFTE14P-GP |
| KSO11 | T524 | AFTE14P-GP |
| KSO10 | T525 | AFTE14P-GP |
| CAP_LED_R | T526 | AFTE14P-GP |
| NUM_LED_R | T527 | AFTE14P-GP |

For AFTE test Close to CON5

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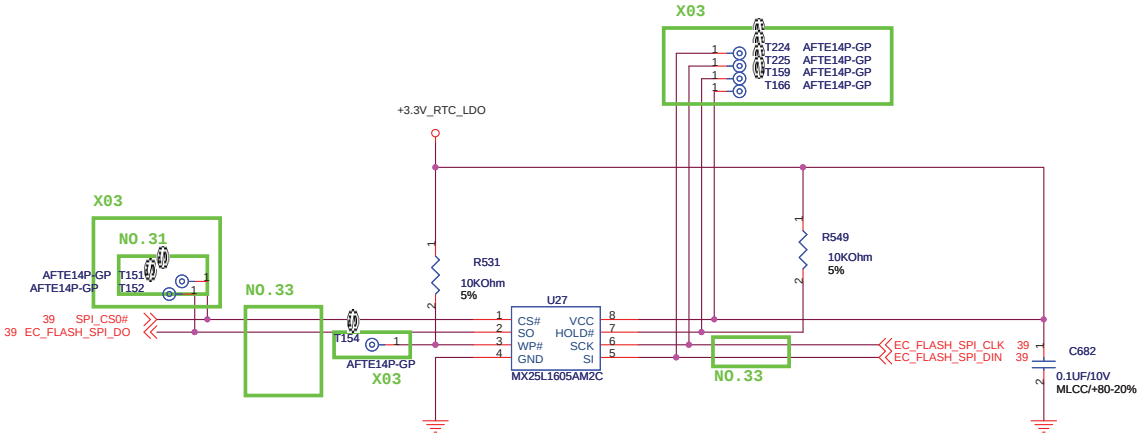
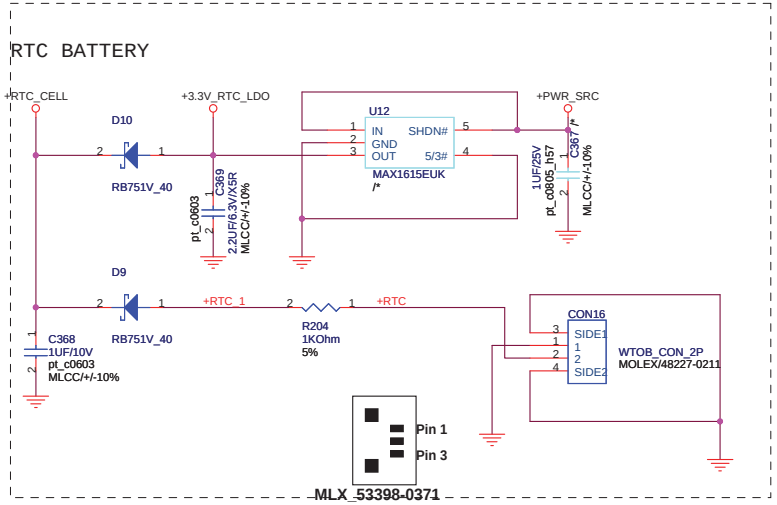
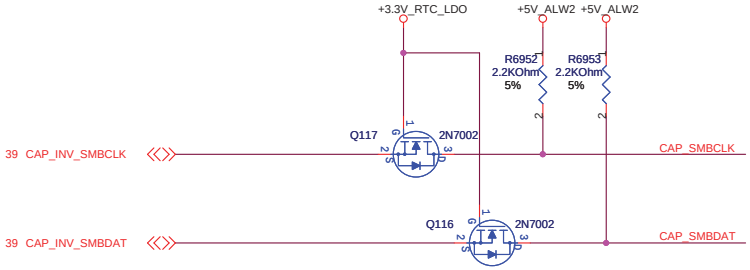
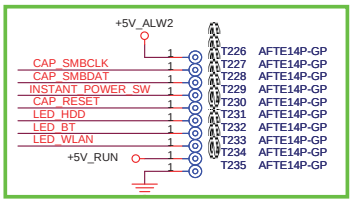
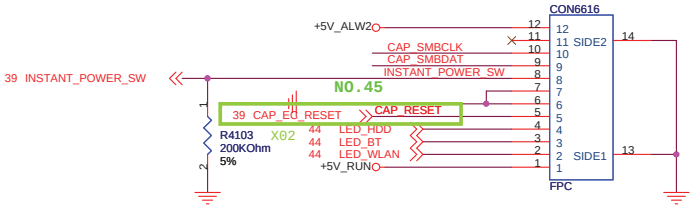


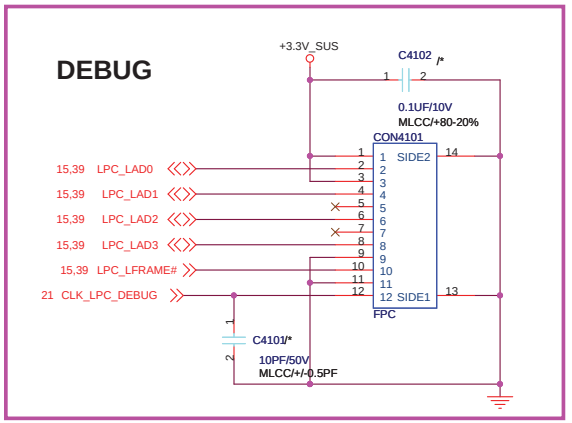




X03 For AFTE test Close to CON6616




CAPBTN CON.




Note:
+5V_ALW2 => for Capbutton PSOC and Media direct LED only.
+5V_RUN => for Capbutton LED and Photo sensor.

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| | | |
|---|---|---|
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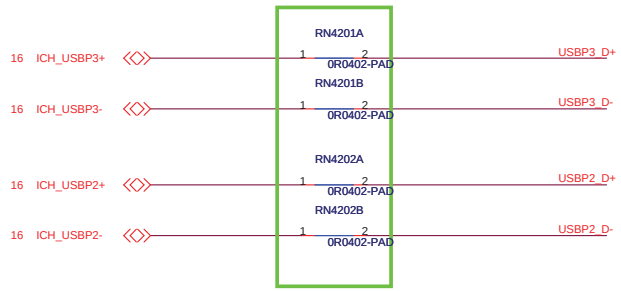
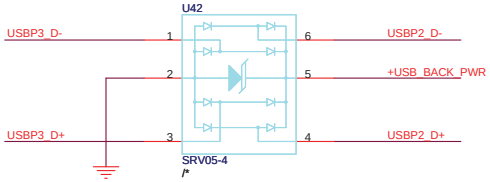
External USB PORT hookup reference. Your design may need more or less external ports and may be mapped differently .

NO.89

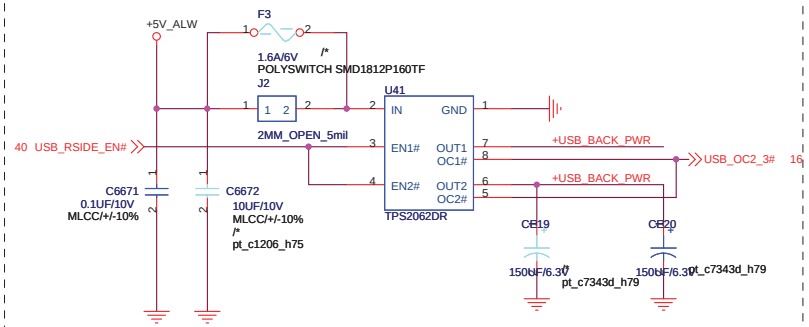



Platforms should put in PADS for the USB chokes if they have the room. Chokes should be NOPOP.




Place ESD diodes as close as USB connector. Semtech SRV05-4 can also be used but the Philips IP42220CZ6 have a lower input C ( 1pf vs 3pf ).

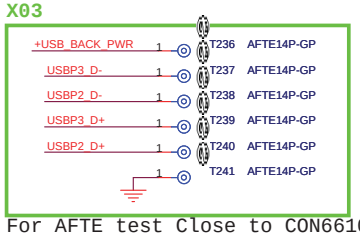
Place one 150uF cap by each USB connector




Each channel is 1A

Consult you ESD Engineer if you think you may need to add ESD Supression Components to your USB lines.
Add PADS ONLY until proven diodes are really needed.

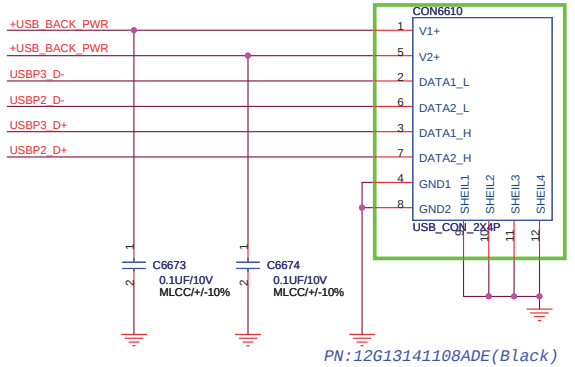
X03




For AFTE test Close to CON6610

Right Side

NO.41




PN:12G13141108ADE(Black)

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Size: A3 | Document Number: USB PORT x 2 | Rev: A00

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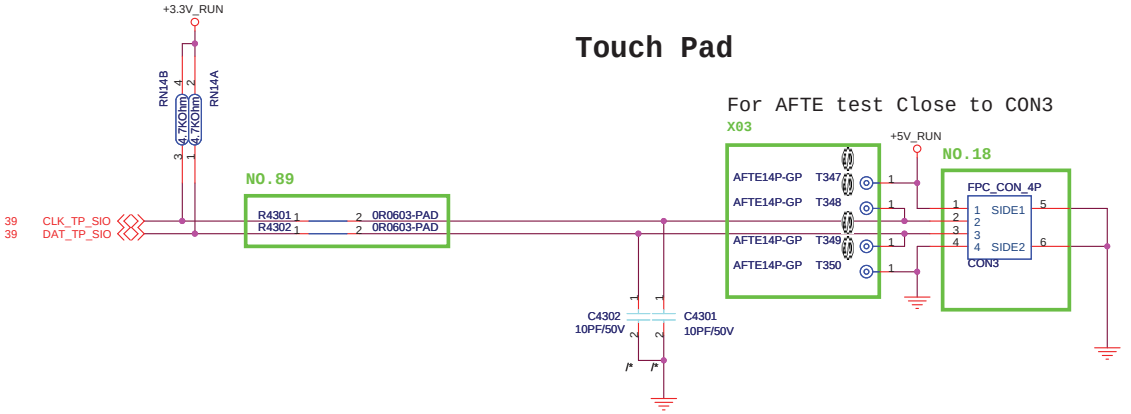
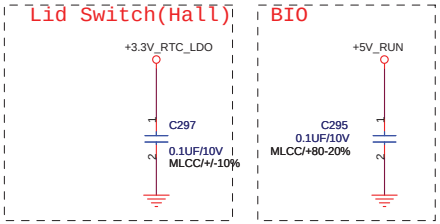
# Touch Pad

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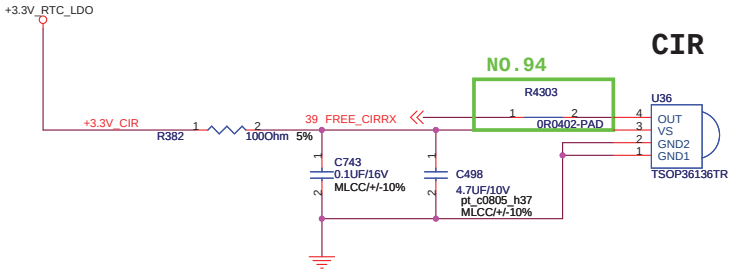
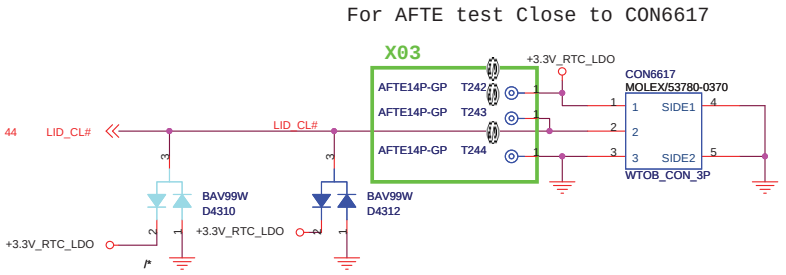
# CIR




# HALL SENSOR

DZ1VQAT

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| | | |
|---|---|---|
| Title | Diaz-Discrete | |
| Size: A3 | Document Number: TOUCH PAD & BT & CIR & LID | Rev: A00 |
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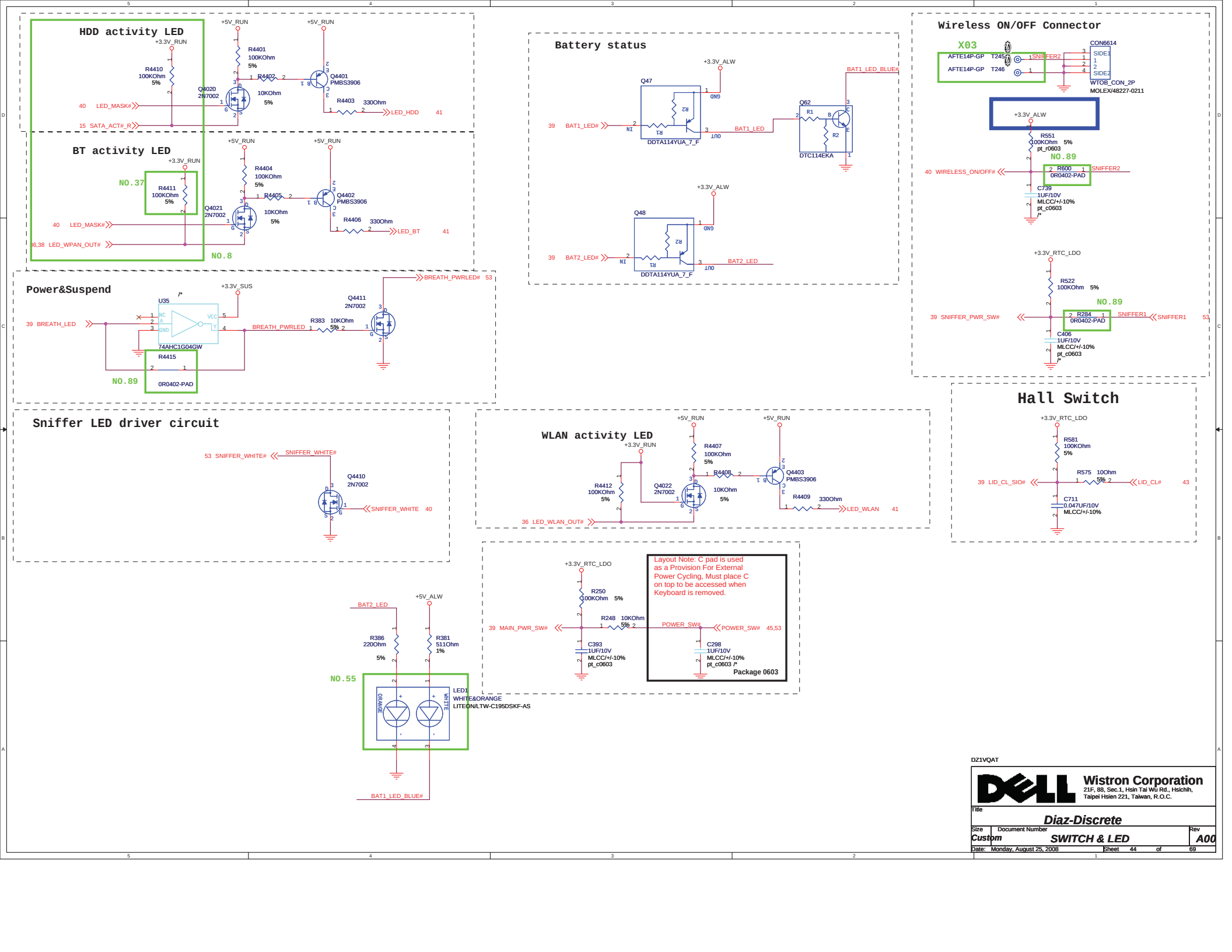


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Title: *Diaz-Discrete*

| Size | Document Number | Rev |
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| Custom | SWITCH & LED | A00 |

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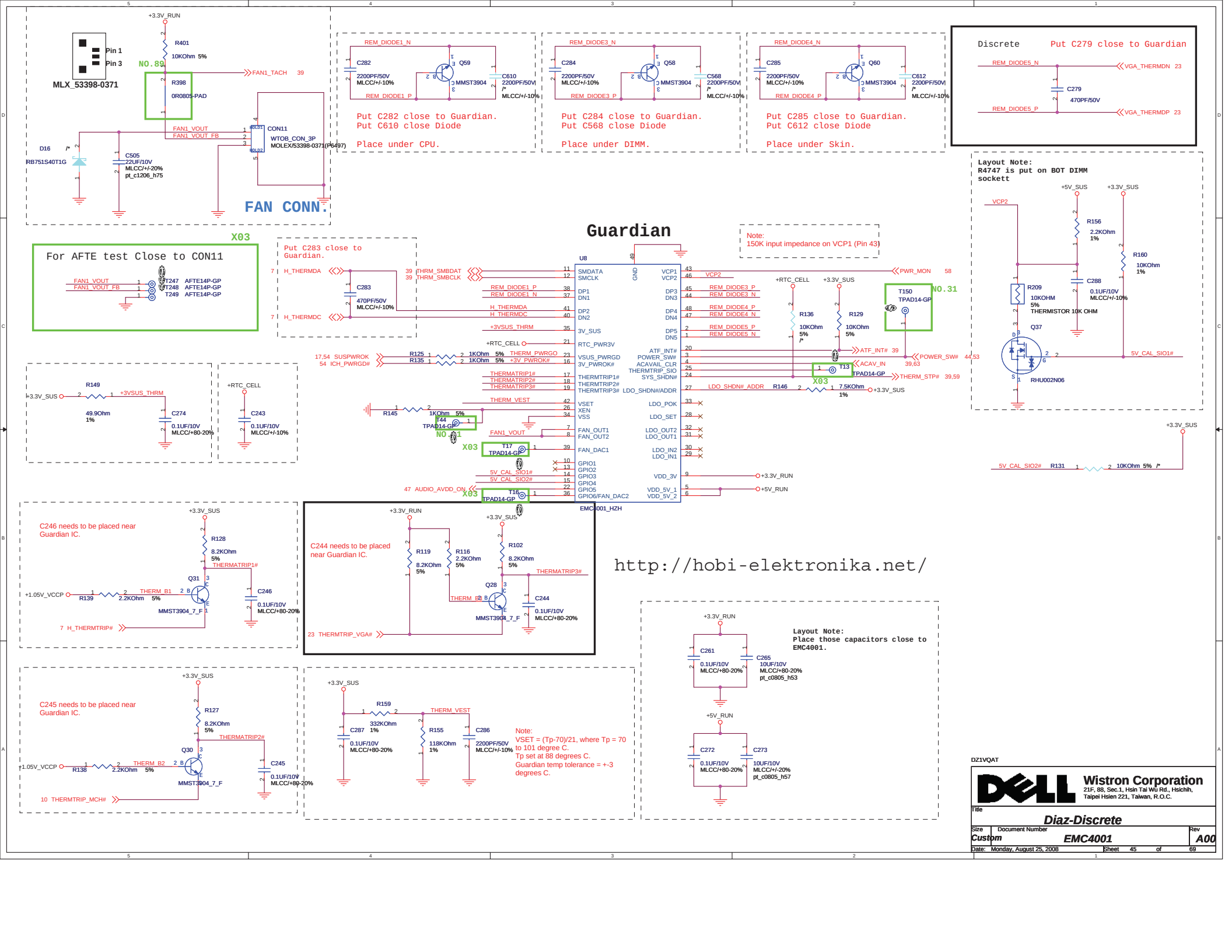


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| Title | Diaz-Discrete | |
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NO.54

Port A---> HP2
Port E---> HP1
Port F---> ext Mic
Port B---> INT MIC
Port D---> Speaker

FROM ICH
17 SPKR
39 BEEP
FROM EC

U17 SN74AHCT1G86DCKR
VDDA
MLCC/+/-10% C457 0.1UF/16V/X7R
R335 47KOhm
MLCC/+/-10% C448 AUD_PC_BEEP 0.1UF/16V/X7R
R336 4.7KOhm

MURATA/BLM18EG601SN1D
Irat=500mA
L4601 600Ohm/100Mhz +3.3V_RUN
C693 0.1UF/10V
C687 0.1UF/10V
C444 10UF/10V pt_c0805_h53
DVDD_CORE

U18 ALC888-GR

DVDD
DVDD_IO
JDREF
BCLK
SDATA_IN
SDATA_OUT
SYNC
RESET#
GPIO0/DMIC_CLK
GPIO1/DMIC_DATA
SPDIFI/EAPD
SPDIFO
DVSS1
DVSS2
AVDD1
AVDD2
SenseA
SenseB
SURR_L(Port_A_L)
SURR_R(Port_A_R)
PIN37_VREFO
MIC1_L(Port_B_L)
MIC1_R(Port_B_R)
MIC1_VREFO_L
MIC1_VREFO_R
LINE1_L(Port_C_L)
LINE1_R(Port_C_R)
LINE1_VREFO
FRONT_L(Port_D)
FRONT_R(Port_D)
LINE2_L(Port_E_L)
LINE2_R(Port_E_R)
LINE2_VREFO
MIC2_L(Port_F_L)
MIC2_R(Port_F_R)
MIC2_VREFO
CENTER(Port_G_L)
LFE(Port_G_R)
SIDE_L(Port_H_L)
SIDE_R(Port_H_R)
CD_L
CD_GND
CD_R
PCBEEP
NC
VREF
AVSS1
AVSS2

R6957 20KOhm 1%
15 ICH_AZ_CODEC_BITCLK
R557 33Ohm 5% HDA_SDI
15 ICH_AZ_CODEC_SDIN0
15 ICH_AZ_CODEC_SDOUT
15 ICH_AZ_CODEC_SYNC
15 ICH_AZ_CODEC_RST#
28 AUD_DMIC_CLK
28 AUD_DMIC_IN0
47,48 AUD_EAPD#
AUD_PC_BEEP

VDDA
AVDD_CODEC
C724 10UF/10V pt_c0805_h53
C7115 10UF/10V pt_c0805_h53
C722 0.1UF/10V
C723 0.1UF/10V
C729 10UF/10V pt_c0805_h53

AUD_SENSE_A
AUD_SENSE_B

NO.56
R345 39.2KOhm 1%
Q50 2N7002
48,49 AUD_HP2_NB_SENSE

NO.56
R559 20KOhm 1%
R553 39.2KOhm 1%
49 AUD_MIC_SWITCH#
Q67 2N7002
47,49 AUD_HP1_NB_SENSE

NO.28
+3.3V_RUN
+1.5V_RUN
R4601 100KOhm
R6958 10KOhm
PMBS3904 Q123
R4602 0Ohm /*

AUD_HP2_OUT_L 48
AUD_HP2_OUT_R 48

NO.54
AUD_INT_MIC_L 1UF/10V/X7R pt_c0603 C7116 MLCC/+/-10%
AUD_INT_MIC_R 1UF/10V/X7R pt_c0603 C7117 MLCC/+/-10%
AUD_INT_MIC_OP 48
AUD_VREFOUT_B 48

AUD_LINE_OUT_L 47
AUD_LINE_OUT_R 47
AUD_HP1_OUT_L 47
AUD_HP1_OUT_R 47

NO.54
AUD_EXT_MIC_L3 1UF/10V/X7R pt_c0603 C7118 MLCC/+/-10%
AUD_EXT_MIC_R3 1UF/10V/X7R pt_c0603 C7119 MLCC/+/-10%
AUD_EXT_MIC_L 49
AUD_EXT_MIC_R 49
AUD_VREFOUT_F
D4601 1N4148WS-7-F
D4602 1N4148WS-7-F
AUD_VREFOUT_F_L 49
AUD_VREFOUT_F_R 49

PLACE CLOSE TO U18 PIN6
ICH_AZ_CODEC_BITCLK
C692 22PF/50V MLCC/+/-5% /*

NO.54
AUD_VREFOUT_B
AUD_VREFOUT_F
C4601 10UF/10V pt_c0805_h53
C7121 10UF/10V pt_c0805_h53

PLACE BETWEEN U18 and U19
JP5 SHORTPIN /*

R348 0Ohm /*
R603 0Ohm /*
R333 0Ohm /*

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Size: A3
Document Number: ALC888
Rev: A00
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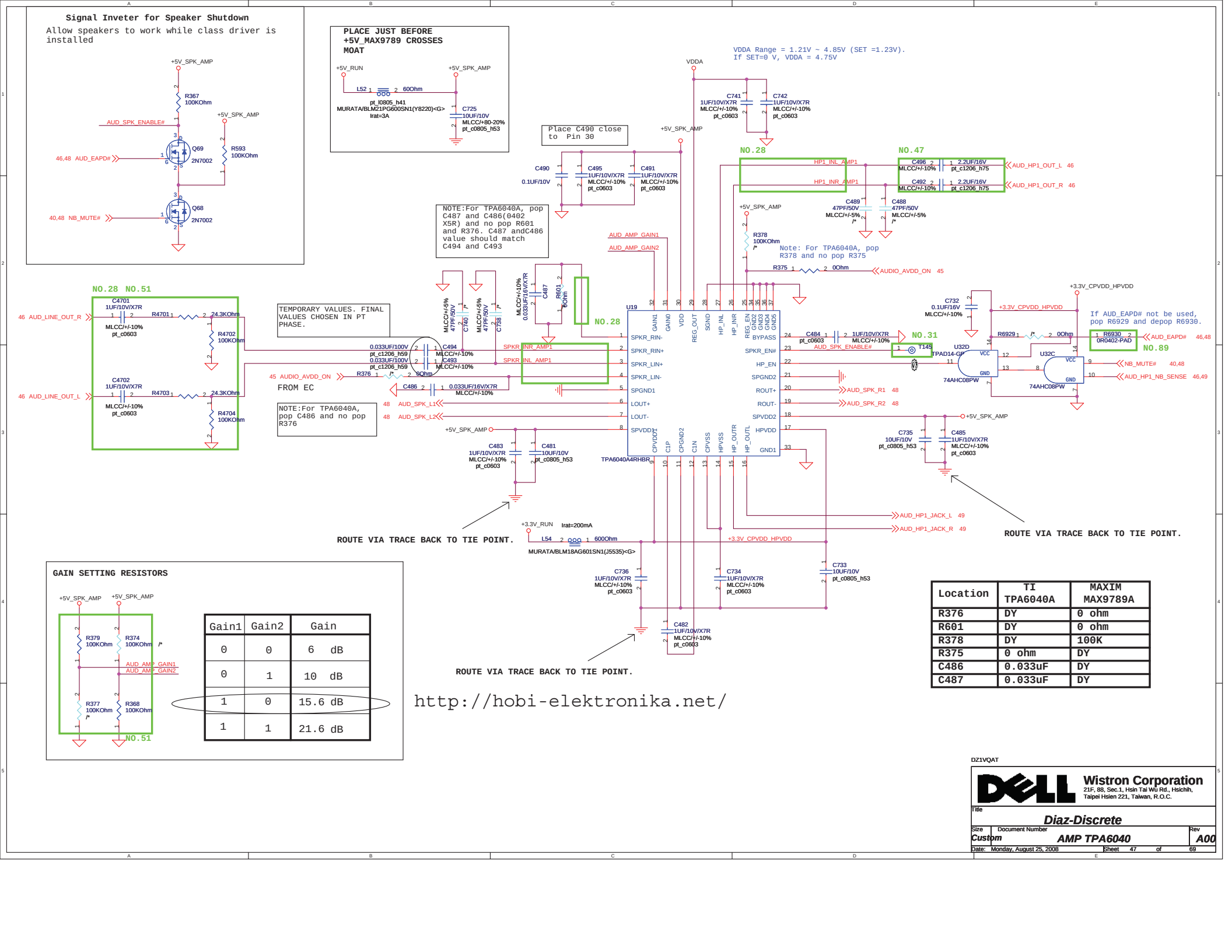
Signal Inveter for Speaker Shutdown
Allow speakers to work while class driver is installed
+5V_SPK_AMP
R367 100KOhm
AUD_SPK_ENABLE#
Q69 2N7002
R593 100KOhm
46,48 AUD_EAPD#
Q68 2N7002
40,48 NB_MUTE#
PLACE JUST BEFORE +5V_MAX9789 CROSSES MOAT
+5V_RUN
L52 60Ohm
pt_l0805_h41
MURATA/BLM21PG600SN1(Y8220)<G>
Irat=3A
C725 10UF/10V MLCC/+80-20% pt_c0805_h53
VDDA Range = 1.21V ~ 4.85V (SET =1.23V).
If SET=0 V, VDDA = 4.75V
C741 1UF/10V/X7R MLCC/+/-10% pt_c0603
C742 1UF/10V/X7R MLCC/+/-10% pt_c0603
Place C490 close to Pin 30
C490 0.1UF/10V
C495 1UF/10V/X7R MLCC/+/-10% pt_c0603
C491 1UF/10V/X7R MLCC/+/-10% pt_c0603
NO.28
NO.47
HP1_INL_AMP1
HP1_INR_AMP1
C496 2.2UF/16V MLCC/+/-10% pt_c1206_h75
C492 2.2UF/16V MLCC/+/-10% pt_c1206_h75
AUD_HP1_OUT_L 46
AUD_HP1_OUT_R 46
C489 47PF/50V MLCC/+/-5%
C488 47PF/50V MLCC/+/-5%
NOTE:For TPA6040A, pop C487 and C486(0402 X5R) and no pop R601 and R376. C487 andC486 value should match C494 and C493
R378 100KOhm /*
Note: For TPA6040A, pop R378 and no pop R375
R375 0Ohm
AUDIO_AVDD_ON 45
AUD_AMP_GAIN1
AUD_AMP_GAIN2
C487 0.033UF/16V/X7R MLCC/+/-10%
R601 0Ohm
NO.28
U19
TPA6040A4RHBR
SPKR_RIN-
SPKR_RIN+
SPKR_LIN+
SPKR_LIN-
SPGND1
LOUT+
LOUT-
SPVDD1
GAIN1
GAIN0
VDD
REG_OUT
SGND
HP_INL
HP_INR
REG_EN
GND2
GND3
GND4
GND5
BYPASS
SPKR_EN#
HP_EN
SPGND2
ROUT+
ROUT-
SPVDD2
HPVDD
GND1
CPVDD1
C1P
CPGND2
C1N
CPVSS
HPVSS
HP_OUTR
HP_OUTL
C732 0.1UF/16V MLCC/+/-10%
+3.3V_CPVDD_HPVDD
If AUD_EAPD# not be used, pop R6929 and depop R6930.
C484 1UF/10V/X7R MLCC/+/-10% pt_c0603
AUD_SPK_ENABLE#
NO.31
T145
TPAD14-GP
U32D 74AHC08PW
U32C 74AHC08PW
R6929 0Ohm
R6930 0R0402-PAD
AUD_EAPD# 46,48
NO.89
NB_MUTE# 40,48
AUD_HP1_NB_SENSE 46,49
AUD_SPK_R1 48
AUD_SPK_R2 48
C735 10UF/10V pt_c0805_h53
C485 1UF/10V/X7R MLCC/+/-10% pt_c0603
NO.28 NO.51
C4701 1UF/10V/X7R MLCC/+/-10% pt_c0603
R4701 24.3KOhm
R4702 100KOhm
C4702 1UF/10V/X7R MLCC/+/-10% pt_c0603
R4703 24.3KOhm
R4704 100KOhm
46 AUD_LINE_OUT_R
46 AUD_LINE_OUT_L
TEMPORARY VALUES. FINAL VALUES CHOSEN IN PT PHASE.
C740 47PF/50V MLCC/+/-5%
C738 47PF/50V MLCC/+/-5%
0.033UF/100V pt_c1206_h59 C494 MLCC/+/-10%
0.033UF/100V pt_c1206_h59 C493 MLCC/+/-10%
SPKR_INR_AMP1
SPKR_INL_AMP1
45 AUDIO_AVDD_ON
FROM EC
R376 0Ohm
C486 0.033UF/16V/X7R MLCC/+/-10%
48 AUD_SPK_L1
48 AUD_SPK_L2
NOTE:For TPA6040A, pop C486 and no pop R376
+5V_SPK_AMP
C483 1UF/10V/X7R MLCC/+/-10% pt_c0603
C481 10UF/10V pt_c0805_h53
ROUTE VIA TRACE BACK TO TIE POINT.
+3.3V_RUN
Irat=200mA
L54 600Ohm
MURATA/BLM18AG601SN1(J5535)<G>
+3.3V_CPVDD_HPVDD
C736 1UF/10V/X7R MLCC/+/-10% pt_c0603
C734 1UF/10V/X7R MLCC/+/-10% pt_c0603
C733 10UF/10V pt_c0805_h53
C482 1UF/10V/X7R MLCC/+/-10% pt_c0603
AUD_HP1_JACK_L 49
AUD_HP1_JACK_R 49
ROUTE VIA TRACE BACK TO TIE POINT.
ROUTE VIA TRACE BACK TO TIE POINT.
GAIN SETTING RESISTORS
+5V_SPK_AMP
R379 100KOhm
R374 100KOhm /*
AUD_AMP_GAIN1
AUD_AMP_GAIN2
R377 100KOhm /*
R368 100KOhm
NO.51
Gain1 Gain2 Gain
0 0 6 dB
0 1 10 dB
1 0 15.6 dB
1 1 21.6 dB
http://hobi-elektronika.net/
Location TI TPA6040A MAXIM MAX9789A
R376 DY 0 ohm
R601 DY 0 ohm
R378 DY 100K
R375 0 ohm DY
C486 0.033uF DY
C487 0.033uF DY
DZ1VQAT
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title
Diaz-Discrete
Size Custom
Document Number AMP TPA6040
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Maxim:1.8V ~ 3.6V
TI:1.8V ~ 4.5V

NOTE: MAKE SURE THERMAL PAD (Pin21)UNDER MAX4411 IS NOT CONNECTED TO GND

If AUD_EAPD# not be used, pop R6932 and depop R6931.

MURATA/BLM18AG601SN1(J5535)<G>
Irat=200mA

L27 600Ohm +3.3V_RUN

+3.3V_CPVDD_HPVDD

NO.89

46,47 AUD_EAPD# R6931 0R0402-PAD R6932 0Ohm

U32B U32A 74AHC08PW

46,49 AUD_HP2_NB_SENSE
40,47 NB_MUTE#

C447 1UF/10V/X7R MLCC/+/-10% pt_c0603

U31 TPA4411MRTJR

SHDNR# SHDNL# PVDD SVDD GND OUTR OUTL
AUD_HP2_JACK_R 49
AUD_HP2_JACK_L 49

NO.28

46 AUD_HP2_OUT_R
46 AUD_HP2_OUT_L

C720 C728 2.2UF/16V pt_c1206_h75 MLCC/+/-10%

HP2_INR_AMP2
HP2_INL_AMP2

INR INL

C710 C700 47PF/50V MLCC/+/-5%

C1P C1N

C704 2.2UF/10V/X5R MLCC/+/-10% pt_c0603

PVSS SVSS PGND SGND NC1 NC2 NC3 NC4 NC5 NC6

C690 2.2UF/10V/X5R MLCC/+/-10% pt_c0603

## Speaker CON

CON7 WTOB_CON_4P MOLEX/48227-0411

SIDE1 SIDE2

AUD_SPK_R1 47
AUD_SPK_R2 47
AUD_SPK_L1 47
AUD_SPK_L2 47

C404 C400 C394 C387 MLCC/+/-5% 100PF/50V/NPO

Need to adjust EMI cap values as necessary.

X03

AUD_SPK_R1 AUD_SPK_R2 AUD_SPK_L1 AUD_SPK_L2
T253 T254 T255 T256 AFTE14P-GP

For AFTE test Close to CON07

VDDA

R6909 100KOhm
R6910 100KOhm
C7097 C7099 0.1UF/16V/X7R MLCC/+/-10%

MLCC/+/-10% pt_c0603

NO.54

AUD_VREFOUT_C1 C4801 1UF/10V/X7R R4801 2.2KOhm
AUD_VREFOUT_B 46

R4802 2.2KOhm

CON4801 WTOB_CON_2P MOLEX/48227-0211

X03

AUD_INT_MIC+
AUD_INT_MIC-
T250 T251 T252 AFTE14P-GP

For AFTE test Close to CON4801

C7098 C7102 0.1UF/16V/X7R MLCC/+/-10%

R6911 R6912 R6915 R6917 1KOhm

AUD_INT_MIC+
AUD_INT_MIC-

C7100 C7101 0.1UF/16V/X7R MLCC/+/-10%

AUD_MIC_BIAS
AUD_INT_MIC+_2
AUD_INT_MIC-_2

R6913 R6914 R6916 10KOhm

U44 LM358DR

AUD_MIC_BIAS
AUD_INT_MIC_OP
AUD_INT_MIC_OP 46

R6918 10KOhm
C7122 1000PF/50V MLCC/+/-10%

NO.89

AUD_INT_MIC+
AUD_INT_MIC-

R6919 R6920 0R0402-PAD

AUD_INT_MIC_OP 46

DZ1VQAT

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: Diaz-Discrete

| Size | Document Number | Rev |
|---|---|---|
| A3 | AMP MAX4411 & MIC_AMP | A00 |

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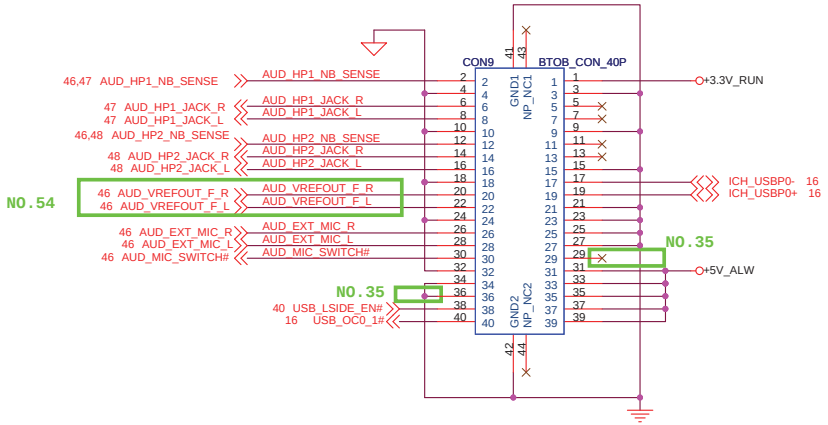


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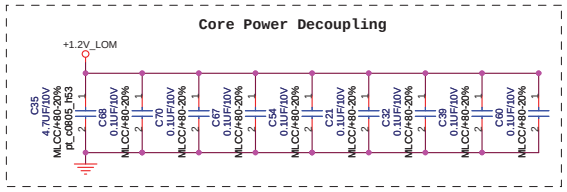
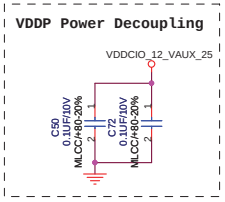
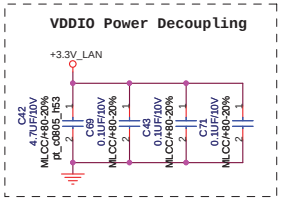
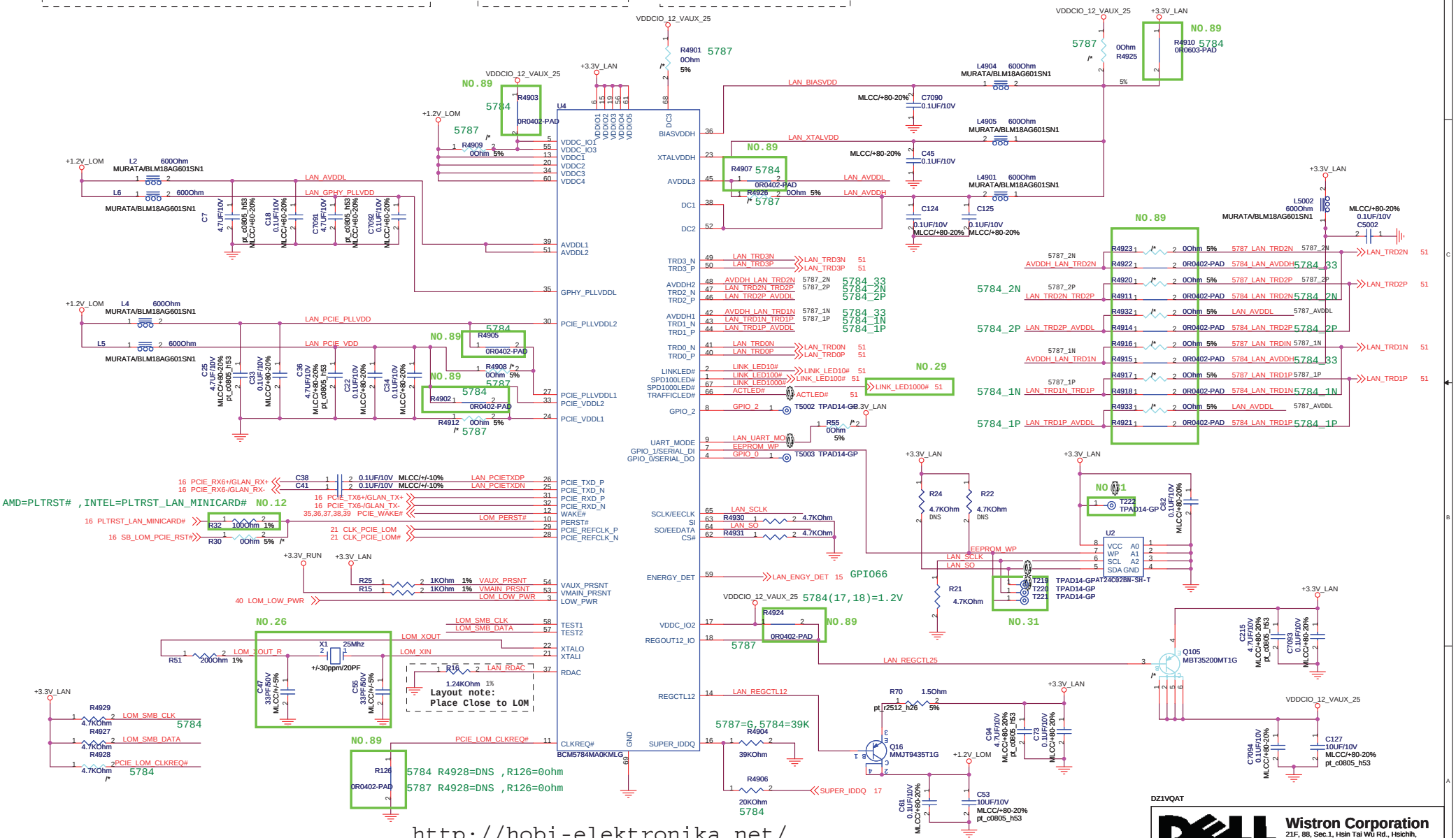
| | | |
|---|---|---|
| Title | *Diaz-Discrete* | |
| Size: *A3* | Document Number: *AUDIO BtoB CON* | Rev: *A00* |
| Date: Monday, August 25, 2008 | Sheet 49 of 69 | |

# Co-Layout BCM5787M & 5784M
# Layout 5784M priority
# Second S.R BOM is 5784M

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| Size | Document Number | Rev |
|---|---|---|
| Custom | LAN BCM5784MA0KMLG(QFN-68) | A00 |

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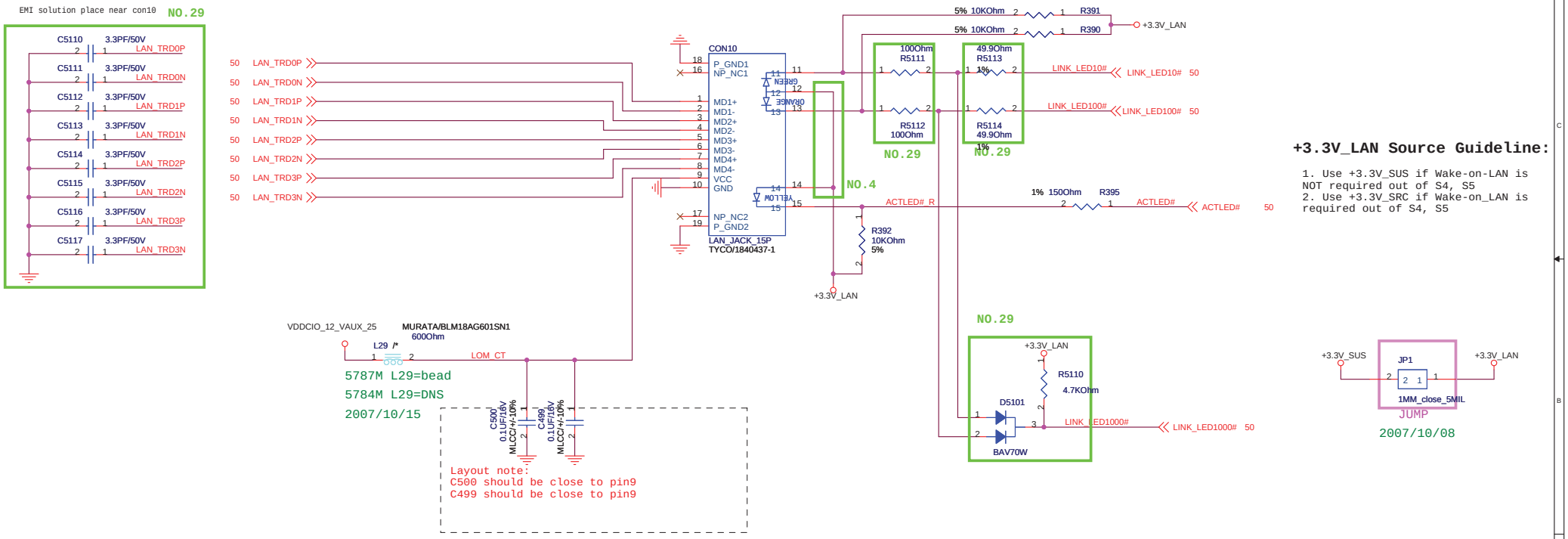
# This BOM is 5784M

require S3 support wake on LAN 2007/10/05

RJ45 should be 12G14801110KDE




**+3.3V_LAN Source Guideline:**

1. Use +3.3V_SUS if Wake-on-LAN is NOT required out of S4, S5
2. Use +3.3V_SRC if Wake-on_LAN is required out of S4, S5

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| | | |
|---|---|---|
| Title | Diaz-Discrete | |
| Size: A3 | Document Number: Magnetics and RJ-45 | Rev: A00 |
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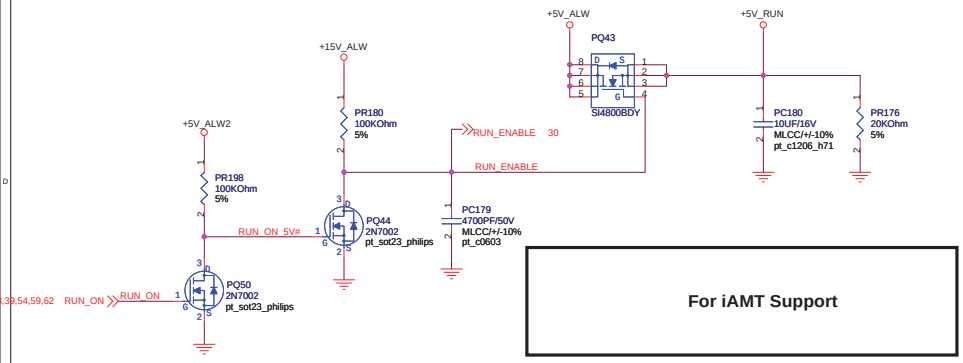
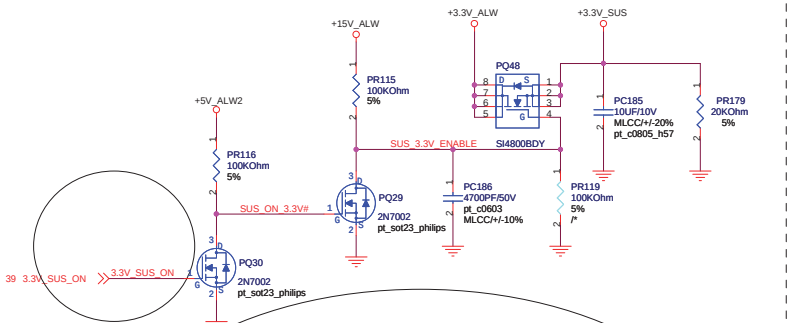
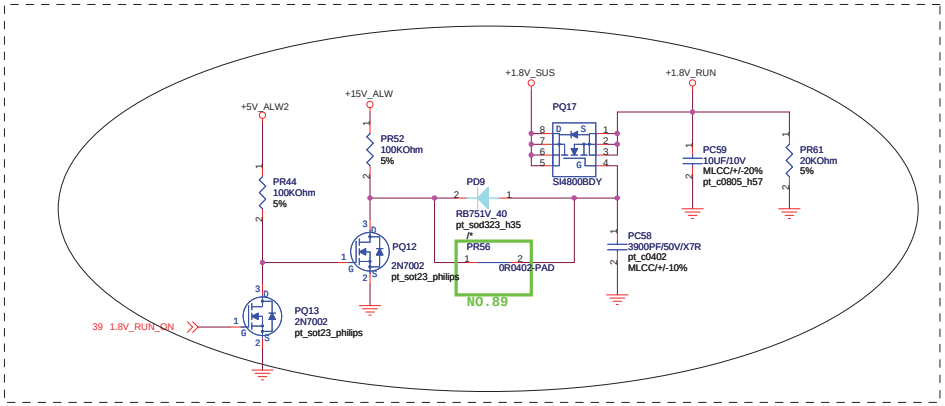
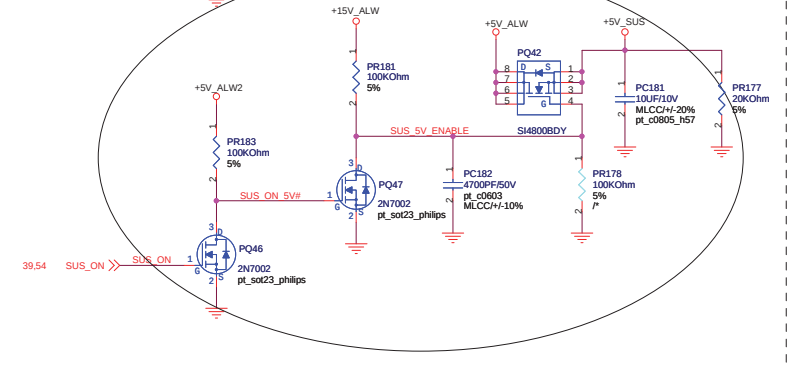



**For iAMT Support**

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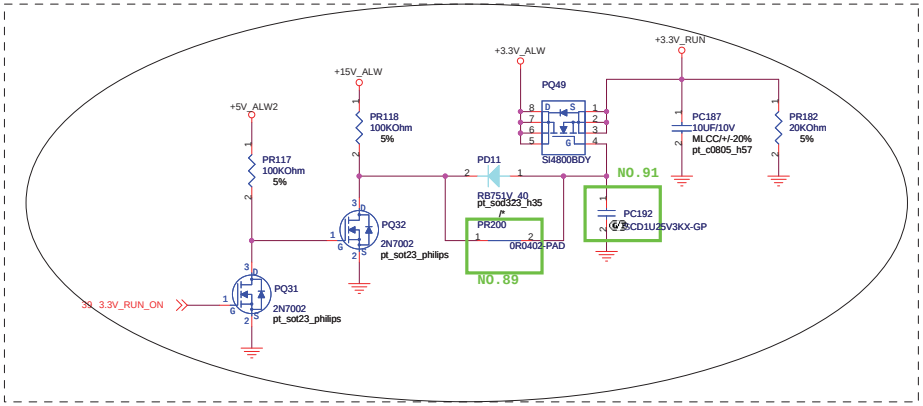
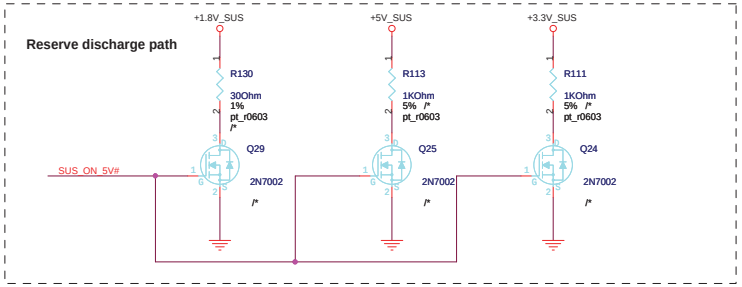
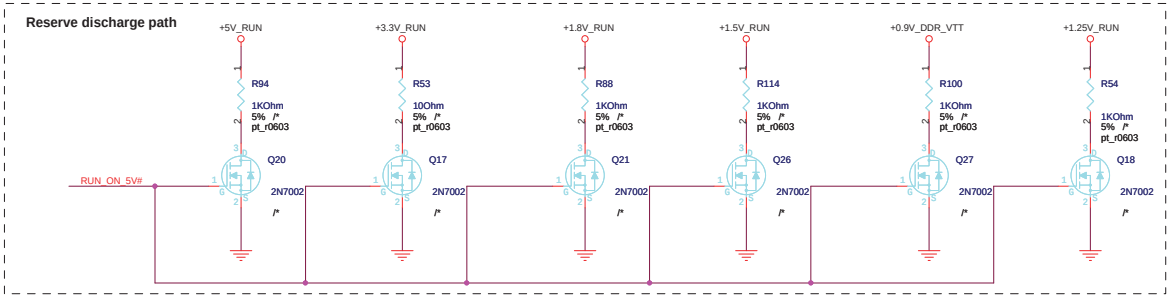



**Reserve discharge path**




**For iAMT Support**

**Reserve discharge path**

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| Size | Document Number | Rev |
|---|---|---|
| Custom | Power Control Switch | A00 |

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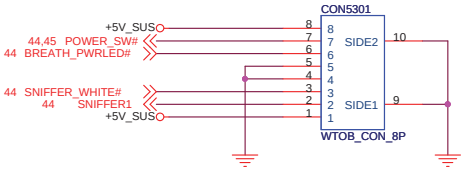
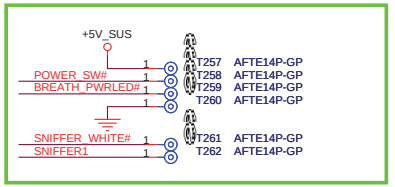



X03 For AFTE test Close to CON5301

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Title: ***Diaz-Discrete***

| Size | Document Number | Rev |
|---|---|---|
| A3 | ***Power Buttom Board*** | A00 |

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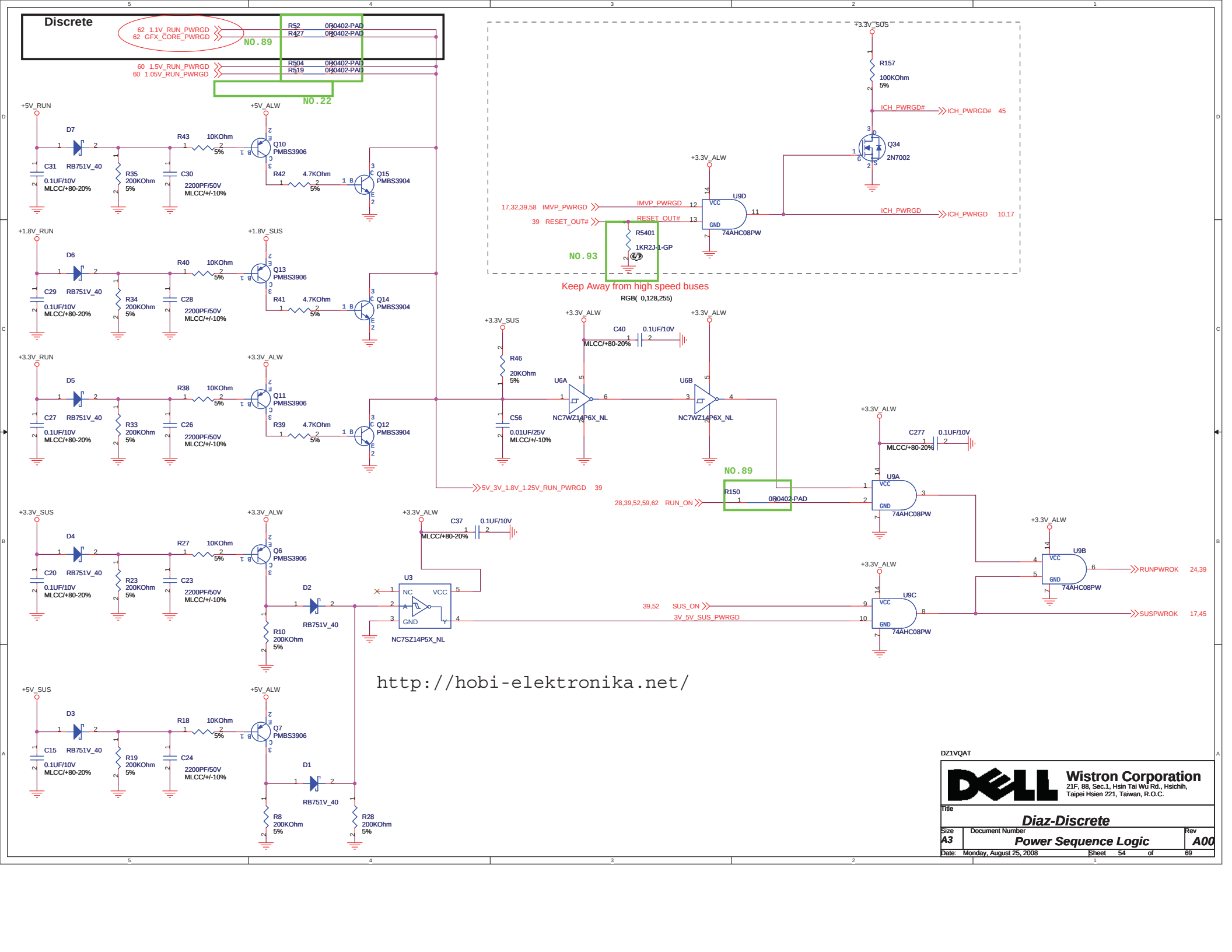
Discrete
62 1.1V_RUN_PWRGD
62 GFX_CORE_PWRGD
R52 0R0402-PAD
R427 0R0402-PAD
NO.89
60 1.5V_RUN_PWRGD
60 1.05V_RUN_PWRGD
R504 0R0402-PAD
R519 0R0402-PAD
NO.22
+3.3V_SUS
R157
100KOhm
5%
ICH_PWRGD#
ICH_PWRGD# 45
Q34
2N7002
+3.3V_ALW
17,32,39,58 IMVP_PWRGD
IMVP_PWRGD
39 RESET_OUT#
RESET_OUT#
U9D
74AHC08PW
ICH_PWRGD
ICH_PWRGD 10,17
R5401
1KR2J-1-GP
NO.93
Keep Away from high speed buses
RGB( 0,128,255)
+5V_RUN
+5V_ALW
D7
R43 10KOhm 5%
Q10 PMBS3906
C31 RB751V_40
0.1UF/10V MLCC/+80-20%
R35 200KOhm 5%
C30 2200PF/50V MLCC/+/-10%
R42 4.7KOhm 5%
Q15 PMBS3904
+1.8V_RUN
+1.8V_SUS
D6
R40 10KOhm 5%
Q13 PMBS3906
C29 RB751V_40
0.1UF/10V MLCC/+80-20%
R34 200KOhm 5%
C28 2200PF/50V MLCC/+/-10%
R41 4.7KOhm 5%
Q14 PMBS3904
+3.3V_RUN
+3.3V_ALW
D5
R38 10KOhm 5%
Q11 PMBS3906
C27 RB751V_40
0.1UF/10V MLCC/+80-20%
R33 200KOhm 5%
C26 2200PF/50V MLCC/+/-10%
R39 4.7KOhm 5%
Q12 PMBS3904
+3.3V_SUS
R46 20KOhm 5%
C56 0.01UF/25V MLCC/+/-10%
U6A NC7WZ14P6X_NL
U6B NC7WZ14P6X_NL
C40 0.1UF/10V MLCC/+80-20%
5V_3V_1.8V_1.25V_RUN_PWRGD 39
28,39,52,59,62 RUN_ON
R150 0R0402-PAD
NO.89
C277 0.1UF/10V MLCC/+80-20%
U9A 74AHC08PW
U9B 74AHC08PW
RUNPWROK 24,39
U9C 74AHC08PW
39,52 SUS_ON
3V_5V_SUS_PWRGD
SUSPWROK 17,45
+3.3V_SUS
+3.3V_ALW
D4
R27 10KOhm 5%
Q6 PMBS3906
C20 RB751V_40
0.1UF/10V MLCC/+80-20%
R23 200KOhm 5%
C23 2200PF/50V MLCC/+/-10%
D2 RB751V_40
R10 200KOhm 5%
C37 0.1UF/10V MLCC/+80-20%
U3 NC7SZ14P5X_NL
+5V_SUS
+5V_ALW
D3
R18 10KOhm 5%
Q7 PMBS3906
C15 RB751V_40
0.1UF/10V MLCC/+80-20%
R19 200KOhm 5%
C24 2200PF/50V MLCC/+/-10%
D1 RB751V_40
R8 200KOhm 5%
R28 200KOhm 5%
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Diaz-Discrete
Size A3
Document Number
Power Sequence Logic
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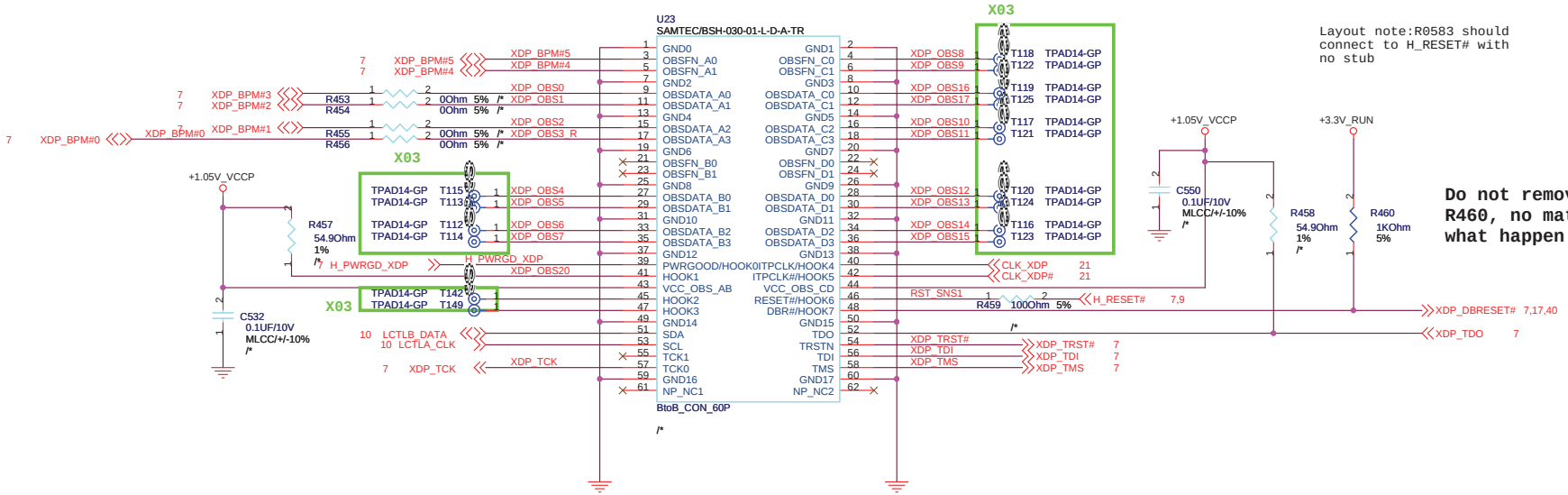
# XDP




CAD NOTE:
Place the XDP connector on the primary side of the CRB and place all components near the connector.

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| Title | *Diaz-Discrete* | |
| Size: *A3* | Document Number: *XDP* | Rev: *A00* |
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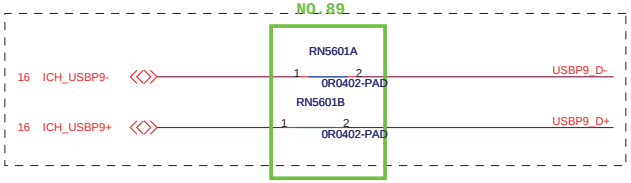
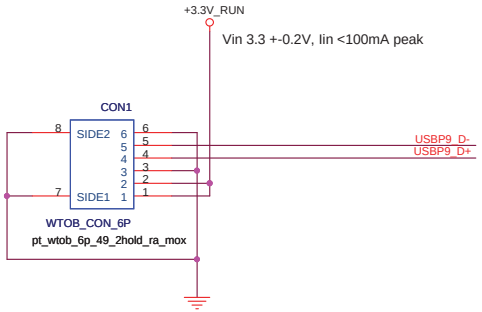
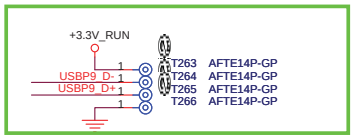
## FINGER PRINTER

NO_89




X03 For AFTE test Close to CON1

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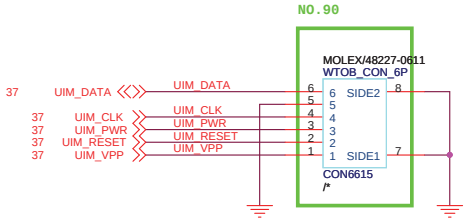
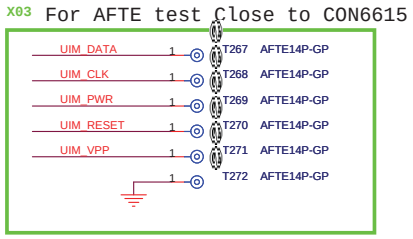
| | | |
|---|---|---|
| Title | Diaz-Discrete | |
| Size: A3 | Document Number: USB PORT ( SINGLE * 2 ) | Rev: A00 |
| Date: Monday, August 25, 2008 | Sheet 56 of 69 | |

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Title: *Diaz-Discrete*

| Size | Document Number | Rev |
|---|---|---|
| A3 | SIM CARD | A00 |

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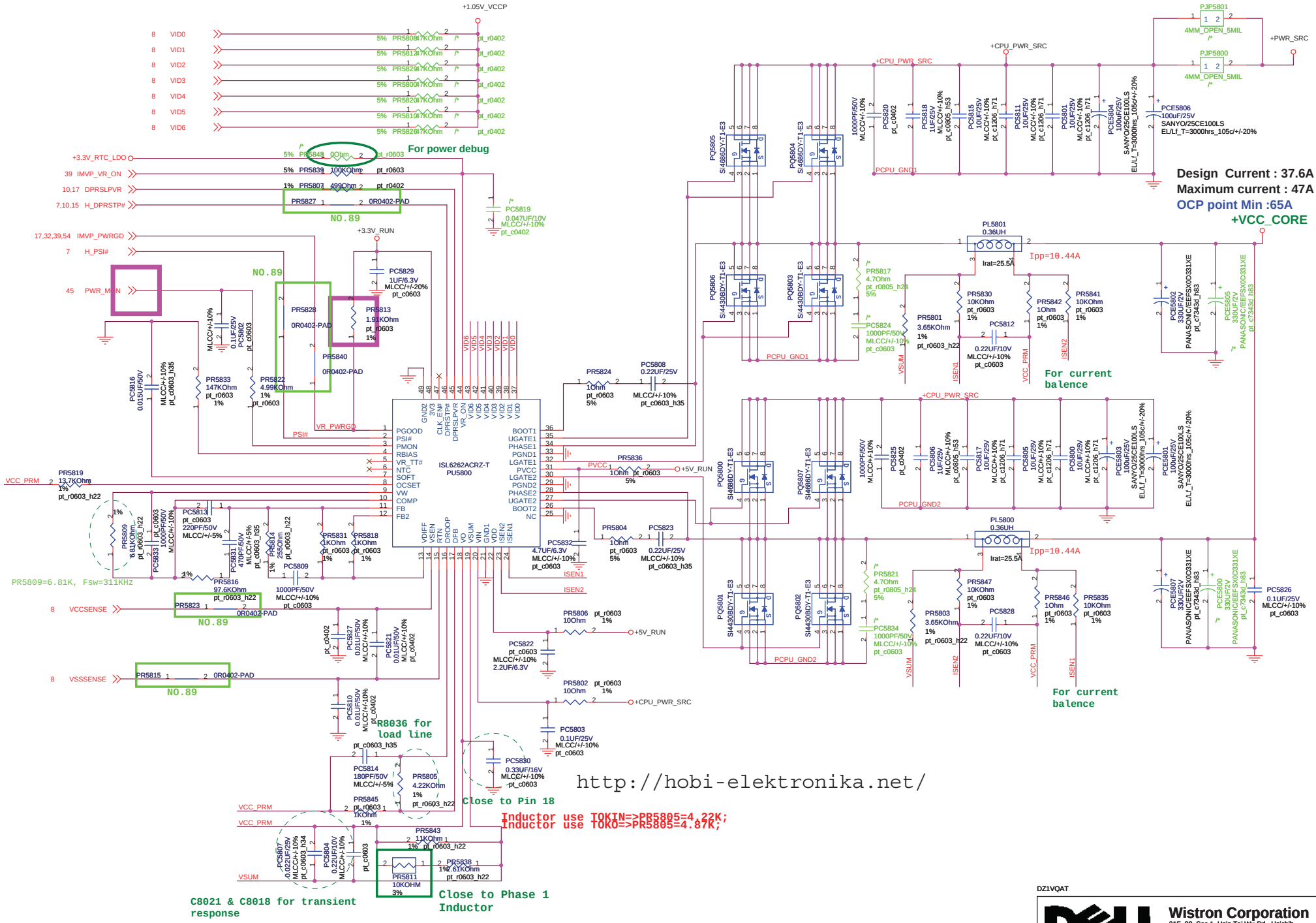


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Inductor use TOKIN=>PR5805=4.22K;
Inductor use TOKO=>PR5805=4.87K;

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Title: Diaz-Discrete

| Size | Document Number | Rev |
|---|---|---|
| Custom | POWER_VCORE | A00 |

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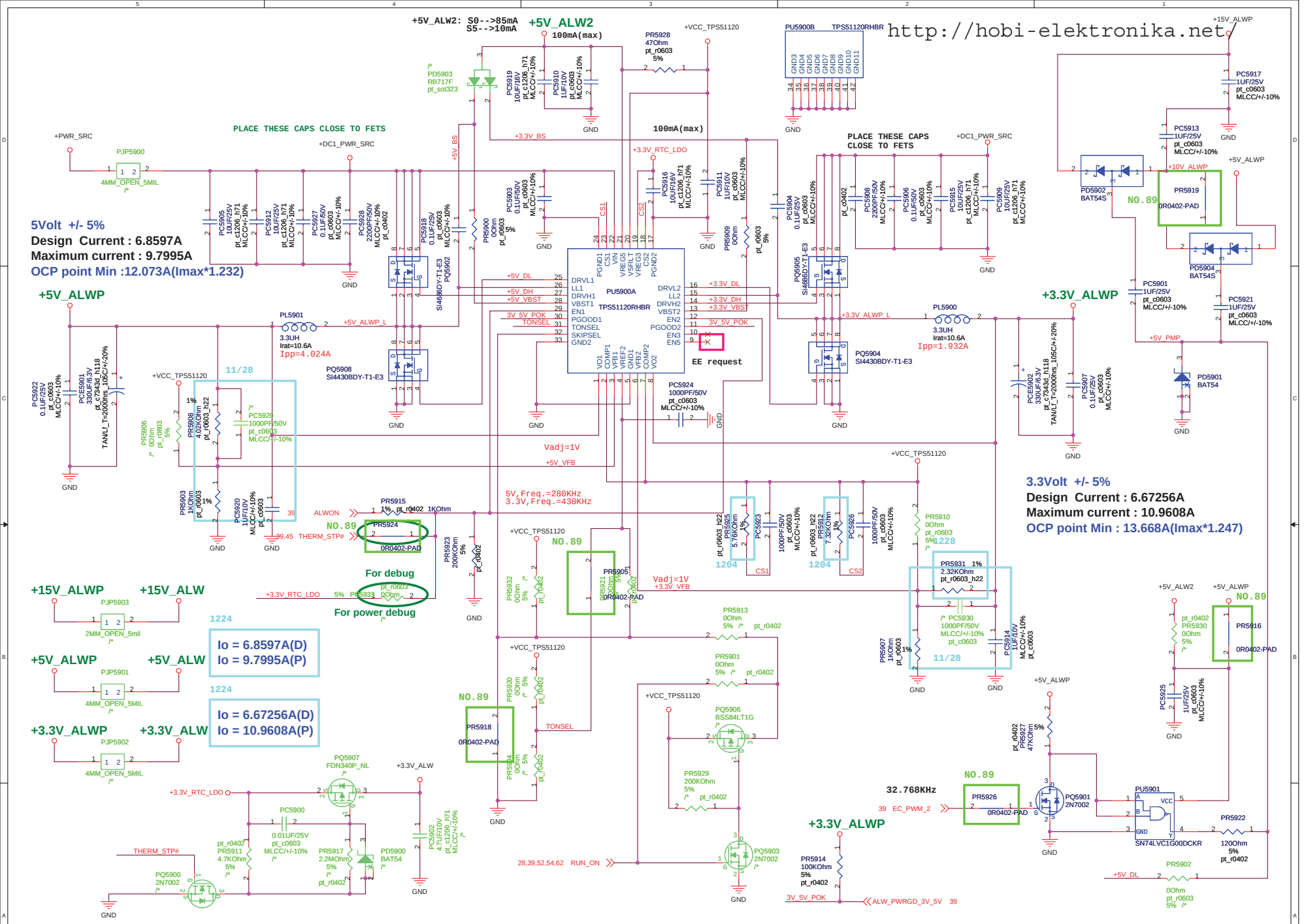


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Title: Diaz-Discrete

| Size | Document Number | Rev |
|---|---|---|
| Custom | POWER_SYSTEM 5V_ALW&3.3V_ALW | A00 |

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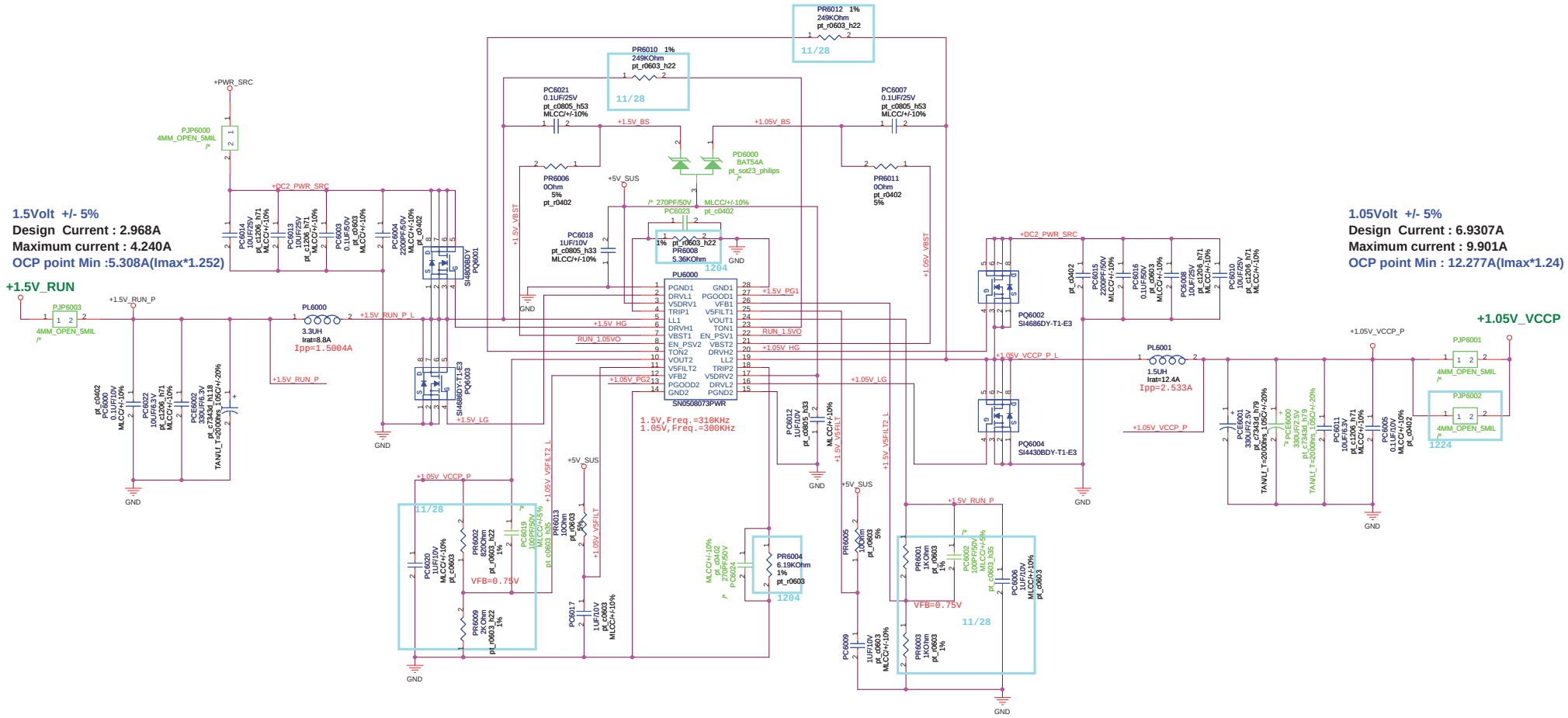


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Title: Diaz-Discrete

| Size | Document Number | Rev |
|---|---|---|
| C | POWER_I/O_1.5VS & 1.05VS | A00 |

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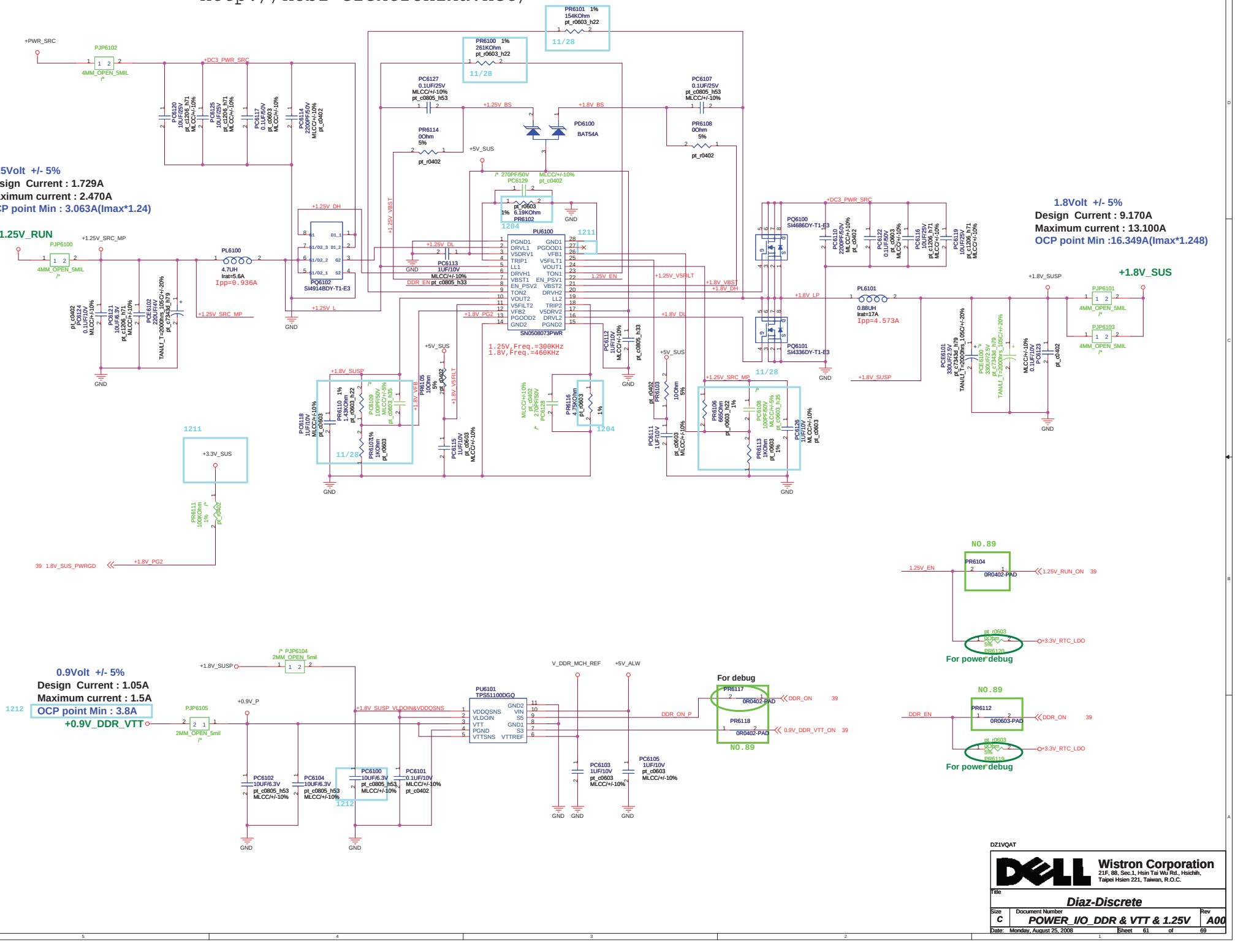

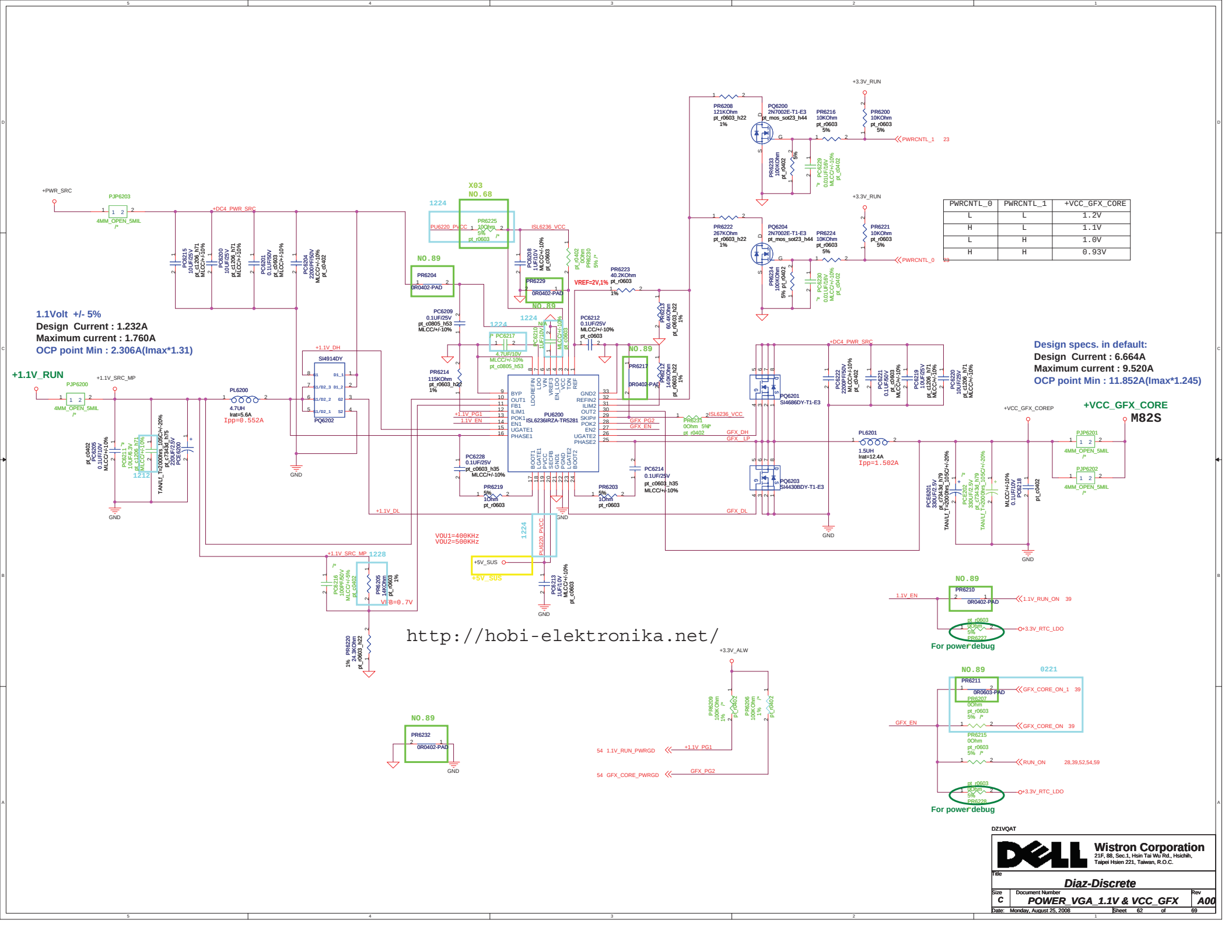
+1.1V_RUN
1.1Volt +/- 5%
Design Current : 1.232A
Maximum current : 1.760A
OCP point Min : 2.306A(Imax*1.31)
Design specs. in default:
Design Current : 6.664A
Maximum current : 9.520A
OCP point Min : 11.852A(Imax*1.245)
+VCC_GFX_CORE
M82S
PWRCNTL_0 | PWRCNTL_1 | +VCC_GFX_CORE
L | L | 1.2V
H | L | 1.1V
L | H | 1.0V
H | H | 0.93V
VOU1=400KHz
VOU2=500KHz
VFB=0.7V
http://hobi-elektronika.net/
For power debug
For power debug
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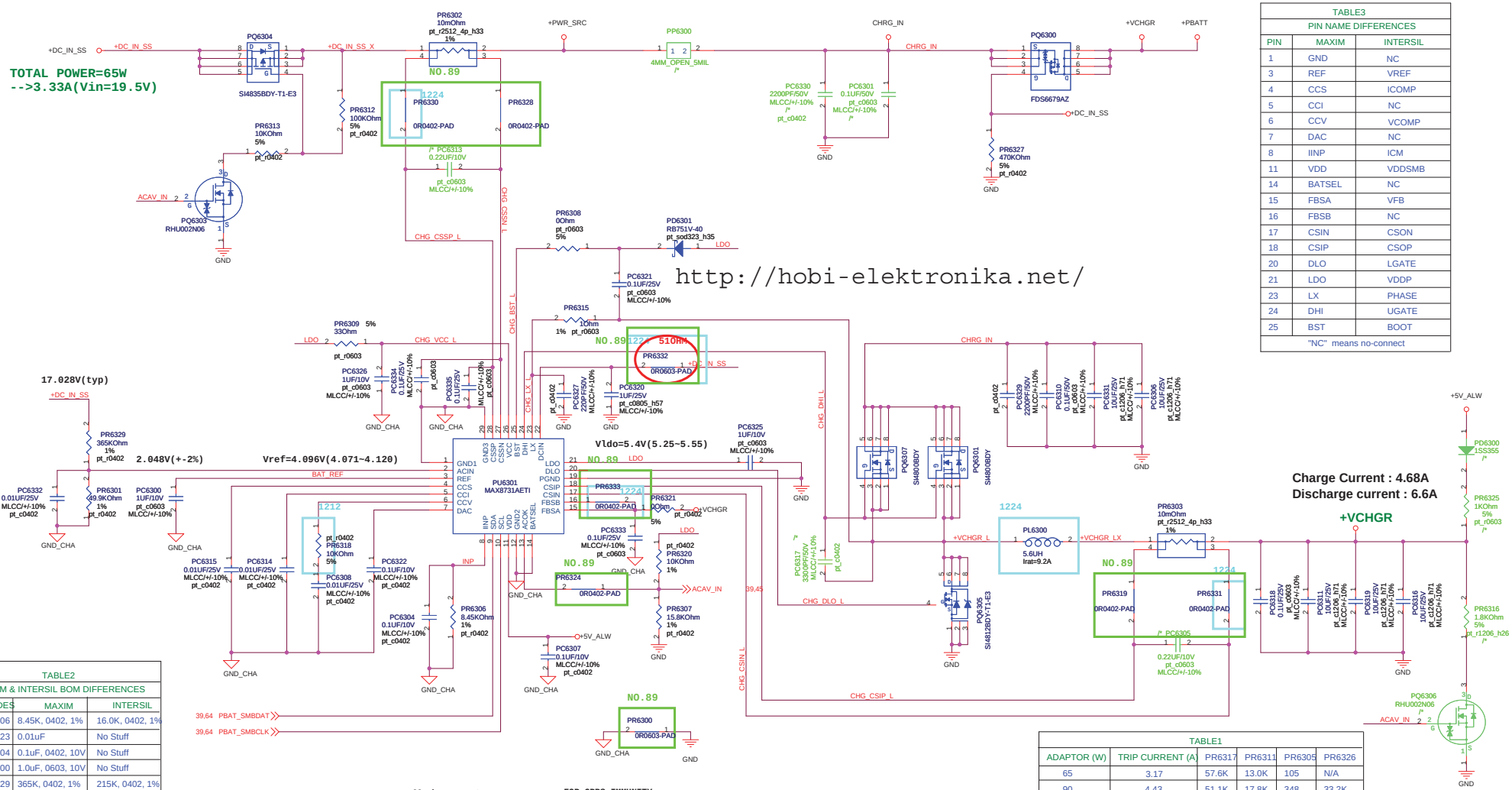
Title
Diaz-Discrete
Size C
Document Number POWER_VGA_1.1V & VCC_GFX
Rev A00
Date: Monday, August 25, 2008
Sheet 62 of 69




| TABLE3 | |
|---|---|
| PIN NAME DIFFERENCES | |
| PIN | MAXIM | INTERSIL |
| 1 | GND | NC |
| 3 | REF | VREF |
| 4 | CCS | ICOMP |
| 5 | CCI | NC |
| 6 | CCV | VCOMP |
| 7 | DAC | NC |
| 8 | IINP | ICM |
| 11 | VDD | VDDSMB |
| 14 | BATSEL | NC |
| 15 | FBSA | VFB |
| 16 | FBSB | NC |
| 17 | CSIN | CSON |
| 18 | CSIP | CSOP |
| 20 | DLO | LGATE |
| 21 | LDO | VDDP |
| 23 | LX | PHASE |
| 24 | DHI | UGATE |
| 25 | BST | BOOT |
| "NC" means no-connect | | |

| TABLE2 | | |
|---|---|---|
| MAXIM & INTERSIL BOM DIFFERENCES | | |
| REF DES | MAXIM | INTERSIL |
| PR6306 | 8.45K, 0402, 1% | 16.0K, 0402, 1% |
| PC6323 | 0.01uF | No Stuff |
| PC6304 | 0.1uF, 0402, 10V | No Stuff |
| PC6300 | 1.0uF, 0603, 10V | No Stuff |
| PR6329 | 365K, 0402, 1% | 215K, 0402, 1% |
| PR6319 | 0, 0402, 5% | 10, 0402, 5% |
| PR6328 | 0, 0402, 5% | 10, 0402, 5% |
| PC6305 | No Stuff | 0.22uF |
| PC6313 | No Stuff | 0.22uF |
| PC6314 | 0.01uF | No Stuff |
| PC6322 | 0.1uF, 0402, 10V | No Stuff |
| PC6327 | 220pF, 0402, 50V | No Stuff |
| PD6301 | RB751V-40 | No Stuff |
| PC6317 | 3.3nF | No Stuff |
| PR6315 | 1, 0603, 1% | 0, 0603, 5% |
| PR6321 | 100, 0402, 5% | 0, 0402, 5% |
| PR6318 | 10K, 0402, 5% | 4.7K, 0402, 5% |
| PC6308 | 0.01uF | 0.01uF |
| PC6315 | 0.01uF | 0.01uF |
| PD6300 | 1SS355 | No stuff |
| PR6325 | 1K, 0603, 5% | No stuff |

| TABLE1 | | | | | |
|---|---|---|---|---|---|
| ADAPTOR (W) | TRIP CURRENT (A) | PR6317 | PR6311 | PR6305 | PR6326 |
| 65 | 3.17 | 57.6K | 13.0K | 105 | N/A |
| 90 | 4.43 | 51.1K | 17.8K | 348 | 33.2K |
| 130 | 6.43 | 32.4K | 20.5K | 100 | 27.4K |
| 150 | 7.43 | 30.9K | 24.9K | 432 | 88.7K |
| 200 | 9.75 | 19.1K | 28K | 301 | 36.5K |
| 230 | 11.28 | 32.4K | 6.49K | 115 | N/A |

**Note 1:** PR6326 is populated if ADAPT_TRIP_SET is used to program for the next lower adaptor

ADAPT_TRIP_SET is floating for the higher adaptor, grounded for the lower adaptor

**Note 2:** 24.9K at PR6326 allows the 65W adaptor setting to switch down to 45W. (now is 33.2K for 90W)

**Note 3:** PR6302 must be 5m ohm instead of 10m ohm for the 230W adaptor

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| Size | Document Number | Rev |
|---|---|---|
| C | POWER_CHARGER | A00 |

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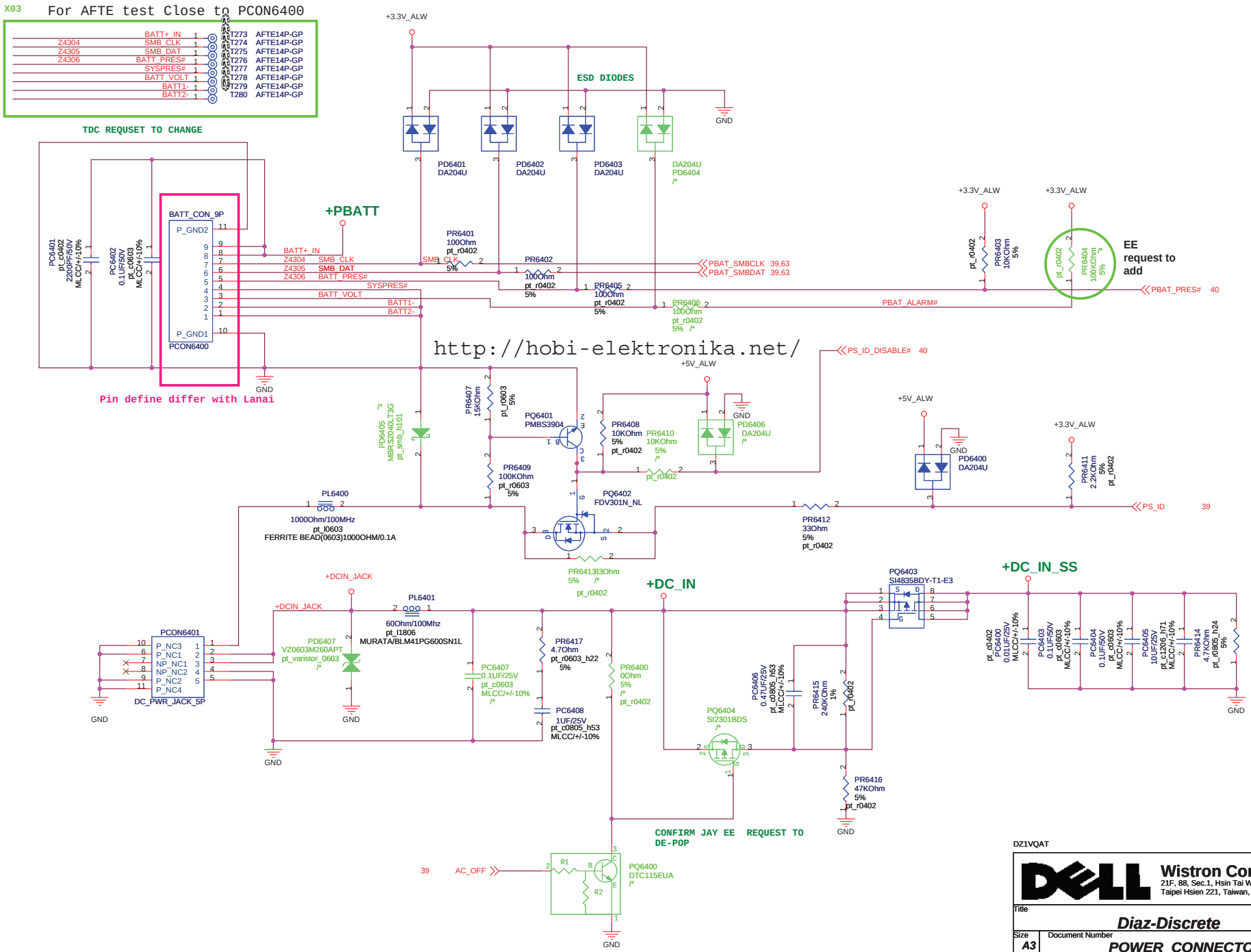
X03
For AFTE test Close to PCON6400
BATT+ IN
SMB_CLK
SMB_DAT
BATT_PRES#
SYSPRES#
BATT_VOLT
BATT1-
BATT2-
T273 AFTE14P-GP
T274 AFTE14P-GP
T275 AFTE14P-GP
T276 AFTE14P-GP
T277 AFTE14P-GP
T278 AFTE14P-GP
T279 AFTE14P-GP
T280 AFTE14P-GP
TDC REQUSET TO CHANGE
+3.3V_ALW
ESD DIODES
GND
PD6401 DA204U
PD6402 DA204U
PD6403 DA204U
DA204U PD6404 /*
+PBATT
BATT_CON_9P
P_GND2
P_GND1
PCON6400
PC6401 pt_c0402 2200PF/50V MLCC/+/-10%
PC6402 0.1UF/50V pt_c0603 MLCC/+/-10%
PR6401 100Ohm pt_r0402 5%
PR6402 100Ohm pt_r0402 5%
PR6405 100Ohm pt_r0402 5%
PR6406 100Ohm pt_r0402 5% /*
PBAT_SMBCLK 39,63
PBAT_SMBDAT 39,63
PBAT_ALARM#
PBAT_PRES# 40
PR6403 10KOhm 5%
PR6404 100KOhm /* 5%
EE request to add
Pin define differ with Lanai
http://hobi-elektronika.net/
PS_ID_DISABLE# 40
+5V_ALW
PD6405 MBRS2040LT3G pt_smb_h101
PR6407 15KOhm pt_r0603 5%
PQ6401 PMBS3904
PR6408 10KOhm 5% pt_r0402
PR6410 10KOhm 5% /* pt_r0402
PD6406 DA204U /*
PR6409 100KOhm pt_r0603 5%
PQ6402 FDV301N_NL
PD6400 DA204U
PR6411 2.2KOhm 5% pt_r0402
PS_ID 39
PR6412 33Ohm 5% pt_r0402
PL6400
1000Ohm/100MHz pt_l0603
FERRITE BEAD(0603)1000OHM/0.1A
PR6413 33Ohm 5% /* pt_r0402
+DC_IN
+DC_IN_SS
+DCIN_JACK
PL6401
60Ohm/100Mhz pt_l1806
MURATA/BLM41PG600SN1L
PCON6401
P_NC3
P_NC1
NP_NC1
NP_NC2
P_NC2
P_NC4
DC_PWR_JACK_5P
PD6407 VZ0603M260APT pt_varistor_0603 /*
PC6407 0.1UF/25V pt_c0603 MLCC/+/-10% /*
PR6417 4.7Ohm pt_r0603_h22 5%
PC6408 1UF/25V pt_c0805_h53 MLCC/+/-10%
PR6400 0Ohm 5% /* pt_r0402
PQ6403 SI4835BDY-T1-E3
PC6406 0.47UF/25V pt_c0805_163 MLCC/+/-10%
PR6415 240KOhm 1% pt_r0402
PQ6404 SI2301BDS /*
PR6416 47KOhm 5% pt_r0402
PC0402 PC6400 0.01UF/25V MLCC/+/-10%
PC6403 0.1UF/50V pt_c0603 MLCC/+/-10%
PC6404 0.1UF/50V pt_c0603 MLCC/+/-10%
PC6405 10UF/25V pt_c1206_h71 MLCC/+/-10%
PR6414 4.7KOhm pt_r0805_h24 5%
CONFIRM JAY EE REQUEST TO DE-POP
39 AC_OFF
PQ6400 DTC115EUA /*
R1
R2
DZ1VQAT
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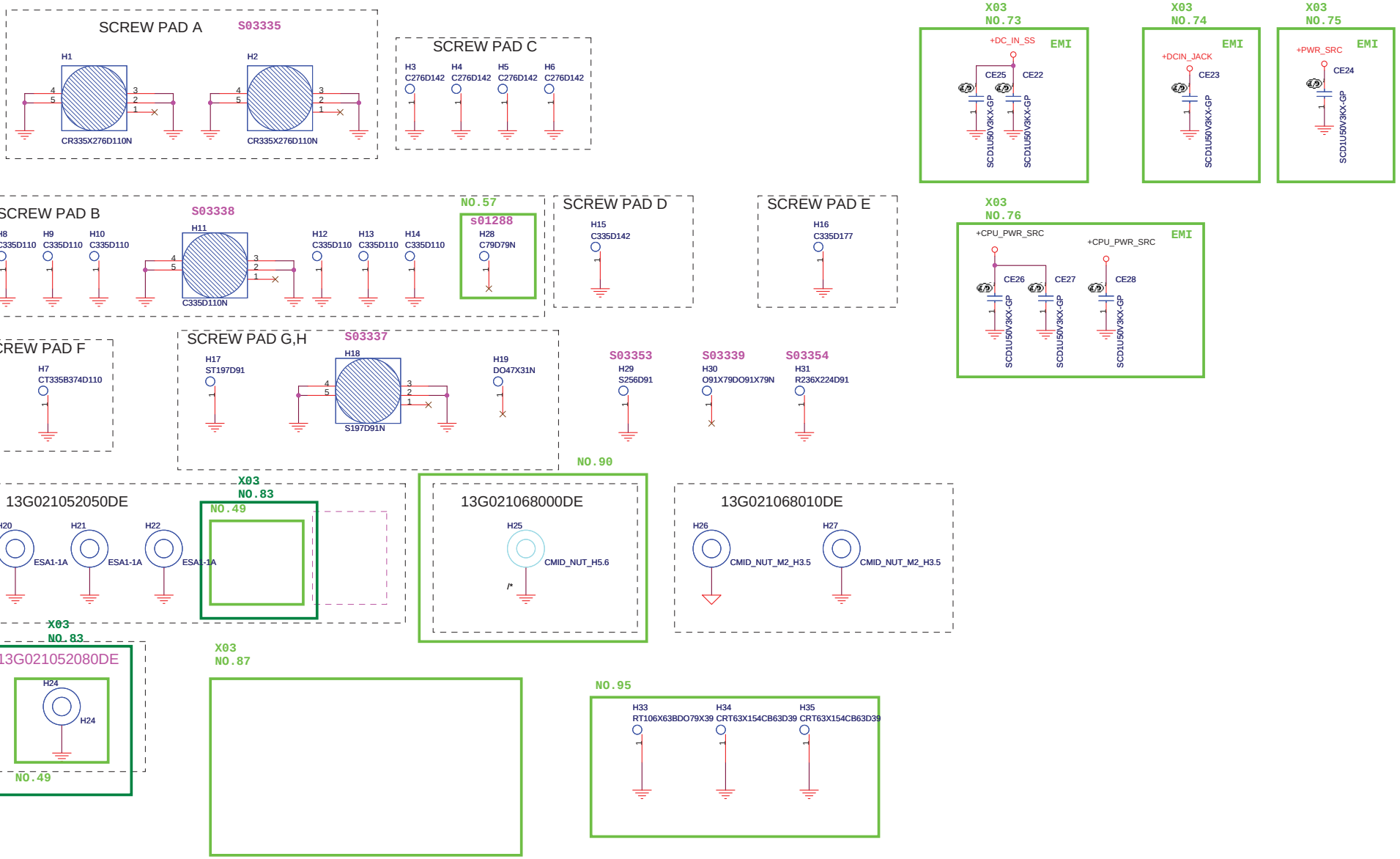


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Title: Diaz-Discrete

| Size | Document Number | Rev |
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| A3 | SCREW PAD | A00 |

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|---|---|---|---|---|---|---|---|
| 1 | all | X00 release | 10/24/2007 | | X00 release | | X00 |
| 2 | 23 | LCD_DDCCLK/LCD_ DDCDAT PU resistor | 11/30/2007 | AA EE | Delete redundant LCD_DDCCLK/LCD_DDCDAT PU resistor | Delete R6855,R6856 | X01 |
| 3 | 30 | HDMI power | 11/30/2007 | AA EE | Modify power diode to MOSFET for leakage current that can lower forwad voltage and match HDMI 5V voltage range | Replace D4612 by Q19 and connect Q19 gate to RUN_ENABLE | X01 |
| 4 | 51 | LAN LED | 11/30/2007 | AA EE | Changed LAN Jack (CON10) pin12 to +3.3V_LAN | Changed LAN Jack (CON10) pin12 to +3.3V_LAN | X01 |
| 5 | 35 | Express card power switch | 11/30/2007 | AA EE | Express Card power switch (U13) pin4 should be connected to +3.3V_RUN for the purpose of using RICOH/R5538 as 2nd source | Connect U13 pin4 to +3.3V_RUN | X01 |
| 6 | 18 | ICH8 | 11/30/2007 | AA EE | ICH8 pin AD11 VCCSUSHDA modify to +3.3V_ALW for +3.3V_RUN to solve S5 leackage issue | Connect ICH8 pin AD11 to +3.3V_ALW | X01 |
| 7 | A1,A2 | Audio Board | 11/30/2007 | AA EE | 1.AH1change to NPTH;2.ACON5 change to 12G142001113DE;<br>3.AU3 pin1 rename to USBP0_D+_U;4.AU3 pin3 rename to USBP0_D-_U | 1.AH1change to NPTH;2.ACON5 change to 12G142001113DE;<br>3.AU3 pin1 rename to USBP0_D+_U;4.AU3 pin3 rename to USBP0_D-_U | X01 |
| 8 | 15,44 | LED mask circuit | 12/05/2007 | AA EE | 1.Delete sniffer LED mask circuit<br>2.modify SATA and WPAN LED circuit. | 1.Delete R246,R247,Q43<br>2.modify SATA and WPAN LED circuit | X01 |
| 9 | 17 | CLK_ICH_48M | 12/06/2007 | AA EE | To improve 48MHz clock signal integrity , pop R339, change C456 to 10pF from 4.7pF and make it stuff. | Pop R339, change C456 to 10pF from 4.7pF and make it stuff. | X01 |
| 10 | 29 | CRT signals | 12/06/2007 | AA EE | Fine tune CRT signals | Delete L4912,L4913,L4914;change L4909,L4910,L4911 to 75ohm/100MHz bead;change C6649~C6654 to 10pF. | X01 |
| 11 | 25 | VRAM description | 12/06/2007 | AA EE | Modify VRAM Description: change HY5RS123235BFP-14 to H5RS5223CFR-14;<br>change K4J10324QD-BC14 to K4J10324QD-HC14 | Change HY5RS123235BFP-14 to H5RS5223CFR-14;<br>Change K4J10324QD-BC14 to K4J10324QD-HC14 | X01 |
| 12 | 16,35, 50 | Reset signals | 12/06/2007 | AA EE | To improve RESET signals integrity | 1.LAN:LOM_PERST#,change R32 to 100ohm<br>2.RICOH/U16: PCI_RST#, R1601 change to 47ohm<br>3.U13: PLTRST#, add R36=100ohm | X01 |
| 13 | 28 | +LCDVCC | 12/06/2007 | AA EE | Fine tune LVDS power sequence T1 time | Change R17 to 470K ohm from 330K ohm | X01 |
| 14 | 21 | PCI Clock | 11/12/2007 | AA EE | Swap PCI clock to improve skew(EA) | Swap net : CLK_PCI_PCCARD & CLK_PCI_8512 | X01 |
| 15 | 21,28, 40 | Comm.team solution | 11/12/2007 | AA Comm. | Add components by comm. team' s request | P21:Pop C2107、C177、C116、C115、C172、C194、C159 (10pF)<br>P28:Pop C7110、C7111、C7113 (39pF);C7112、C7114（33pF)<br>;depop RN2804,pop L1<br>P40:Pop CN21、CN22、CN23、CN24、CN25、CN26、CN27(33pF) | X01 |
| 16 | 39 | IT8512 | 11/12/2007 | AA EE | Add R3920 , C3920 , C3921 for IT8512E chip changed. | Add R3920 , C3920 , C3921 | X01 |
| 17 | 40 | Platform ID | 11/12/2007 | AA EE | Add platform indicator circuit | Add R4025~28, net name: PLATFORM_ID[0:1] | X01 |
| 18 | 40,43 | Connector | 11/12/2007 | AA EE | Changed Connector by ME request. | page 40 -> change CON4010<br>page 43 -> change CON3 | X01 |
| 19 | C1 | CAPBTN I2C | 12/12/2007 | AA EE | Fine tune CAPBTN I2C timing. | 1.Change I2C damping R (CBT_R795) from 330ohm to 100ohm<br>2.Add through holes CBT_H15(s01291) & CBT_H28(s03350) | X01 |
| 20 | F1 | Finger printer | 12/12/2007 | AA EE | Correct the connection of F_U3 | F_U3(NCP584HSN18T1G): Pin3(CE pin)a d Pin4(ECO pin) connect to Pin1(Vin) | X01 |
| 21 | 28 | Digital MIC | 12/14/2007 | AA EE | DMIC clock EMI solution modify | 1.R2802 change to L2802:80ohm bead(follow Lanai P/N)<br>2.R2803 change to 47ohm<br>3.Mount C748 (33P) | X01 |
| 22 | 54 | Power Sequence | 12/14/2007 | AA EE | Follow power circuit. | Remove R73 & net name: 1.25V_RUN_PWRGD | X01 |
| 23 | A2 | Audio Board | 12/14/2007 | AA EE | Update eSATA connector for USB function only. | changed ACON5 = 12G142001115DE | X01 |
| 24 | 39 | IT8512E | 12/14/2007 | AA EE | Del C3921 (IT8512E I version pop 0ohm, J version pop 0.1uF) | Del C3921 | X01 |
| 25 | 40 | Platform ID | 12/14/2007 | AA EE | Del R4025,R4027 to force PCB platform type (Intel SR) | Del R4025,R4027 | X01 |
| 26 | 21,33, 39,50 | XTAL | 12/14/2007 | AA EE | Change XTAL for better capability | (1) X4 24.576MHz change to 07G010222452DE,C453 change to 22pF,C454 change to 27pF<br>(2) X1 25MHz change to 07G010222509DE, C47,C55 change to 33pF<br>(3) X2 14.318MHz change to 07G01021143CDE ,<br>(4) X5 32.768KHz change to 07G01020327ADE, change C667,C654 to 15pF | X01 |
| 27 | 23,25 | M82-S PU power | 12/17/2007 | AA EE | Base on latest M82-S reference schematic to modify LCD I2C and M82-S strapping power | Change LCD_DDCCLK,LCD_DDCDAT and M82 strapping PU power to +3.3V_DELAY from +3.3V_RUN | X01 |
| 28 | 46~48 | Audio | 12/17/2008 | AA EE | 1.Modify BOM for EAPD function<br>2.Modify BOM for gain tunnng | 1.Unmount R4602<br>Mount R4601,Q123,R6958<br>2.Delete R6964,R6965,R6960,R6961,R6970,R6962,R6963,R6971<br>Add R4701,R4702,R4703,R4704,C4701,C4702 | X01 |
| 29 | 50,51 | LOM | 12/17/2008 | AA EE | 1.Modify schematic for triple LED control<br>2.Add EMI solution | 1.Add R5110~R5114,D5101; del T5004, add LINK_LED1000# intersheet<br>2.Add C5110~C5117 | X01 |
| 30 | 28 | LVDS CON | 12/18/2007 | AA EE | Change LVDS connector symbol due to connector changed | Update CON6613's symbol | X01 |
| 31 | 33,45,39 47,41,50 | Test Point | 12/18/2007<br>12/19/2007 | AA EE | Add Test Point to meet ICT request | Add T43 at U26 pin4,T44 at U8 pin26,T145 at U19 pin23<br>Add Test point for U27,U2,U15 pin14 and U8,3 | X01 |
| 32 | 30 | HDMI | 12/18/2007 | AA EE | Add level shift circuit for HDMI DDC signals | Add R6856,R4913,R6855,R4919,Q22,Q23 | X01 |
| 33 | 41 | SPI Flash | 12/18/2007 | AA EE | Delete SPI Flash dampping resistors | Delete R310, R316, R317, R4102 | X01 |
| 34 | 31 | HDD/ODD Power | 12/18/2007 | AA EE | Modify HDD/ODD power circuit by customer request | 1. unmount: JP4, R3101<br>2. POP BOM: R5, R7, R399, R400, C13, Q2, Q3, Q56 | X01 |
| 35 | 49,A1 A2 | USB SWITCH | 12/19/2007 | AA EE | Remove USB charge function | Delete AU2 ; rename USBP0_D-_U and USBP0_D+_U to USBP0_D- and USBP0_D+; connect CON9,ACON1 pin36 to GND, pin29 NC | X01 |
| 36 | A2 | Audio board | 12/20/2007 | AA EE | Delete AL7, rename AU3 pin1,pin3 to AICH_USBP0+ and AICH_USBP0- for height limit | Delete AL7, rename AU3 pin1,pin3 to AICH_USBP0+ and AICH_USBP0- | X01 |
| 37 | 44 | LED | 12/20/2007 | AA EE | Pop R4411 for WPAN LED PU | Pop R4411 | X01 |
| 38 | C1 | Media BTN | 12/26/2007 | AA EE | Swap LED_PLAY#,LED_STOP#,LED_REWIND# ; Swap SNS_REWIND and SNS_PLAY | Swap LED_PLAY#,LED_STOP#,LED_REWIND# ;<br>Swap SNS_REWIND and SNS_PLAY | X01 |

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|---|---|---|---|---|---|---|---|
| 39 | 17 | USB_WPAN_DET# | 12/26/2007 | AA EE | Change USB_WPAN_DET# PU resistor to 1Mohm(R341) due to LittleRock BT card pin40 has 100K PD. | Change USB_WPAN_DET# PU resistor to 1Mohm | X01 |
| 40 | C1 | Media BTN | 12/26/2007 | AA EE | Swap signals due to ID modified | 1) Swap LED_REWIND# and LED_PLAY# net names<br>2) Swap Sense pads net names SNS_REWIND and SNS_PLAY | X01 |
| 41 | 42 | USB dual connector | 12/26/2007 | AA EE | Change CON6610 to I2G13141108ADE | Change CON6610 to 12G13141108ADE | X01 |
| 42 | 40 | Board ID | 02/14/2008 | AA EE | Changed pcb id to X02 | Changed pcb id to X02 | X02 |
| 43 | 15 | XTAL | 02/14/2008 | AA EE | Modify C375,C377 per XTAL report | Change C375,C377 to 2.7pF | X02 |
| 44 | 15 | ICH8 reset signal | 02/14/2008 | AA EE | U14, U30, U37: power modify to +3.3V_ALW from +3.3V_RUN | U14, U30, U37: power modify to +3.3V_ALW from +3.3V_RUN | X02 |
| 45 | 41,39 C1 | CapBTN | 02/14/2008 | AA EE | Add CapBTN IC reset signal | 1. Add CBT_RESET pin(CBT_U7901 pin17,U15 pin19) Add CBT_JP1,CBT_JP2<br>2. Sense pad modify to elliptic through hole<br>3. Add a reserved 10uF capacitor parallel to +5V_ALW2 on the CapBtn board<br>4.Add CAP_EC_RESET off-page at CON6616 pin5<br>5.LED Mute/VD/VU connect to +5V_ALW2 power rail | X02 |
| 46 | 30,37 | Comm. team solution | 02/18/2008 | AA Comm. Team | Add comm. team solutions | 1.Pop L4606, depop RN3701 by comm. Team request<br>2.CMID: Add C6663 39PF close to C6925 | X02 |
| 47 | 47,A1 | Audio | 02/18/2008 | AA EE | Modify ACON2,ACON3,ACON4 footprint.<br>Change value of C492,C496 to improve AP performance | 1.ACON4 PCB footprint change to pt_phone_j_6p_4hd_col_lf<br>2.ACON3,ACON2 footprint change to pt_phone_j_6p_4h_col_lf<br>3.C492 and C496 Bom change to 2.2U(11G236122511310DE) from 1UF | X02 |
| 48 | 21 | Clock | 02/18/2008 | AA EE | Delete reserved resistors | Delete RN1, RN2, RN3, RN5, RN6, RN7, RN8, RN9, RN10, RN11 | X02 |
| 49 | 65 | Nut | 02/18/2008 | AA ME | Swap PN of H23,H24 base on updated DXF | Swap PN of H23,H24 | X02 |
| 50 | 39 | 8512 | 02/19/2008 | AA EE | Chagne 8512 to Rev.J, pop C3920, depop R3920 | Chagne 8512 to Rev.J, pop C3920, depop R3920 | X02 |
| 51 | 47 | Speaker gain | 02/21/2008 | AA EE | Fine tune gain | 1.Unmount R374,R377, mount R379,R368<br>2.R4701,R4703 change to 24.3Kohm, R4702,R4704 mount 100Kohm | X02 |
| 52 | 39,62 | 8512 | 02/21/2008 | AA EE | Add another path to control GFX_EN signal to solve glitch issue of 8512 pin104 | 1.Delete T3901,add net GFX_CORE_ON_1 at U15 pin104<br>2.Add PR6211 | X02 |
| 53 | F1 | Finger Printer | 02/22/2008 | AA EE | Add TP:F_T14 at F_+3.3V_RUN | Add TP:F_T14 at F_+3.3V_RUN | X02 |
| 54 | 46,48 49 | Audio | 02/25/2008 | AA EE | Modify Audio circuit to solve Pop sound issue | (1) SWAP port B and port F. (2).Delete C7120, (3)add D4601 and D4602 | X02 |
| 55 | 44 | LED | 02/25/2008 | AA EE | Change LED1 to White&Orange(07G01520097SDE) from Blue&Orange 07G01520053QDE | Change LED1 to White&Orang from Blue&Orange | X02 |
| 56 | 46 | Audio | 02/26/2008 | AA EE | Connect R559 pin1 to AUD_SENSE_B from AUD_SENSE_A | Connect R559 pin1 to AUD_SENSE_B from AUD_SENSE_A | X02 |
| 57 | 65 | Screw pad | 02/26/2008 | AA EE | Modify H28 size base on ME request | Modify H28 size base on ME request | X02 |
| 58 | 39 | XTAL | 03/13/2008 | AA EE | Modify C667,C654 to 7PF from 15PF | Modify C667,C654 to 7PF from 15PF | X02 |
| 59 | 39 | 8512 | 03/13/2008 | AA EE | Depop C3920, pop 1uF at R3920 for 8512. | Depop C3920, pop 1uF at R3920 for 8512. | X02 |
| 60 | 52 | SOFT START | 05/15/2008 | W EE | Change PC58 to 3900pF and populate it for soft star. | Change PC58 to 3900pF and populate it for soft star. | X02 |
| 61 | 63 | POWER CCV | 05/15/2008 | W EE | Change PR6318 from 4.7K to 10K ohm by power team suggestion. | Change PR6318 from 4.7K to 10K ohm by power team suggestion. | X02 |
| 62 | 63 | CHARGER | 05/15/2008 | W EE | Change PR6332 from 1 ohm to 0 ohm and populate it for charger function | Change PR6332 to 0 ohm and populate it for charger function. | X02 |
| 63 | 63 | CHARGER | 05/15/2008 | W EE | Pop PR6333 for charger function | Pop PR6333 for charger function | X02 |
| 64 | 63 | CHARGER | 05/15/2008 | W EE | Pop PR6330 for charger function | Pop PR6330 for charger function | X02 |
| 65 | 63 | CHARGER | 05/15/2008 | W EE | Pop PR6331 for charger function | Pop PR6331 for charger function | X02 |
| 66 | 52 | SOFT START | 05/15/2008 | W EE | Pop PC186 | Pop PC186 for soft star. | X02 |
| 67 | 52 | SOFT START | 05/15/2008 | W EE | Pop PC182 | Pop PC182 for soft star. | X02 |

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|---|---|---|---|---|---|---|---|
| 68 | 62 | +5V_SUS LEAKAGE | 06/19/2008 | Power team | +5V_SUS leakage in S5 | Take off PR6225 by power team suggestion. | X03 |
| 69 | L1 | add conn. | 06/24/2008 | ME EE | To reduce the time of LID BD cable manual rework | Add connector HALL1. | X03 |
| 70 | A2 | Audio board | 06/30/2008 | EE | Change connector ACON5 to "22.10218.D31" | Change connector ACON5 to "22.10218.D31" | X03 |
| 71 | 40 | Board ID | 07/01/2008 | EE | Board ID change to X03 | R534 is depop and R535 is pop. | X03 |
| 72 | 66~72 | I/O board | 07/01/2008 | EE | Remove I/O board schematic | Independence I/O board shecmatic for layout ME issue | X03 |
| 73 | 65 | EMC suggestion | 07/03/2008 | EMC | By EMC team suggestion. | Add CE22 and CE25 between +DC_IN_SS and GND. | X03 |
| 74 | 65 | EMC suggestion | 07/03/2008 | EMC | By EMC team suggestion. | Add CE23 between +DCIN_JACK and GND. | X03 |
| 75 | 65 | EMC suggestion | 07/03/2008 | EMC | By EMC team suggestion. | Add CE24 between +PWR_SRC and GND. | X03 |
| 76 | 65 | EMC suggestion | 07/04/2008 | EMC | By EMC team suggestion. | Add CE26、CE27 and CE28 between +CPU_PWR_SRC and GND. | X03 |
| 77 | 37 | SIM CARD | 07/04/2008 | EE | For SI : UIM_CLK add R6634 0ohm | Add R6634 0 ohm resistance | X03 |
| 78 | 29 | VGA CRT | 07/05/2008 | EE | For SI : CRT RGB rise/fall time and Hsync/Vsync signal issue | 1.Depop 6 caps : C6649 C6650 C6651 C6652 C6653 C6654<br>2.Change L4610 and L4611 to 0 ohm resistance (63.00000.00L)<br>3.Change bead L4909 L4910 L4911 to 22 ohm/100MHz (68.00143.111) | X03 |
| 79 | 18 | ICH8-M | 07/05/2008 | EE | Change bead dimension | L49 change dimension form 1210 to 0805 (68.1R090.10A) | X03 |
| 80 | 10 | Crestline(VGA,DMI) | 07/05/2008 | EE | Change resistance dimension | R161 change dimension form 0603 to 0402 (64.39205.6DL) | X03 |
| 81 | 36 37 | MINI CARD | 07/05/2008 | EE | Prevent pin short to pin | Change CON6602 and CON6605 to 62.10043.511 | X03 |
| 82 | 38 | MINI CARD | 07/05/2008 | EE | Prevent pin short to pin | Change CON6603 to 62.10043.441 | X03 |
| 83 | 65 | SCREW PAD | 07/05/2008 | EE | For ME suggestion | Remove H23 and change H24 to 34.4Z402.001 | X03 |
| 84 | 15 | ICH8 | 07/08/2008 | EE | For ICH_AZ_CODEC_SDOUT | Change R275 to 47 ohm resistance (63.47034.1DL) | X03 |
| 85 | | TEST PAD | 07/08/2009 | EE | For PSE suggestion | 1.Add connector test pad (ZZ.AFT14.101)<br>2.Change all test pad to ZZ.PAD14.001 | X03 |
| 86 | 40 | EC IT8301E | 07/08/2009 | EE | For board ID | Add R538 and R539 but depop | X03 |
| 87 | 65 | SCREW PAD | 07/08/2009 | ME EE | Remove CIR scerw hole | Remove H32 and H33 | X03 |
| 88 | 31 | SATA | 07/08/2009 | EE | Separate HDD and ODD power plane | Remove J4 | X03 |
| 89 | | CLOSE GAP | 08/05/2009 | EE | Replace 0 ohm resistance to close gap | Page 10 change R151, R462, R465, R466, R486 to close gap<br>Page 13 change L42, R1301 to close gap<br>Page 13 replace JP2, JP3 by close gap<br>Page 15 change R213 to close gap<br>Page 16 change R1602, R1603 to close gap<br>Page 17 change R252, R508 to close gap<br>Page 21 change R71 to close gap<br>Page 23 change R2301, R2302, R2303 to close gap<br>Page 26 change R6923, R6925 to close gap<br>Page 28 change R2801, R604, R616 to close gap, remove RN2804<br>Page 29 change L4610, L4611, R6639 to close gap<br>Page 30 change R3001, R4913, R4919, RN42A, RN42B, RN43A, RN43B, RN44A, RN44B, RN45A, RN45B to close gap and remove L4650, L4651, L4652, L4653<br>Page 32 change R363, R566 to close gap<br>Page 33 change R342, R3301 to close gap<br>Page 34 change RN488A, RN488B, RN490A, RN490B to close gap, remove L43, L44<br>Page 35 change RN499A, RN499B to close gap, remove L46<br>Page 36 change R6617, R6618, J3 to close gap<br>Page 37 change RN3701A, RN3701B to close gap, remove L4606<br>Page 38 change R6895, R6896, R6897, RN3801A, RN3801B to close gap, remove L4605<br>Page 39 change R225, R274, R529, R592, R6934 to close gap<br>Page 40 change R241 to close gap<br>Page 42 change RN4201A, RN4201B, RN4202A, RN4202B to close gap, remove L4616, L4617<br>Page 43 change R4301, R4302 to close gap<br>Page 44 change R284, R600, R4415 to close gap<br>Page 45 change R398 to close gap<br>Page 47 change R6930 to close gap<br>Page 48 change R6919, R6920, R6931 to close gap<br>Page 50 change R126, R4902, R4905, R4903, R4907, R4910, R4911, R4914, R4915, R4918, R4921, R4922, R4924 to close gap<br>Page 52 change PR56, PR200 to close gap<br>Page 54 change R52, R150, R427, R504, R519 to close gap<br>Page 56 change RN5601A, RN5601B to close gap, remove L4915<br>Page 58 change PR5815, PR5823, PR5827, PR5828, PR5840 to close gap<br>Page 59 change PR5905, PR5916, PR5918, PR5919, PR5924, PR5925 to close gap<br>Page 60 change PR6000, PR6007 to close gap<br>Page 61 change PR6104, PR6112, PR6117, PR6118 to close gap<br>Page 62 change PR6204, PR6210, PR6211, PR6217, PR6229, PR6232 to close gap<br>Page 63 change PR6300, PR6314, PR6319, PR6324, PR6328, PR6330, PR6331, PR6332, PR6333 to close gap | A00 |
| 90 | | WWAN | 08/05/2009 | EE | Remove WWAN function | Page 16 dummy C439, C443, R356<br>Page 21 dummy R66, R2118<br>Page 37 dummy C6636, C6637, C6638, C6639, C6640, C6641, C6642, C6643, C6644, C6645, C6646, C6647, C6648, CE17, CE18, CON6605<br>Page 57 dummy CON6615<br>Page 65 dummy H25 | A00 |

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## Version Change list for EE Circuit

| Item | Page | Title | Date | Request Owner | Issue Description | Solution Description | Rev. |
|---|---|---|---|---|---|---|---|
| 91 | 52 | POWER CONTROL | 08/05/2009 | EE | Soft start | Change PC192 from 4700pF to 0.1uF | A00 |
| 92 | 40 | Board ID | 08/07/2008 | EE | Change board ID for A00 | Pop R534 and R536, depop R535 and R537, remove R538 and R539 | A00 |
| 93 | 54 | Power sequence logic | 08/07/2008 | EE | For RESET_OUT# pull low | Add 1K ohm resistance R5401 | A00 |
| 94 | 43 | CIR | 08/07/2008 | EE | For PSE suggestion | Add close gap R4303 | A00 |
| 95 | 65 | SCREW PAD | 08/07/2008 | EE | For CIR support to prevent CIR damage | Add H33, H34, H35 | A00 |
| 96 | 40 | EC IT8301E | 08/12/2008 | EE | For keyboard backlight detect | Add R4029 and R4030 but depop | A00 |
| 97 | 33 | R5C833 | 08/18/2008 | EE | For MS/xD/SD clock overshoot/undershoot over spec | Change R545 from 0 ohm to 33 ohm | A00 |
| 98 | 30 | HDMI | 08/21/2008 | EE | Reduce +5V_HDMI noise | Change C6925 from 100pF to 0.1uF | A00 |

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