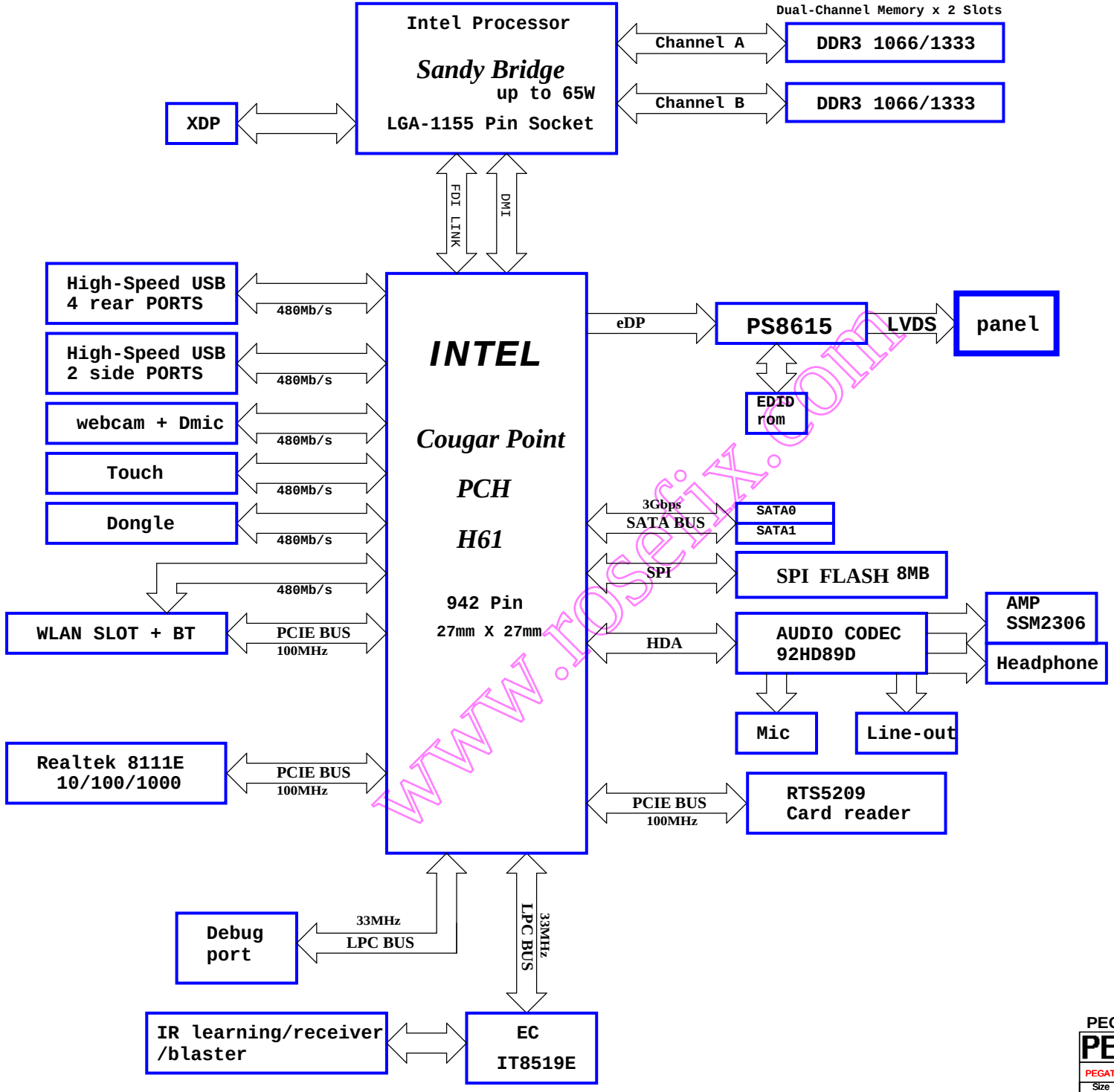


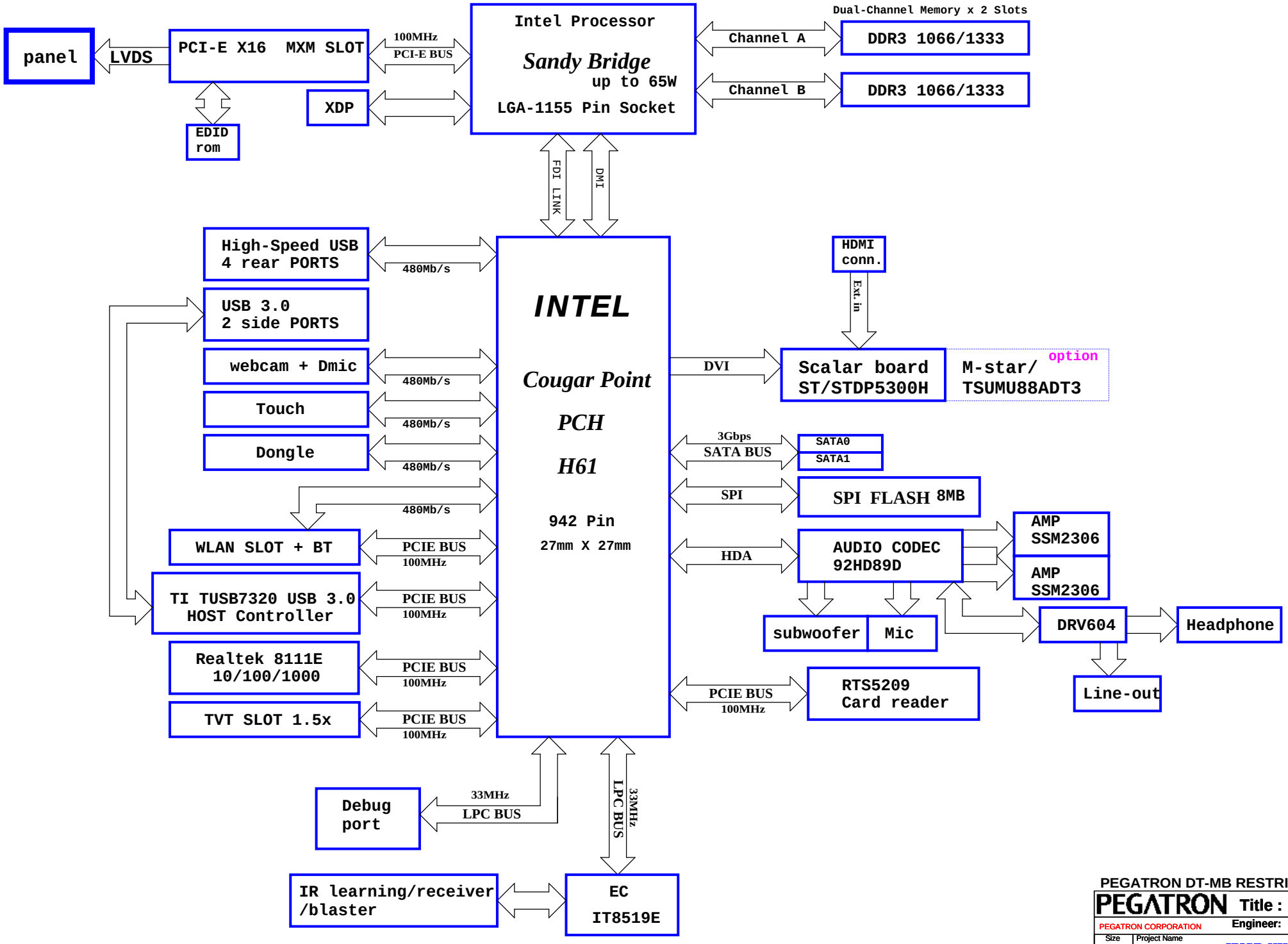
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : BLOVK DIAGRAM

PEGATRON CORPORATION Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 1 of 80



PEGATRON DT-MB RESTRICTED SECRET

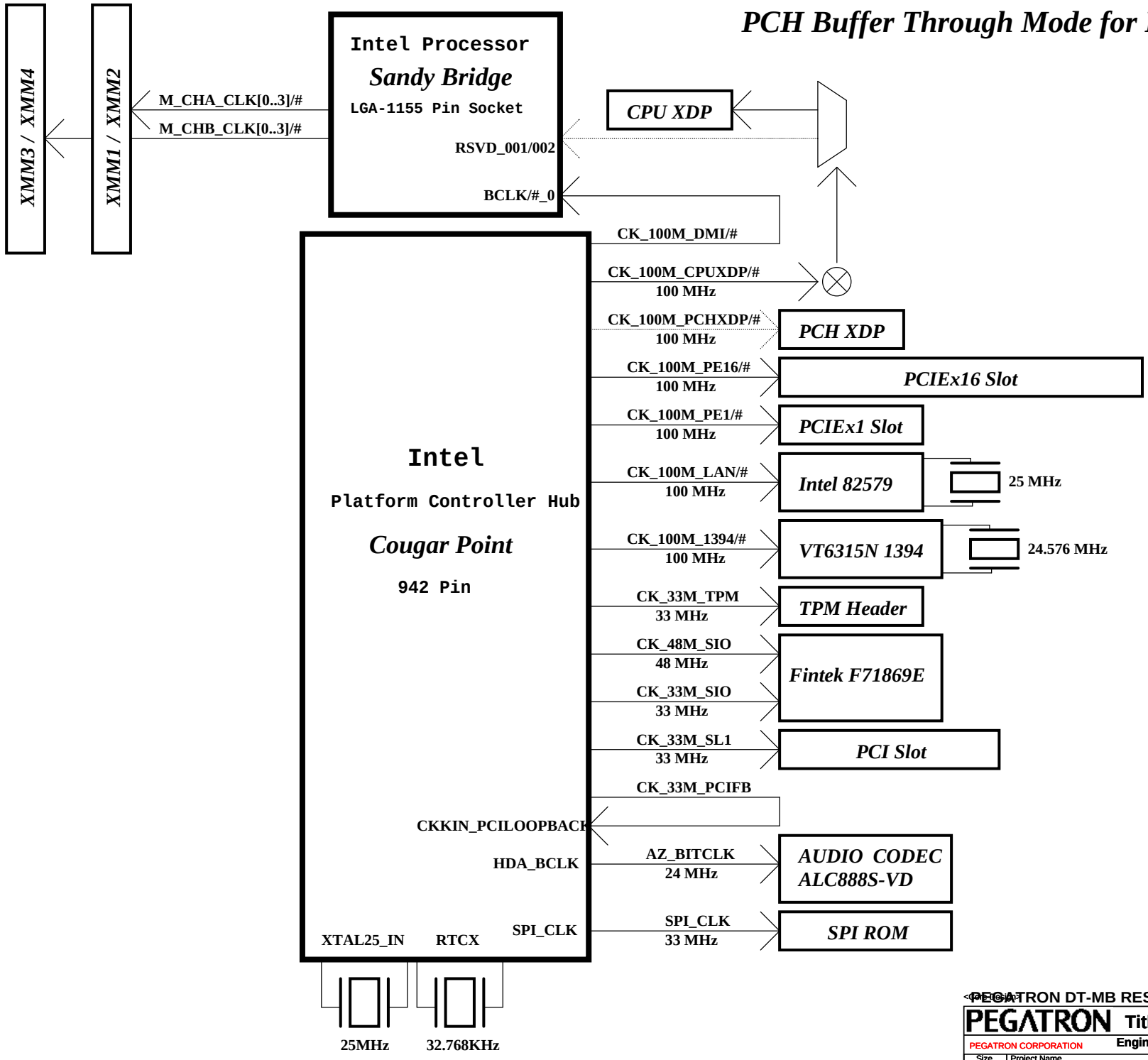
PEGATRON Title : BLOVK DIAGRAM

PEGATRON CORPORATION Engineer: Ethan_Chen

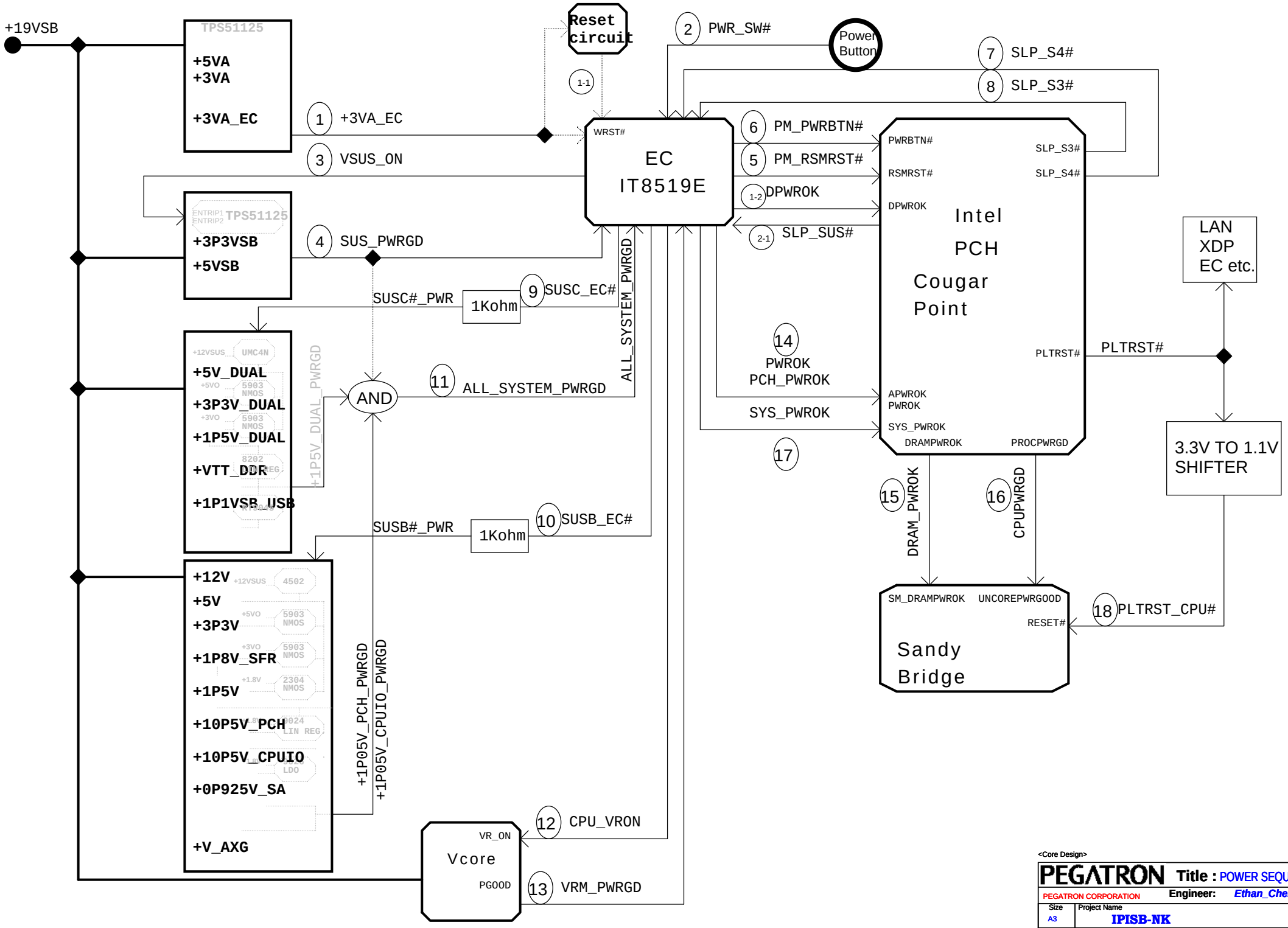
Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 2 of 80

PCH Buffer Through Mode for Pre-Silicon



PEGATRON	Title : CLCOK DISTRIBUTION	
PEGATRON CORPORATION	Engineer: Ethan_Chen	
Size: A3	Project Name: IPISB-NK	Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 3 of 80	



<Core Design>

PEGATRON

Title : POWER SEQUENCE

PEGATRON CORPORATION

Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 4 of 80

<Core Design>

PEGATRON

Title : POWER SEQUENCE

PEGATRON CORPORATION

Engineer: Ethan_Chen

Size	Project Name	Rev
A	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 5 of 80

<Core Design>

PEGATRON	Title : POWER SEQUENCE	
PEGATRON CORPORATION	Engineer: Ethan_Chen	
Size: A	Project Name: IPISB-NK	Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 6 of 80	

<Core Design>

PEGATRON Title : POWER SEQUENCE

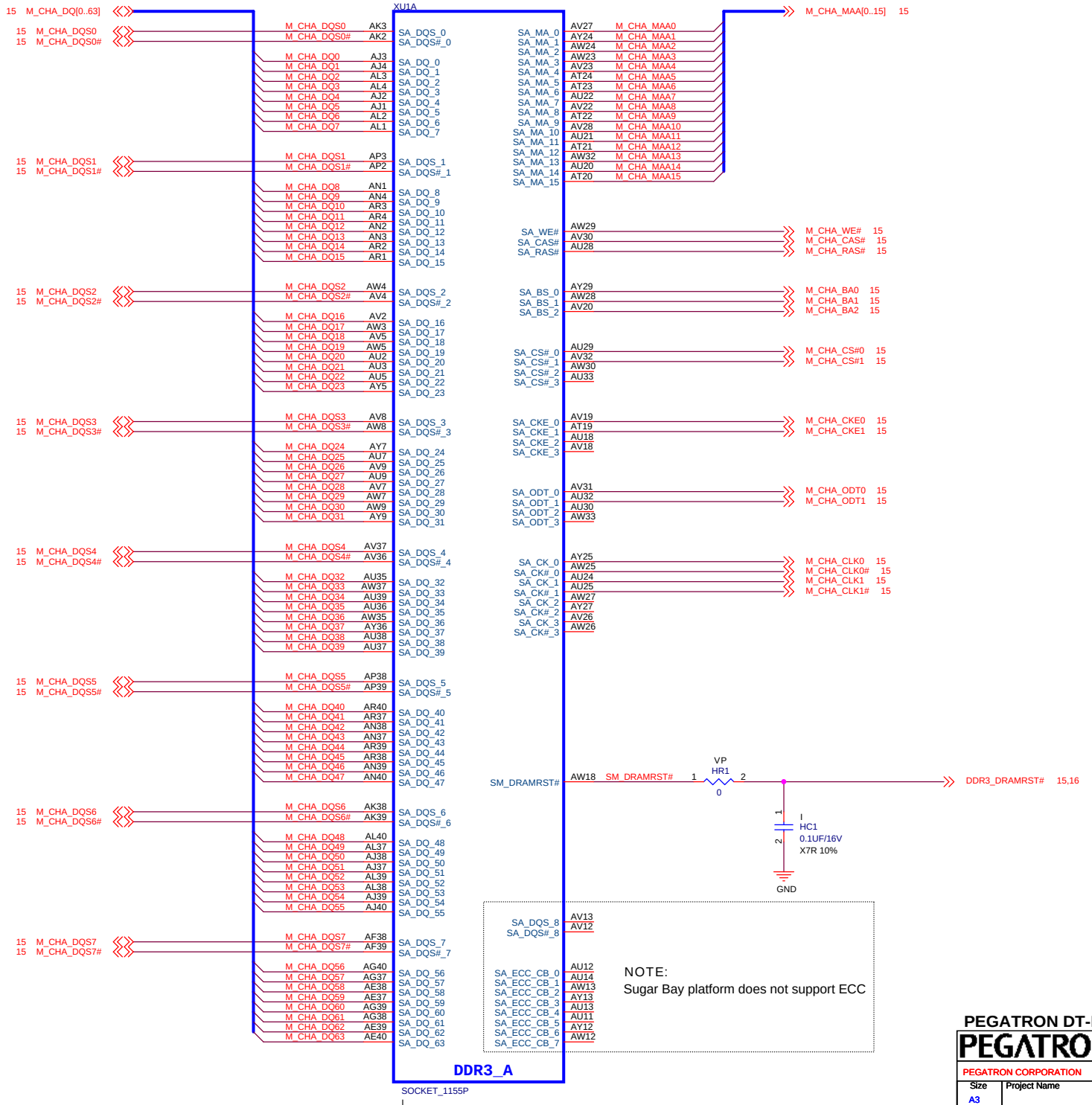
PEGATRON CORPORATION Engineer: Ethan_Chen

Size	Project Name	Rev
A	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 7 of 80

<Core Design>

PEGATRON	Title : POWER SEQUENCE	
PEGATRON CORPORATION	Engineer: Ethan_Chen	
Size: A	Project Name: IPISB-NK	Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 8 of 80	



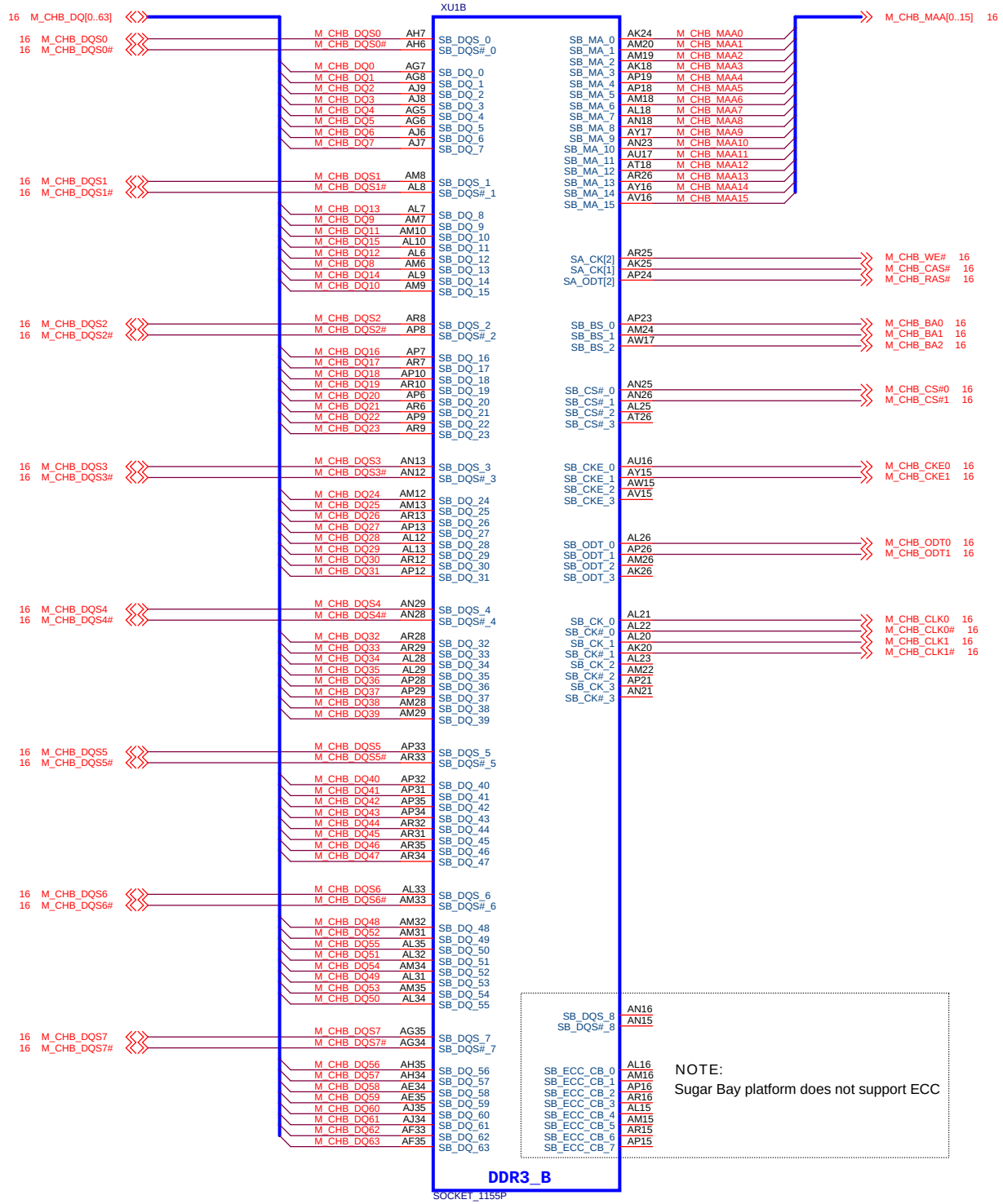
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : DDR3_A 1-6

PEGATRON CORPORATION Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 9 of 80



PEGATRON DT-MB RESTRICTED SECRET

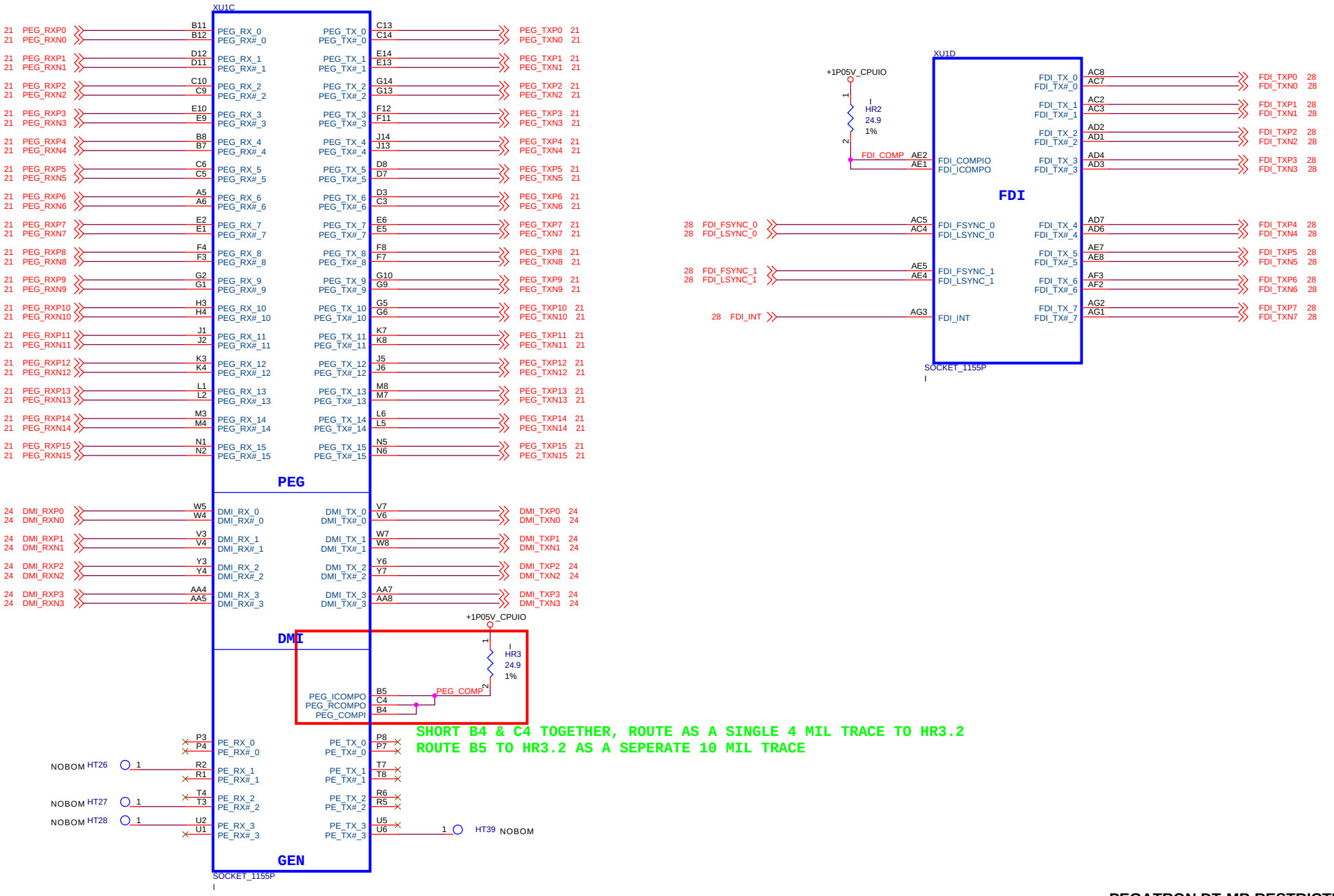
PEGATRON CORPORATION

Title : DDR3_B 2-6

Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 10 of 80



Processor PCI Express* Receive/ Transmit Differential Pair. These signals are available for Workstation only.

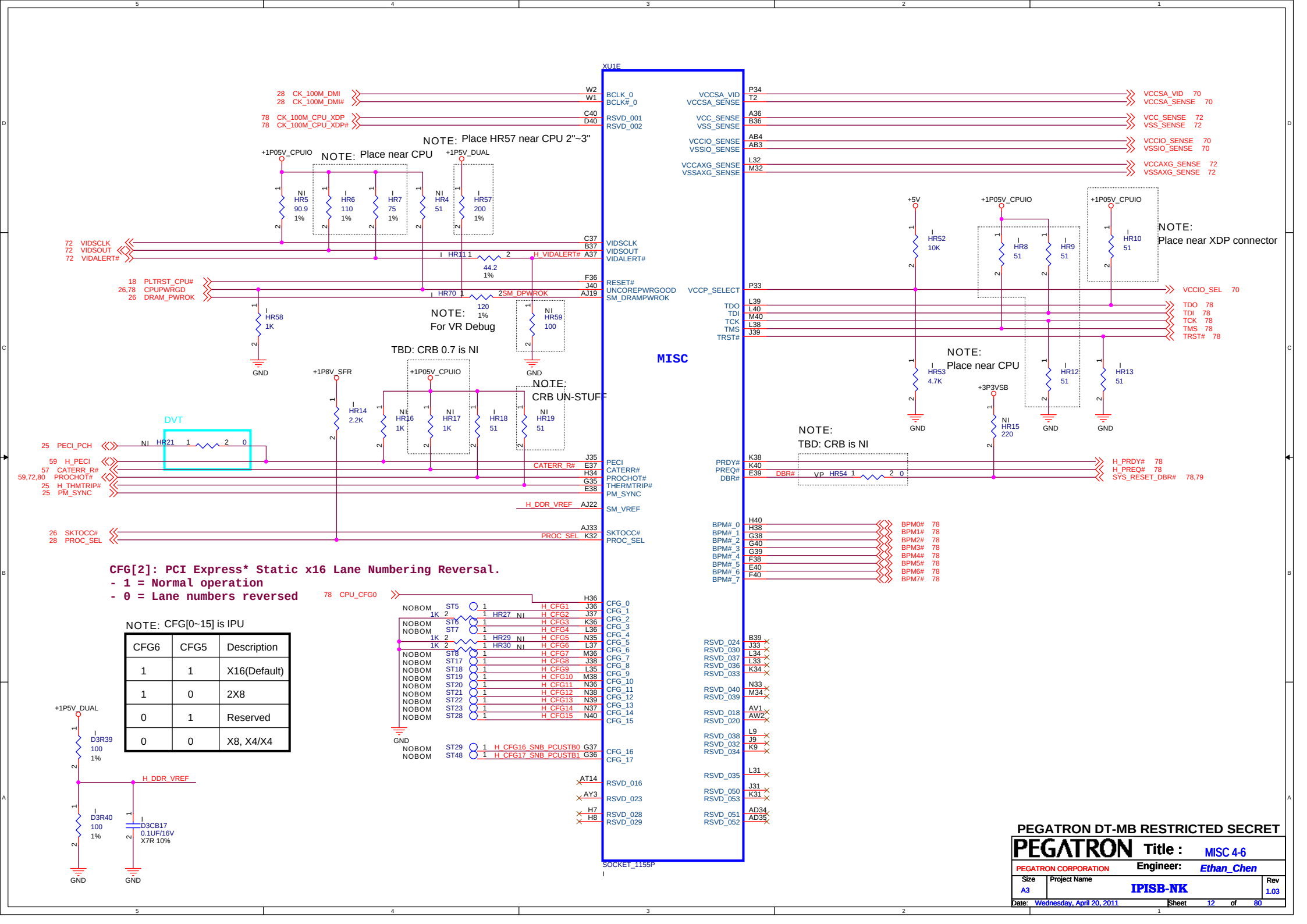
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : PCIE/DMI/FDI 3-6

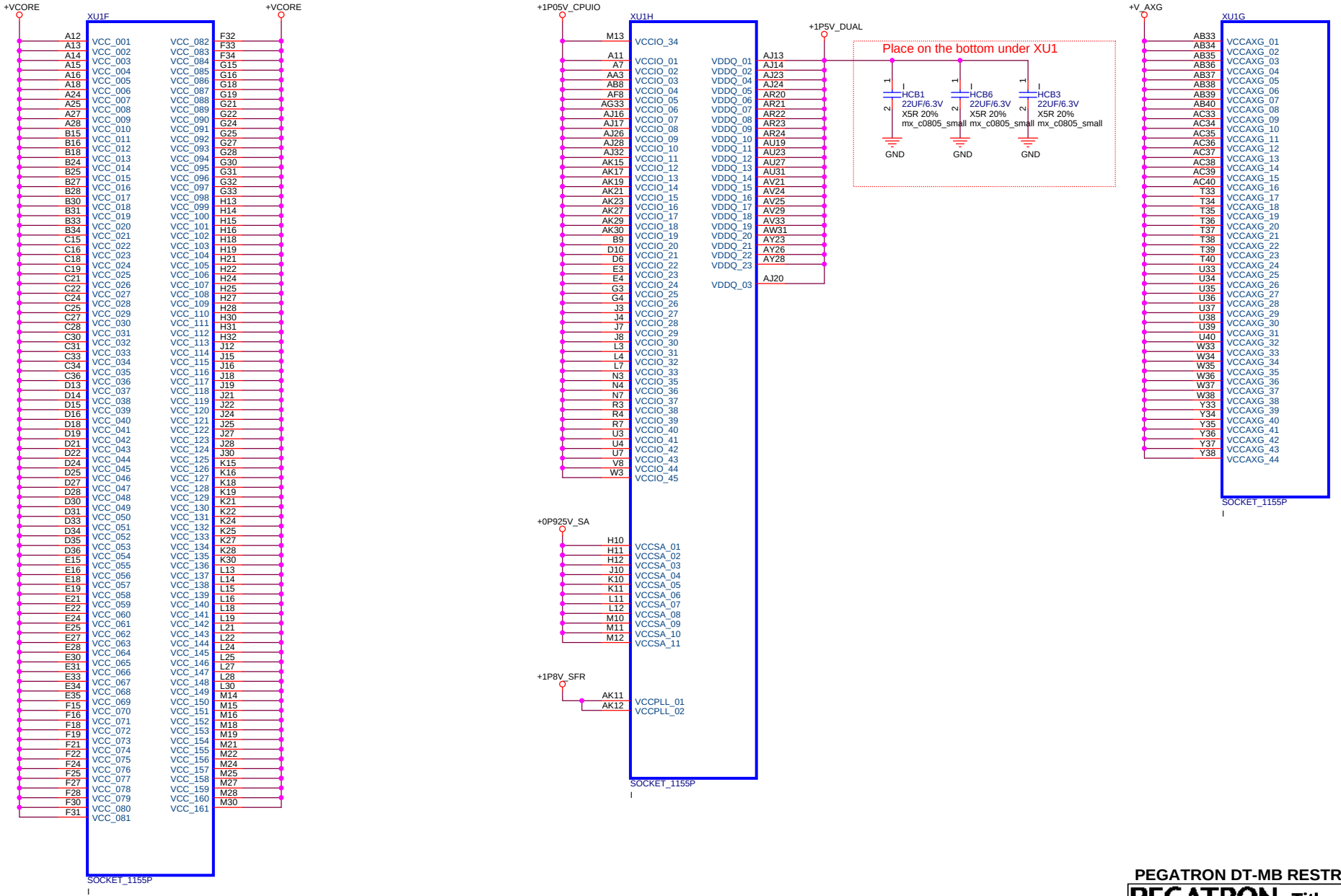
PEGATRON CORPORATION Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 11 of 80



CFG6	CFG5	Description
1	1	X16(Default)
1	0	2X8
0	1	Reserved
0	0	X8, X4/X4



PEGATRON DT-MB RESTRICTED SECRET

PEGATRON

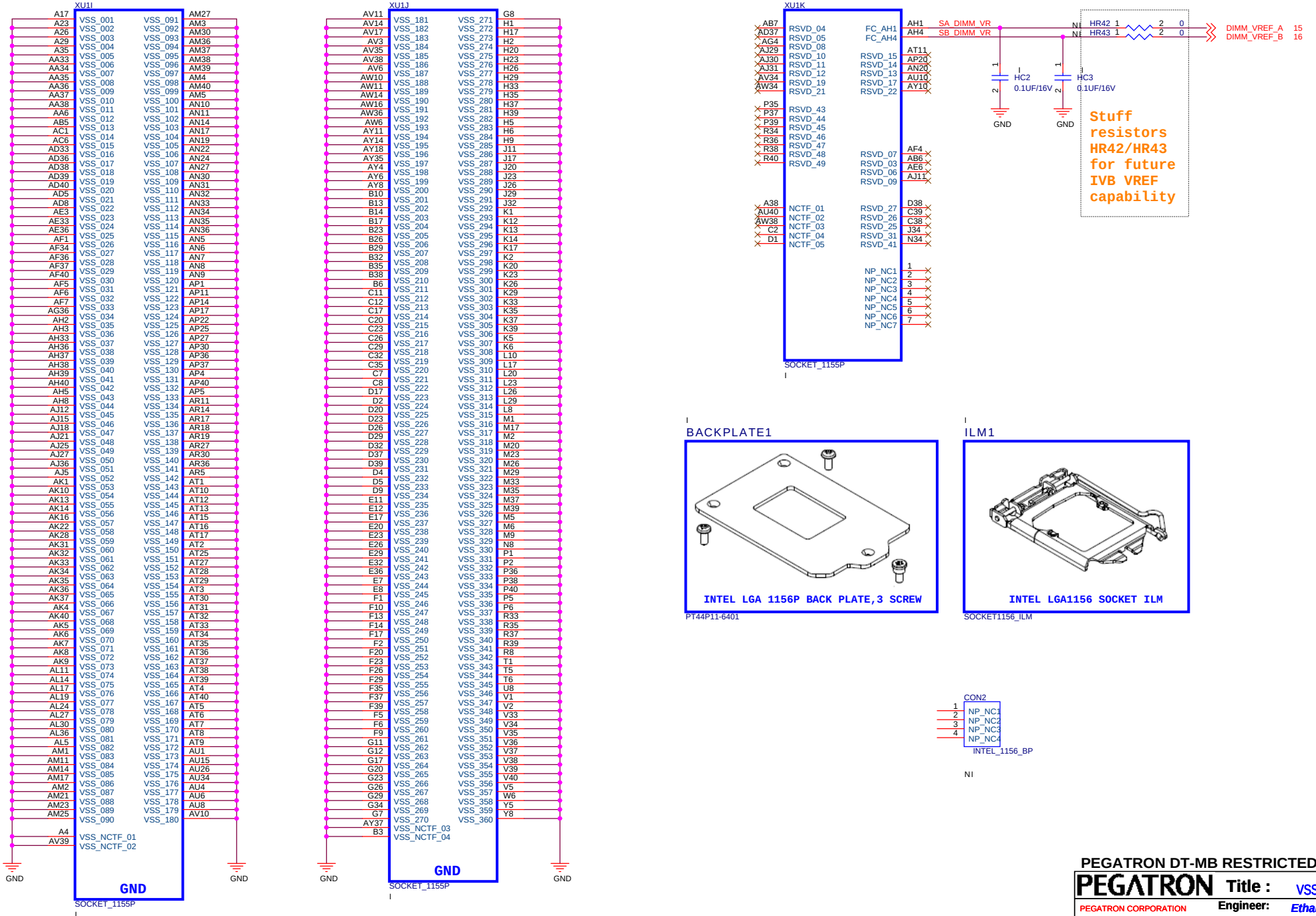
Title : VCC 5 - 6

PEGATRON CORPORATION

Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 13 of 80



PEGATRON DT-MB RESTRICTED SECRET

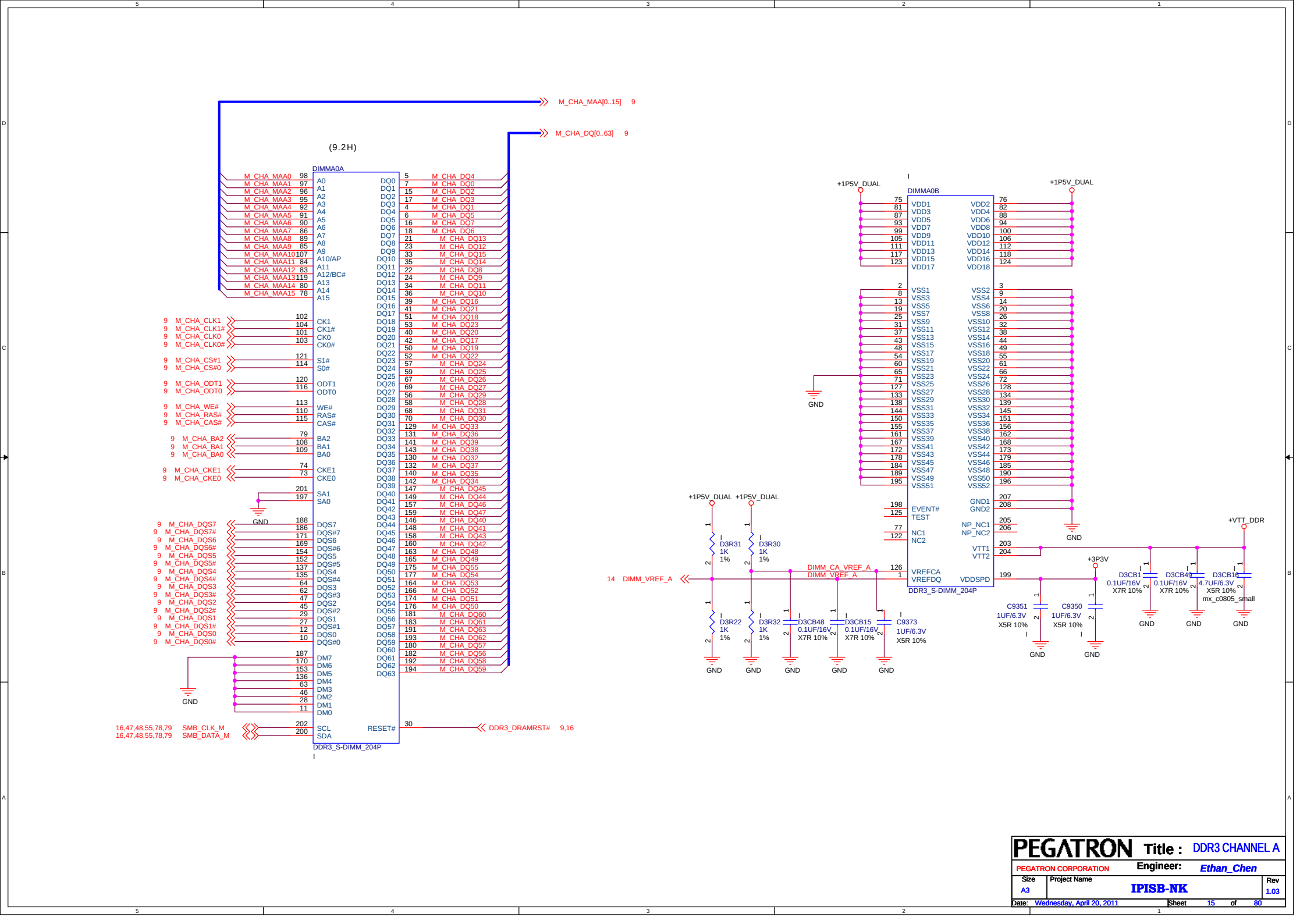
PEGATRON CORPORATION

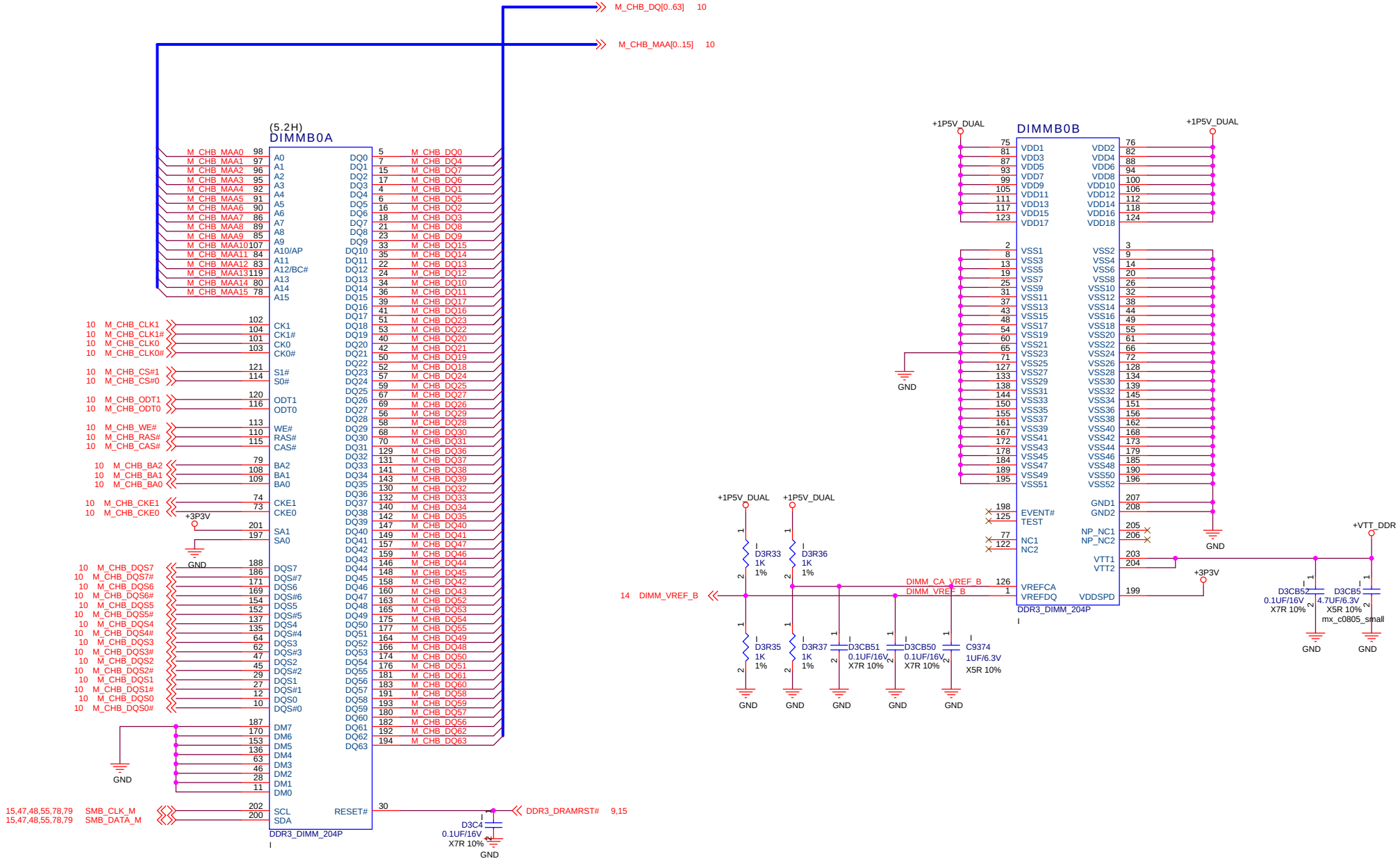
Title : VSS 6 - 6

Engineer: Ethan_Chen

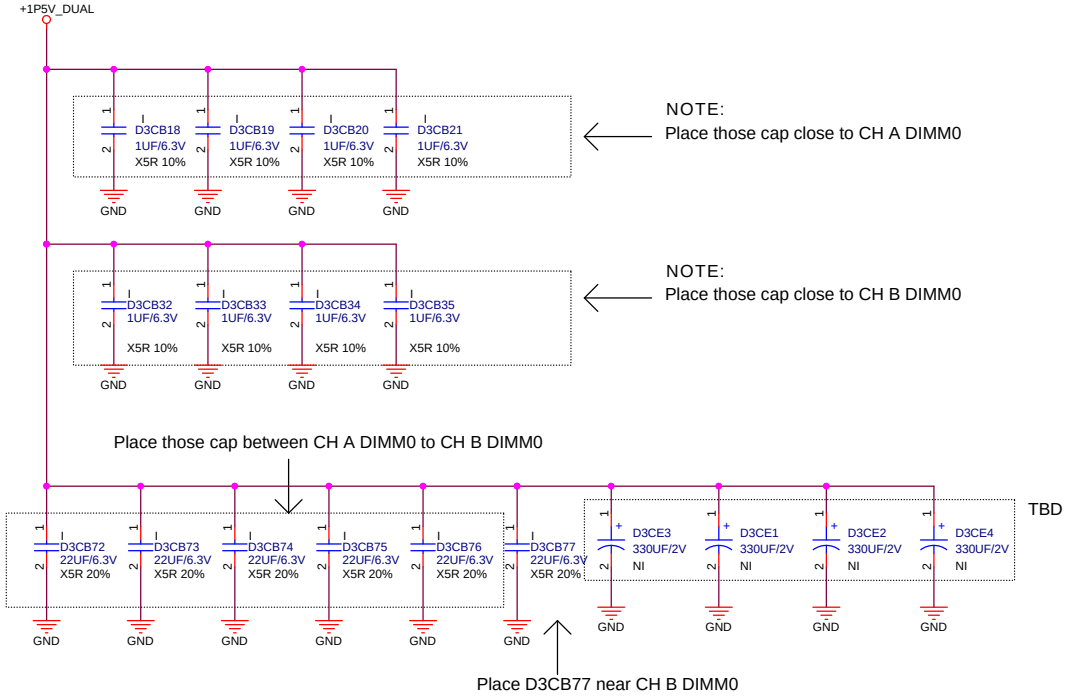
Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Thursday, April 21, 2011 Sheet 14 of 80


M_CHA_MAA[0..15] 9
M_CHA_DQ[0..63] 9
(9.2H)
DIMMA0A
DDR3_S-DIMM_204P
DIMMA0B
DDR3_S-DIMM_204P
+1P5V_DUAL
GND
+3P3V
+VTT_DDR
DIMM_VREF_A
DIMM_CA_VREF_A
DDR3_DRAMRST# 9,16
SMB_CLK_M
SMB_DATA_M
D3R31 1K 1%
D3R30 1K 1%
D3R22 1K 1%
D3R32 1K 1%
D3CB48 0.1UF/16V X7R 10%
D3CB15 0.1UF/16V X7R 10%
C9373 1UF/6.3V X5R 10%
C9351 1UF/6.3V X5R 10%
C9350 1UF/6.3V X5R 10%
D3CB1 0.1UF/16V X7R 10%
D3CB49 0.1UF/16V X7R 10%
D3CB16 4.7UF/6.3V X5R 10%
mx_c0805_small
PEGATRON
Title : DDR3 CHANNEL A
PEGATRON CORPORATION
Engineer: Ethan_Chen
Size A3
Project Name IPISB-NK
Rev 1.03
Date: Wednesday, April 20, 2011
Sheet 15 of 80

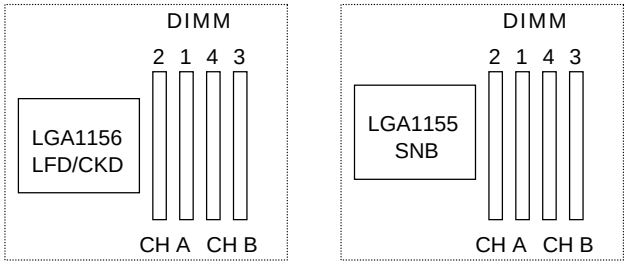


PEGATRON	Title :	DDR3 CHANNEL B	
PEGATRON CORPORATION	Engineer:	Ethan_Chen	
Size: A3	Project Name: IPISB-NK		Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 16 of 80		



NOTE:

DIMM Placement for different platform



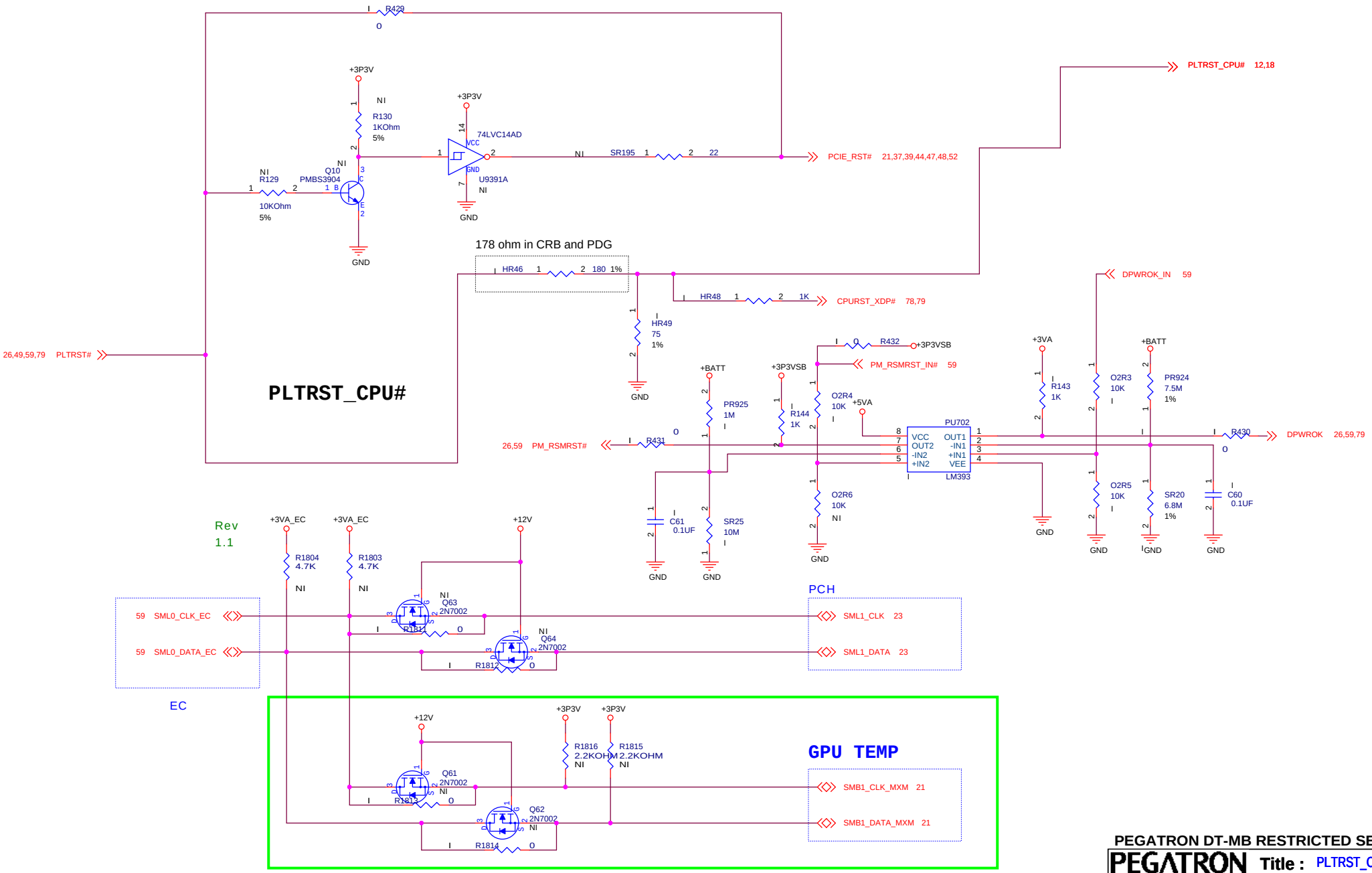
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : DDR3 TERMINATION A&B

PEGATRON CORPORATION Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Thursday, April 21, 2011 Sheet 17 of 80



PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title :	PLTRST_CPU#&SMbus
PEGATRON CORPORATION	Engineer:	Ethan_Chen
Size: A3	Project Name: IPISB-NK	Rev: 1.03
Date: Friday, April 22, 2011	Sheet 18 of 80	

PEGATRON

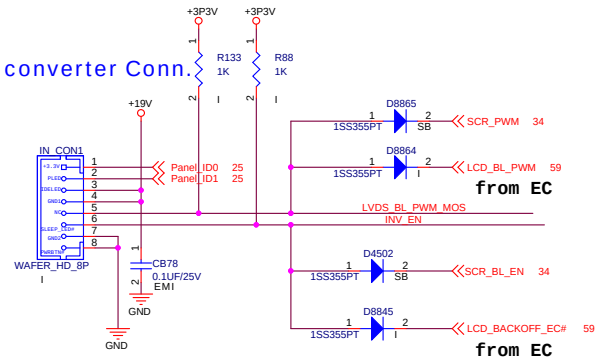
Title : PLTRST_CPU#&SMbus

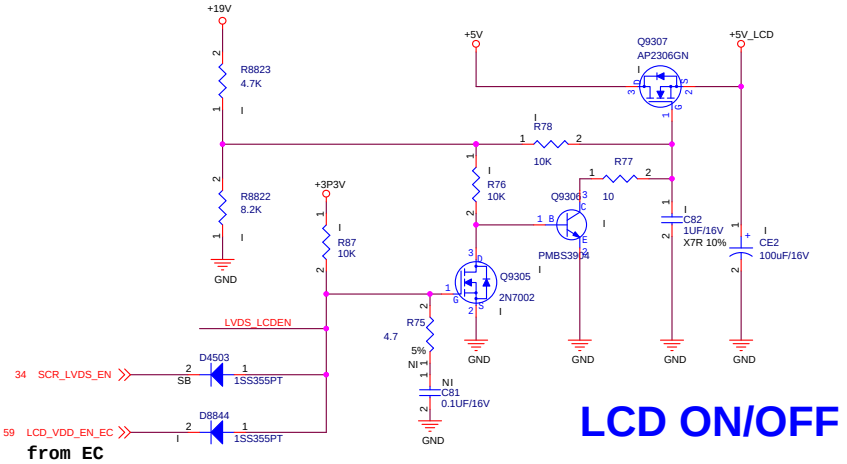
PEGATRON CORPORATION

Engineer: Ethan_Chen

Size	Project Name	Rev
A	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 19 of 80





PEGATRON	Title : converter	
PEGATRON CORPORATION	Engineer: Ethan_Chen	
Size: Custom	Project Name: IPISB-NK	Rev: 1.03
Date: Friday, April 22, 2011	Sheet 20 of 80	

typeA NUT

H_MXM1 — TC217BC136D106 — GND

H_MXM2 — TC217BC136D106 — GND

4.5.1. DVI and HDMI Signal Mapping

Table 4-5 details the signal mapping of DP to DVI/HDMI for proper Interface connections.

Table 4-5. DisplayPort to DVI/HDMI Signal Mapping

DisplayPort	DVI/HDMI
DP_x_L0	TX_x_D2
DP_x_L0#	TX_x_D2#
DP_x_L1	TX_x_D1
DP_x_L1#	TX_x_D1#
DP_x_L2	TX_x_D0
DP_x_L2#	TX_x_D0#
DP_x_L3	TX_x_CLK
DP_x_L3#	TX_x_CLK#
DP_x_AUX	DDC_x_CLK
DP_x_AUX#	DDC_x_DATA

MXM1A

MXM_314P

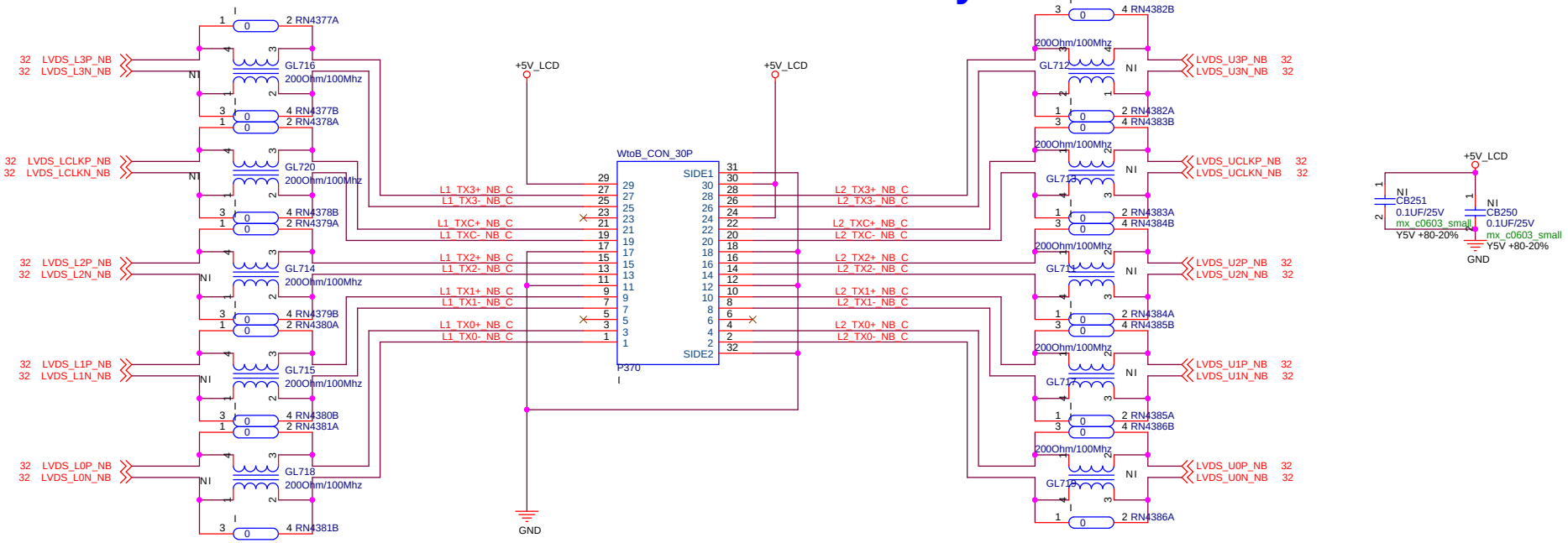
MXM1B

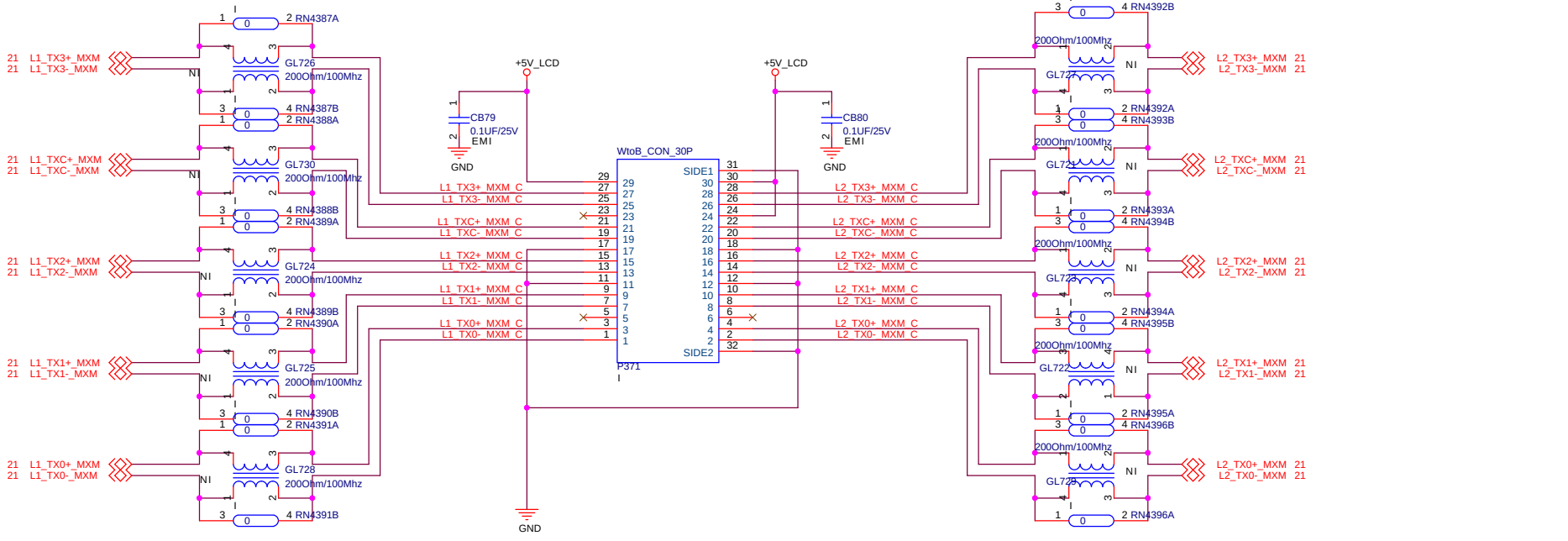
MXM_314P

PEX_STD_SW#:
PCI-Express swing select pin, system must tie to GND to select high (desktop) swing level or float (NC) for low swing.

PEGATRON	Title : MXM
PEGATRON CORPORATION	Engineer: Ethan_Chen
Size: Custom	Project Name: IPISB-NK
Rev: 1.03	
Date: Thursday, April 21, 2011	Sheet 21 of 80

LCD CONN NB & GPU colay





PEGATRON Title : LVDS CON

PEGATRON CORPORATION Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Thursday, April 21, 2011 Sheet 22 of 80

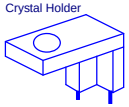
NOTE: Strapping Options Flash

GNT1#	SATA1GP /GPIO19	Boot Device
0	0	LPC
1	0	PCI
1	1	SPI

strapping GPIO, don't use it.

I2C/en(dis)able/S3 for accelerometer

XY5 Crystal Holder



U2A

PCI

SMBUS

RTC

SPI

Rev=1.0

COUGARPOINT

12/6 0200-00JK000--->0200-00KJ000

PEGATRON

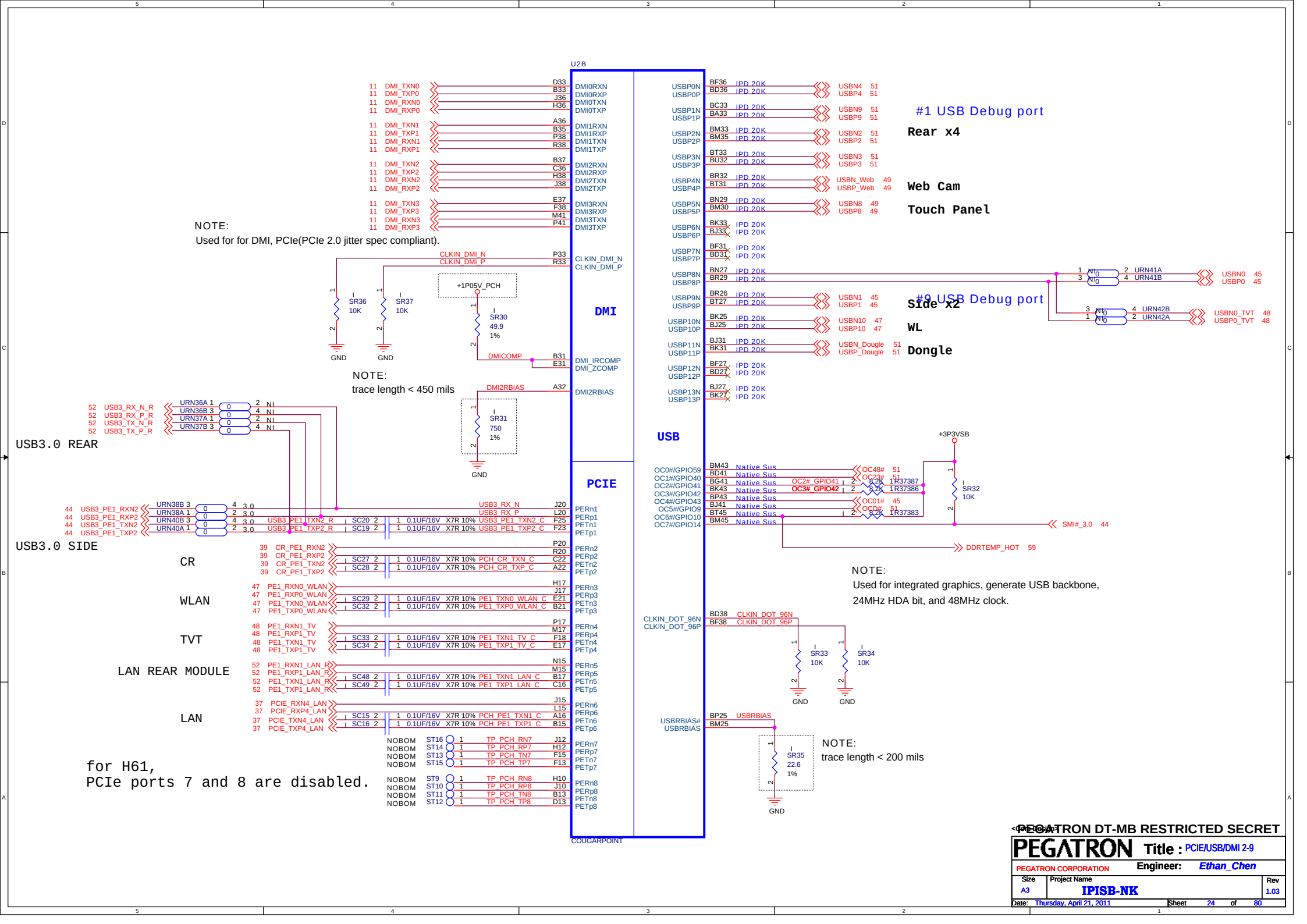
Title : PCI/SM/SPI/RTC 1-9

PEGATRON CORPORATION

Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 23 of 80



PEGATRON

Title : PCIE/USB/DMI 2-9

PEGATRON CORPORATION

Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Thursday, April 21, 2011 Sheet 24 of 80

NOTE:

SR40	SR41	Description
I	NI	iAMT
NI	I	non iAMT

U2C

CLINK
FAN
GPIO
HOST
COUGARPOINT

IPU 32/ IPD 100 BA50 CL_CLK1
IPU 32/ IPD 100 BF50 CL_DATA1
BF49 CL_RST1#
BC46 APWROK

DVT
21,26,59 PCH_PWROK
NI SC30 100PF/50V
GND

59 DDRTEMP_WARM
NOBOM ST24 1 TP_PCH_PWM0 BN21 PWM0
NOBOM ST25 1 TP_PCH_PWM1 BT21 PWM1
NOBOM ST26 1 TP_PCH_PWM2 BM20 PWM2
NOBOM ST27 1 TP_PCH_PWM3 BN19 PWM3

20,21,36,46 MXM_PRESENT#
21 MXM_ALERT#
21 MXM_OVERT#
+3P3V
SR45 SR46 SR47 SR48 SR49 SR50 SR51 SR52 10K
REVID
IPU 20K GPI Core BT17 TACH0/GPIO17
IPU 20K GPI Core BR19 TACH1/GPIO1
IPU 20K GPI Core BA22 TACH2/GPIO6
IPU 20K GPI Core BR16 TACH3/GPIO7
IPU 20K GPI Core BU16 TACH4/GPIO68
IPU 20K GPI Core BM18 TACH5/GPIO69
IPU 20K Native Core BN17 TACH6/GPIO70
IPU 20K Native Core BP15 TACH7/GPIO71

SST IPD 10K BC43 SST
NI SC31 220PF/50V X7R 10%
GND

21 MXM_PWR_EN
32 EDPRST
49 LPC_SMI#
DVT
NI SR90 10K
GND

GPIO 17/38/39: Board ID.
100: 1.00
101: 1.01
110: 1.02
111: 1.03
0xx: TBD

GPI Core BA53 SCLOCK/GPIO22
GPI Core BE54 SLOAD/GPIO38
GPI Core BF55 SDATAOUT0/GPIO39
GPI Core AW53 SDATAOUT1/GPIO48

CLKIN_SATA_N AF55
CLKIN_SATA_P AG56
SR28 10K SR39 10K
GNDGND

+3P3V
SR55 SR56 SR57 SR58 10K
REVBC
SLOAD_GPIO38
SDATAOUT0/GPIO39
MFG_NET
NOBOM MFG1
GPI1 NP_NC1
GPI2 NP_NC2
GND NP_NC3
PEGATRON_MFG
GND

GPIO 49/22: REV ID.
0: REV B
1: REV C

E20 0 SB
NI SR69 10K
NI SR71 10K
GND GND GND

AY20 NC_1

SATA0RXN AC56 SATA_RXN0 33
SATA0RXP AB55 SATA_RXP0 33
SATA0TXN AE46 SATA_TXN0 33
SATA0TXP AE44 SATA_TXP0 33
SATA1RXN AA53 SATA_RXN1 33
SATA1RXP AA56 SATA_RXP1 33
SATA1TXN AG49 SATA_TXN1 33
SATA1TXP AG47 SATA_TXP1 33
SATA2RXN AL50
SATA2RXP AL49
SATA2TXN AL56
SATA2TXP AL53
SATA3RXN AN46
SATA3RXP AN44
SATA3TXN AN56
SATA3TXP AM55
SATA4RXN AN49
SATA4RXP AN50
SATA4TXN AT50
SATA4TXP AT49
SATA5RXN AT46
SATA5RXP AT44
SATA5TXN AV50
SATA5TXP AV49

NOTE: Strapping Options Flash

GNT1#	SATA1GP /GPIO19	Boot Device
0	0	LPC
1	0	PCI
1	1	SPI

Panel_ID0 Panel_ID0 20
SATA0GP/GPIO21 BC54 GPI Core
SATA1GP/GPIO19 AY52 GPI Core IPU 20K SATA1GP_GPIO19
SATA2GP/GPIO36 BB55 GPI Core IPD 20K SATA2GP_GPIO36
SATA3GP/GPIO37 BG53 GPI Core IPD 20K SATA3GP_GPIO37
SATA4GP/GPIO16 AU56 GPI Core
SATA5GP/GPIO49 BA56 GPI Core SATA5GP_GPIO49
10K SR60 SR61 SR62 SR63 SR64 SR65
NI
+3P3V
Panel_ID1 Panel_ID1 20

NOTE: trace length < 450 mils
+1P05V_PCH SR66 37.4 1%
+1P05V_PCH SR67 49.9 1%
SR138 10K
SR298 10K
GND GND
DVT
NI SR89 10K
GND
+3P3V SR68 10K

SATAICOMPI AJ55
SATAICOMPO AJ53 SATAICOMP
SATA3COMPI AE54
SATA3RCOMPO AE52 SATA3COMP
NOTE: trace length < 200 mils

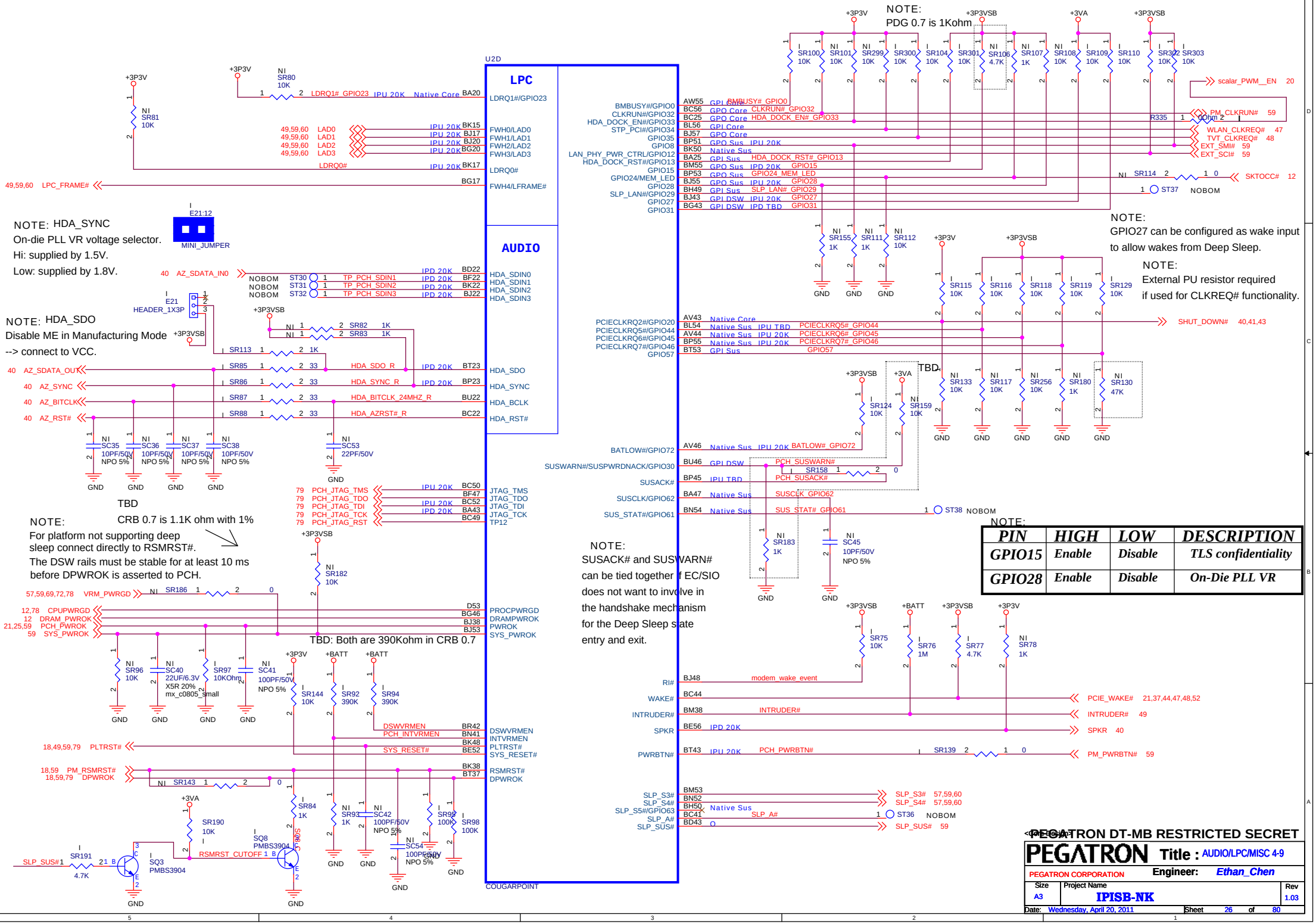
SATALED# BF57 OD HD_LED# 54
TP16 AE50
SATA3RBIAS AC52 SATA3RBIAS
NOTE: trace length < 450 mils
SR70 750 1%
GND

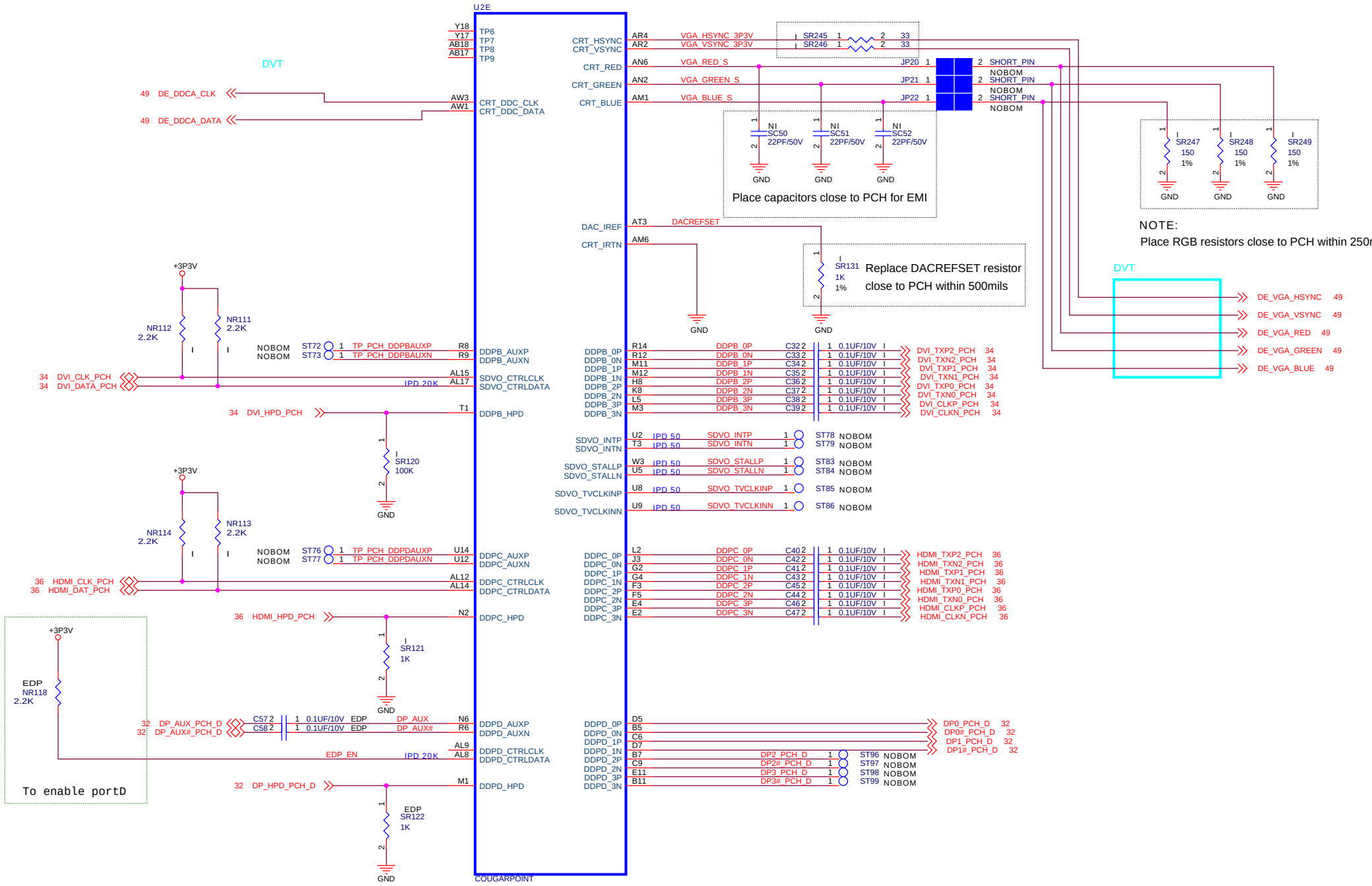
+3P3V +3P3V +3P3V
SR74 10K SR72 10K SR73 10K

A20GATE BB57 A20GATE 59
INIT3_3V# BN56 IPU 20K INIT3_3V#
RCIN# BG56 RST_KB# 59
SERIRQ AV52 SERIRQ 49,59
THRMTRIP# E56 H_THMTRIP# 12
PECI H48 IPD 0.35K PECI_PCH 12
PMSYNCH F55 PM_SYNC 12
NI SR79 1K
GND

<Core Design>
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : SATA/HOST/FAN 3-9
PEGATRON CORPORATION Engineer: Ethan_Chen
Size A3 | Project Name IPISB-NK | Rev 1.03
Date: Wednesday, April 20, 2011 | Sheet 25 of 80


U2D
LPC
AUDIO
COUGARPOINT
NOTE: HDA_SYNC
On-die PLL VR voltage selector.
Hi: supplied by 1.5V.
Low: supplied by 1.8V.
NOTE: HDA_SDO
Disable ME in Manufacturing Mode
--> connect to VCC.
TBD
CRB 0.7 is 1.1K ohm with 1%
NOTE:
For platform not supporting deep sleep connect directly to RSMRST#.
The DSW rails must be stable for at least 10 ms before DPWROK is asserted to PCH.
TBD: Both are 390Kohm in CRB 0.7
NOTE:
SUSACK# and SUSWARN# can be tied together if EC/SIO does not want to involve in the handshake mechanism for the Deep Sleep state entry and exit.
NOTE:
PDG 0.7 is 1Kohm
NOTE:
GPIO27 can be configured as wake input to allow wakes from Deep Sleep.
NOTE:
External PU resistor required if used for CLKREQ# functionality.
TBD
PIN | HIGH | LOW | DESCRIPTION
GPIO15 | Enable | Disable | TLS confidentiality
GPIO28 | Enable | Disable | On-Die PLL VR
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : AUDIO/LPC/MISC 4-9
PEGATRON CORPORATION
Engineer: Ethan_Chen
Size A3
Project Name IPISB-NK
Rev 1.03
Date: Wednesday, April 20, 2011
Sheet 26 of 80



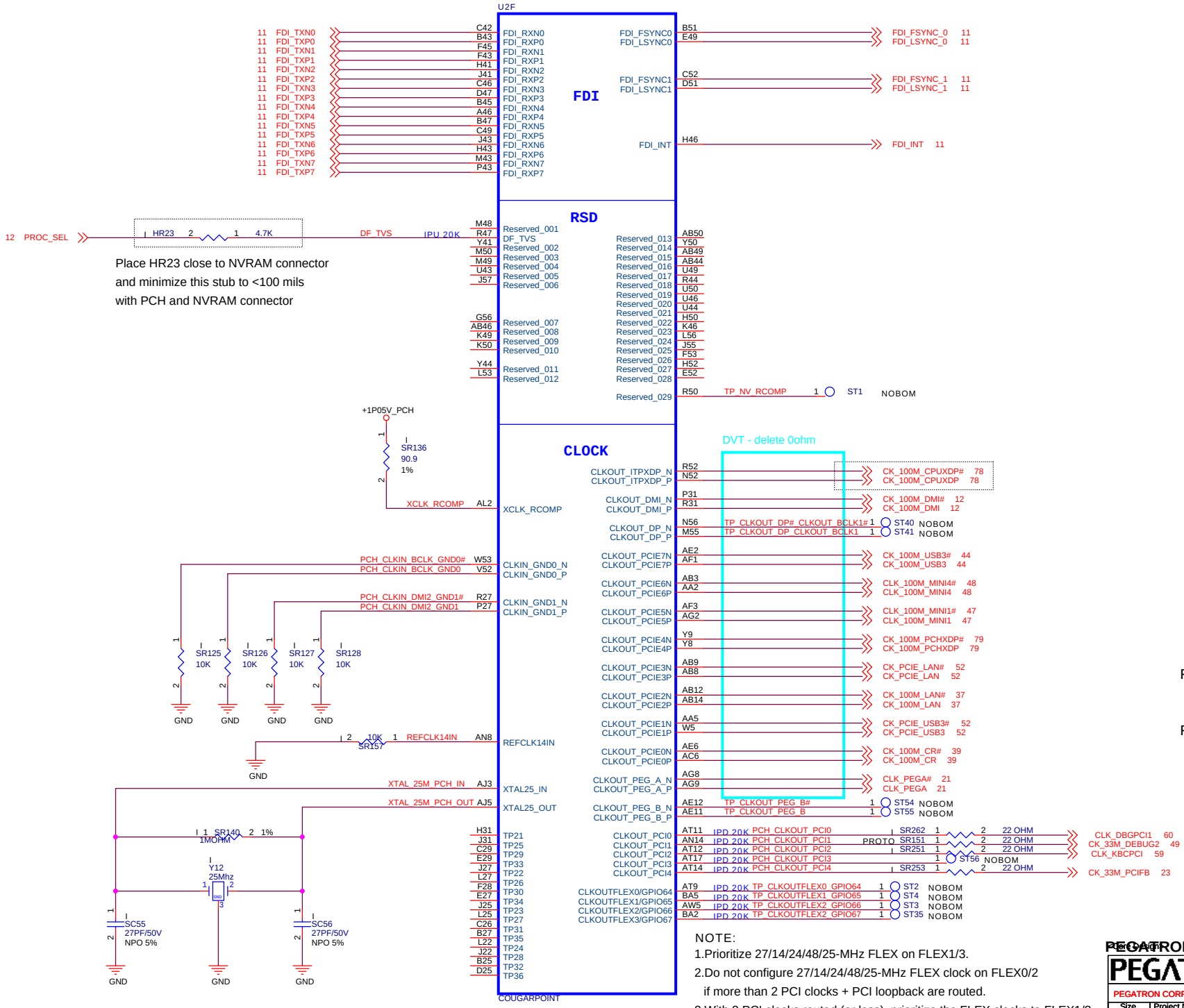
PEGATRON CORPORATION

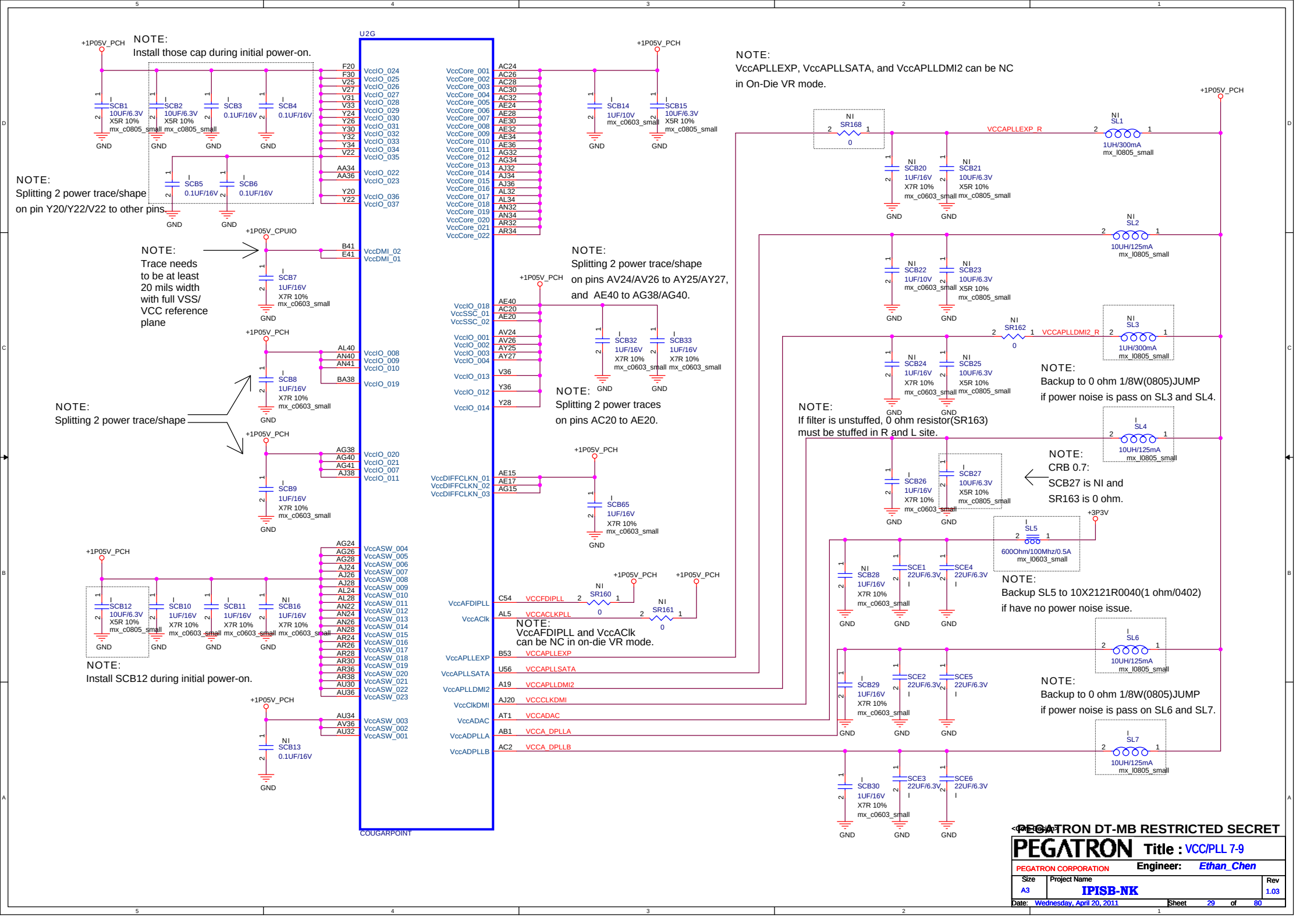
Title : VGA/DP/HDMI 5-9

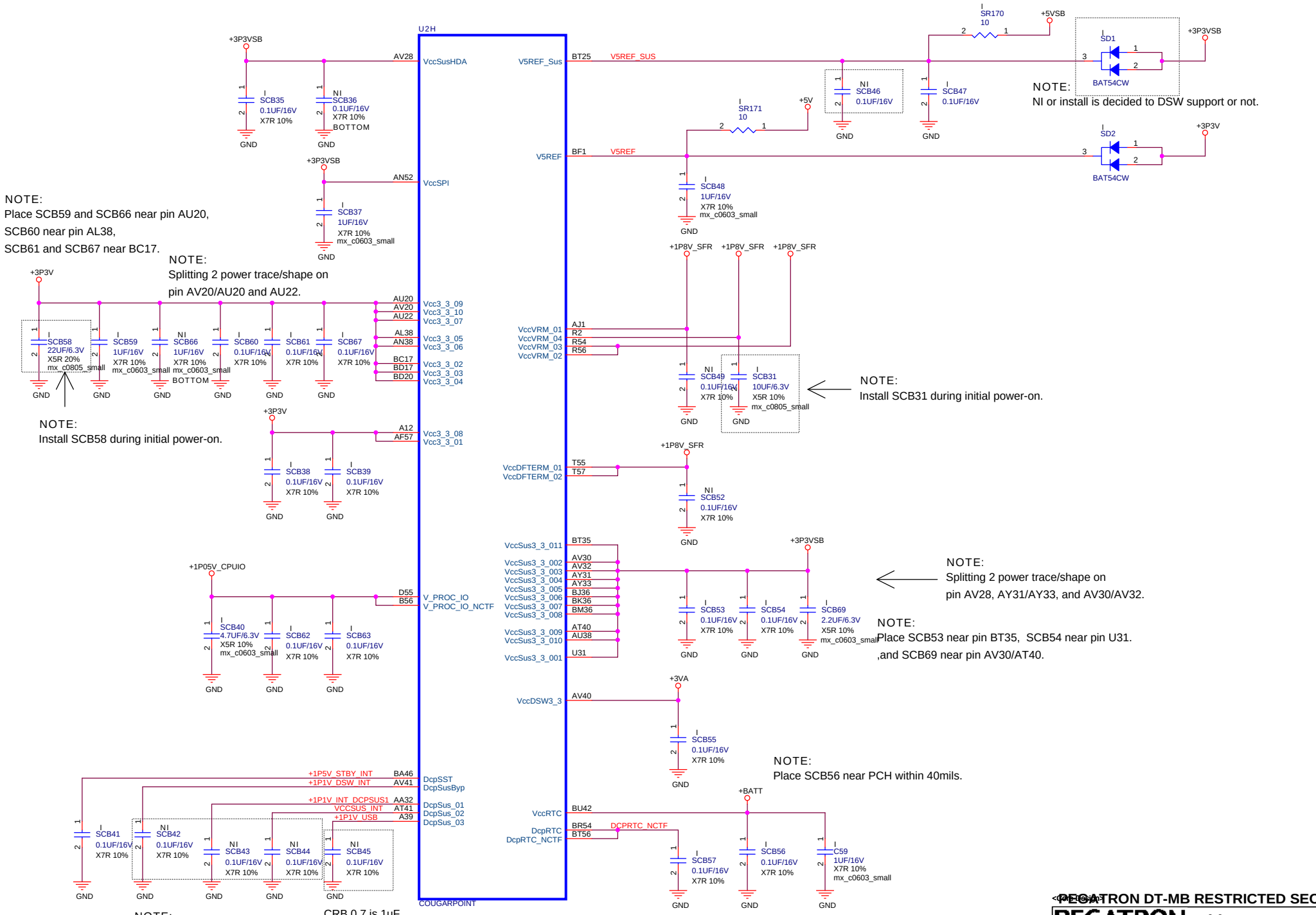
Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 27 of 80


U2F
FDI
RSD
CLOCK
COUGARPOINT
FDI_TXN0
FDI_TXP0
FDI_TXN1
FDI_TXP1
FDI_TXN2
FDI_TXP2
FDI_TXN3
FDI_TXP3
FDI_TXN4
FDI_TXP4
FDI_TXN5
FDI_TXP5
FDI_TXN6
FDI_TXP6
FDI_TXN7
FDI_TXP7
FDI_RXN0
FDI_RXP0
FDI_RXN1
FDI_RXP1
FDI_RXN2
FDI_RXP2
FDI_RXN3
FDI_RXP3
FDI_RXN4
FDI_RXP4
FDI_RXN5
FDI_RXP5
FDI_RXN6
FDI_RXP6
FDI_RXN7
FDI_RXP7
FDI_FSYNC0
FDI_LSYNC0
FDI_FSYNC1
FDI_LSYNC1
FDI_INT
FDI_FSYNC_0
FDI_LSYNC_0
FDI_FSYNC_1
FDI_LSYNC_1
FDI_INT
PROC_SEL
HR23
4.7K
DF_TVS
IPU 20K
Reserved_001
Reserved_002
Reserved_003
Reserved_004
Reserved_005
Reserved_006
Reserved_007
Reserved_008
Reserved_009
Reserved_010
Reserved_011
Reserved_012
Reserved_013
Reserved_014
Reserved_015
Reserved_016
Reserved_017
Reserved_018
Reserved_019
Reserved_020
Reserved_021
Reserved_022
Reserved_023
Reserved_024
Reserved_025
Reserved_026
Reserved_027
Reserved_028
Reserved_029
R50
TP_NV_RCOMP
ST1
NOBOM
Place HR23 close to NVRAM connector
and minimize this stub to <100 mils
with PCH and NVRAM connector
+1P05V_PCH
SR136
90.9
1%
XCLK_RCOMP
DVT - delete 0ohm
CLKOUT_ITPXDP_N
CLKOUT_ITPXDP_P
CK_100M_CPUXDP#
CK_100M_CPUXDP
CLKOUT_DMI_N
CLKOUT_DMI_P
CK_100M_DMI#
CK_100M_DMI
CLKOUT_DP_N
CLKOUT_DP_P
TP_CLKOUT_DP#_CLKOUT_BCLK1#
TP_CLKOUT_DP_CLKOUT_BCLK1
ST40
ST41
CLKOUT_PCIE7N
CLKOUT_PCIE7P
CK_100M_USB3#
CK_100M_USB3
CLKOUT_PCIE6N
CLKOUT_PCIE6P
CLK_100M_MINI4#
CLK_100M_MINI4
CLKOUT_PCIE5N
CLKOUT_PCIE5P
CLK_100M_MINI1#
CLK_100M_MINI1
CLKOUT_PCIE4N
CLKOUT_PCIE4P
CK_100M_PCHXDP#
CK_100M_PCHXDP
CLKOUT_PCIE3N
CLKOUT_PCIE3P
CK_PCIE_LAN#
CK_PCIE_LAN
CLKOUT_PCIE2N
CLKOUT_PCIE2P
CK_100M_LAN#
CK_100M_LAN
CLKOUT_PCIE1N
CLKOUT_PCIE1P
CK_PCIE_USB3#
CK_PCIE_USB3
CLKOUT_PCIE0N
CLKOUT_PCIE0P
CK_100M_CR#
CK_100M_CR
CLKOUT_PEG_A_N
CLKOUT_PEG_A_P
CLK_PEGA#
CLK_PEGA
CLKOUT_PEG_B_N
CLKOUT_PEG_B_P
TP_CLKOUT_PEG_B#
TP_CLKOUT_PEG_B
ST54
ST55
CLKOUT_PCI0
CLKOUT_PCI1
CLKOUT_PCI2
CLKOUT_PCI3
CLKOUT_PCI4
PCH_CLKOUT_PCI0
PCH_CLKOUT_PCI1
PCH_CLKOUT_PCI2
PCH_CLKOUT_PCI3
PCH_CLKOUT_PCI4
SR262
SR151
SR251
SR253
22 OHM
PROTO
ST56
CLK_DBGPCI1
CK_33M_DEBUG2
CLK_KBCPCI
CK_33M_PCIFB
CLKOUTFLEX0/GPIO64
CLKOUTFLEX1/GPIO65
CLKOUTFLEX2/GPIO66
CLKOUTFLEX3/GPIO67
TP_CLKOUTFLEX0_GPIO64
TP_CLKOUTFLEX1_GPIO65
TP_CLKOUTFLEX2_GPIO66
TP_CLKOUTFLEX2_GPIO67
ST2
ST4
ST3
ST35
PCH_CLKIN_BCLK_GND0#
PCH_CLKIN_BCLK_GND0
CLKIN_GND0_N
CLKIN_GND0_P
PCH_CLKIN_DMI2_GND1#
PCH_CLKIN_DMI2_GND1
CLKIN_GND1_N
CLKIN_GND1_P
SR125
SR126
SR127
SR128
10K
GND
SR157
REFCLK14IN
XTAL_25M_PCH_IN
XTAL_25M_PCH_OUT
XTAL25_IN
XTAL25_OUT
SR140
1MOHM
Y12
25Mhz
SC55
SC56
27PF/50V
NPO 5%
TP21
TP25
TP29
TP33
TP22
TP26
TP30
TP34
TP23
TP27
TP31
TP35
TP24
TP28
TP32
TP36
NOTE:
1.Prioritize 27/14/24/48/25-MHz FLEX on FLEX1/3.
2.Do not configure 27/14/24/48/25-MHz FLEX clock on FLEX0/2
if more than 2 PCI clocks + PCI loopback are routed.
3.With 2 PCI clocks routed (or less), prioritize the FLEX clocks to FLEX1/3
a. 27MHz(SSC/non-SSC) b.14.31818MHz c.24/48 d.25MHz
FRO REAR I/O MODULE, LAN
FRO REAR I/O MODULE, USB3.0
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : CLK/NVRAM/FDI 6-9
PEGATRON CORPORATION
Engineer: Ethan_Chen
Size A3
Project Name IPISB-NK
Rev 1.03
Date: Wednesday, April 20, 2011
Sheet 28 of 80


NOTE:
Install those cap during initial power-on.
NOTE:
Splitting 2 power trace/shape on pin Y20/Y22/V22 to other pins.
NOTE:
Trace needs to be at least 20 mils width with full VSS/ VCC reference plane
NOTE:
Splitting 2 power trace/shape
NOTE:
Install SCB12 during initial power-on.
U2G
COUGARPOINT
NOTE:
Splitting 2 power trace/shape on pins AV24/AV26 to AY25/AY27, and AE40 to AG38/AG40.
NOTE:
Splitting 2 power traces on pins AC20 to AE20.
NOTE:
VccAFDIPLL and VccAClk can be NC in on-die VR mode.
NOTE:
VccAPLLEXP, VccAPLLSATA, and VccAPLLDMI2 can be NC in On-Die VR mode.
NOTE:
If filter is unstuffed, 0 ohm resistor(SR163) must be stuffed in R and L site.
NOTE:
Backup to 0 ohm 1/8W(0805)JUMP if power noise is pass on SL3 and SL4.
NOTE:
CRB 0.7:
SCB27 is NI and SR163 is 0 ohm.
NOTE:
Backup SL5 to 10X2121R0040(1 ohm/0402) if have no power noise issue.
NOTE:
Backup to 0 ohm 1/8W(0805)JUMP if power noise is pass on SL6 and SL7.
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : VCC/PLL 7-9
PEGATRON CORPORATION
Engineer: Ethan_Chen
Size A3
Project Name IPISB-NK
Rev 1.03
Date: Wednesday, April 20, 2011
Sheet 29 of 80

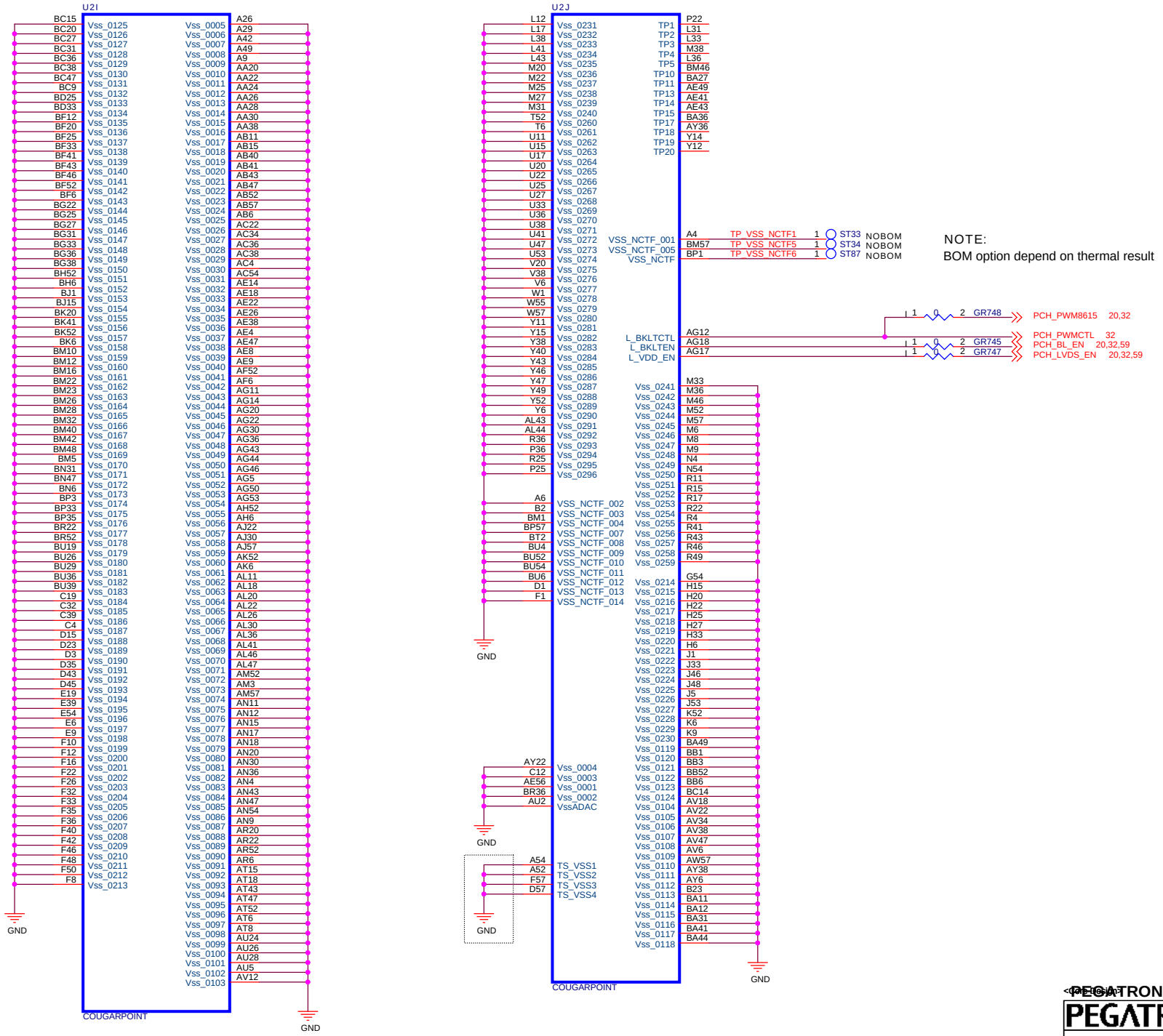


PEGATRON Title : VCCSUS 8-9

PEGATRON CORPORATION Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 30 of 80

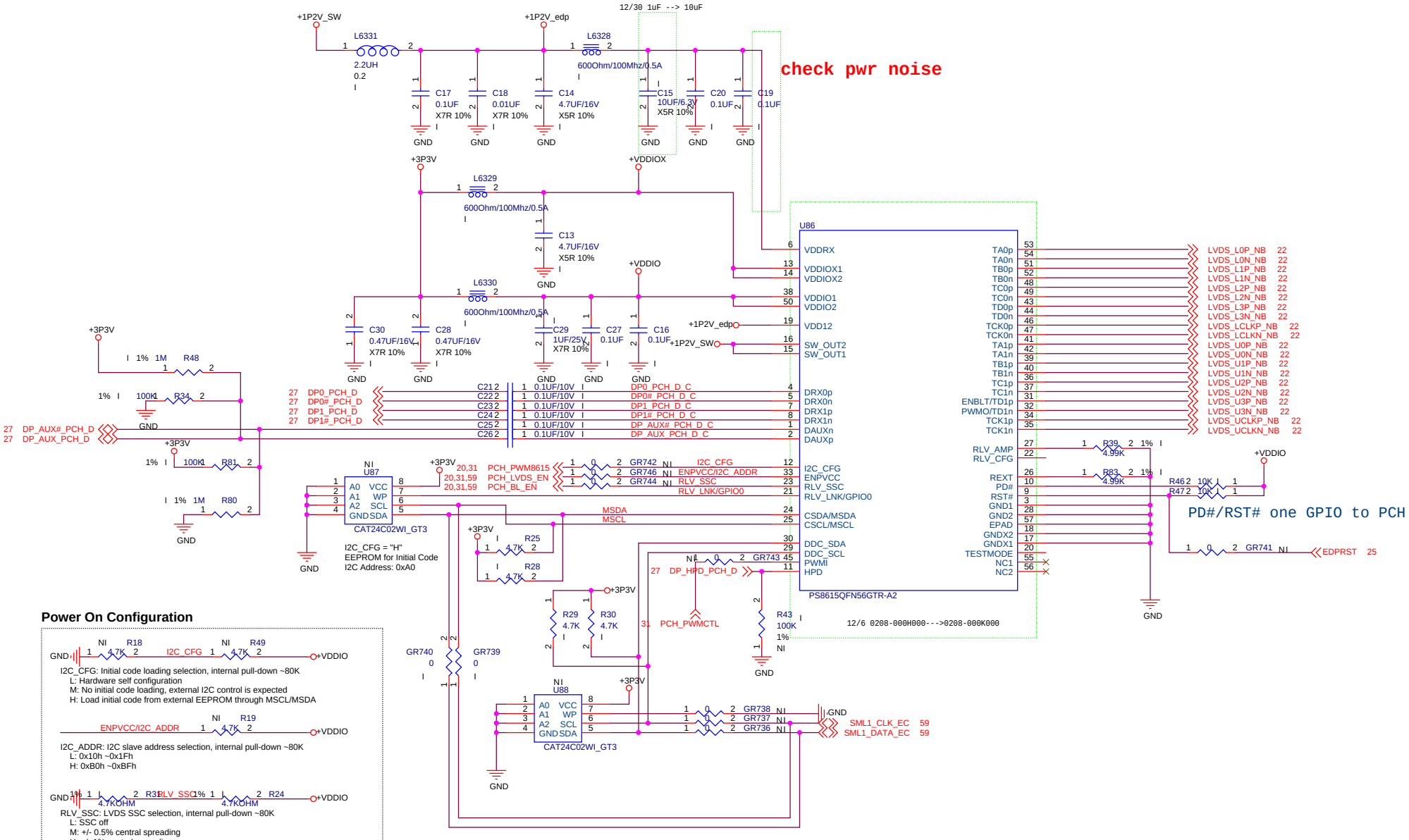


PEGATRON Title : VSS 9-9

PEGATRON CORPORATION Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 31 of 80



Power On Configuration

R18 4.7K I2C_CFG R49 4.7K → +VDDIO

I2C_CFG: Initial code loading selection, internal pull-down ~80K
- L: Hardware self configuration
- M: No initial code loading, external I2C control is expected
- H: Load initial code from external EEPROM through MSCL/MSDA

ENPVCC/I2C_ADDR R19 4.7K → +VDDIO

I2C_ADDR: I2C slave address selection, internal pull-down ~80K
- L: 0x10h ~0x1Fh
- H: 0xB0h ~0xBFh

R31 4.7KOHM RLV_SSC R24 4.7KOHM → +VDDIO

RLV_SSC: LVDS SSC selection, internal pull-down ~80K
- L: SSC off
- M: +/- 0.5% central spreading
- H: +/- 1% central spreading

R36 4.7K RLV_CFG R84 4.7K → +VDDIO

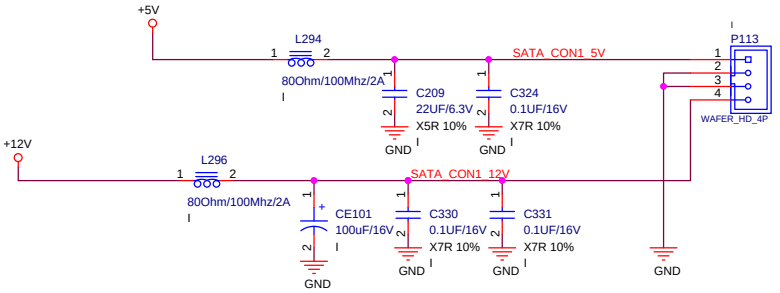
RLV_CFG: LVDS color depth and data mapping selection, internal pull-down ~80K
- L: 8-bit LVDS, VESA mapping
- M: 8-bit LVDS, JEIDA mapping
- H: 6-bit LVDS, both VESA and JEIDA mapping

RLV_LNK/GPIO0 R37 4.7K → +VDDIO

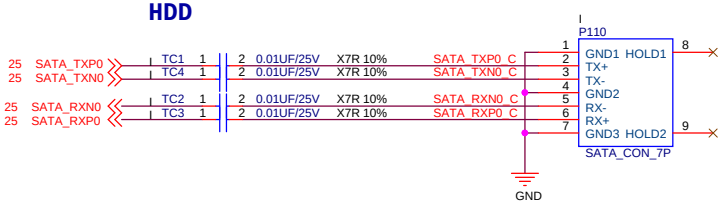
RLV_LNK: LVDS single link or dual link selection, internal pull-down ~80K
- L: Single link LVDS
- H: Dual link LVDS

PEGATRON	Title : PS8615	
PEGATRON CORPORATION	Engineer: Ethan_Chen	
Size: A3	Project Name: IPISB-NK	Rev: 1.03
Date: Thursday, April 21, 2011	Sheet 32 of 80	

SATA CONNECTOR

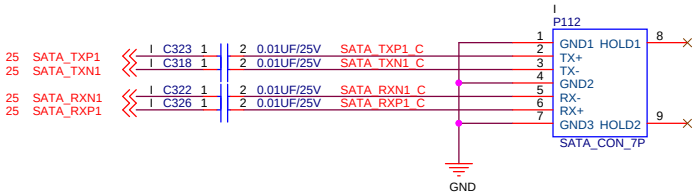


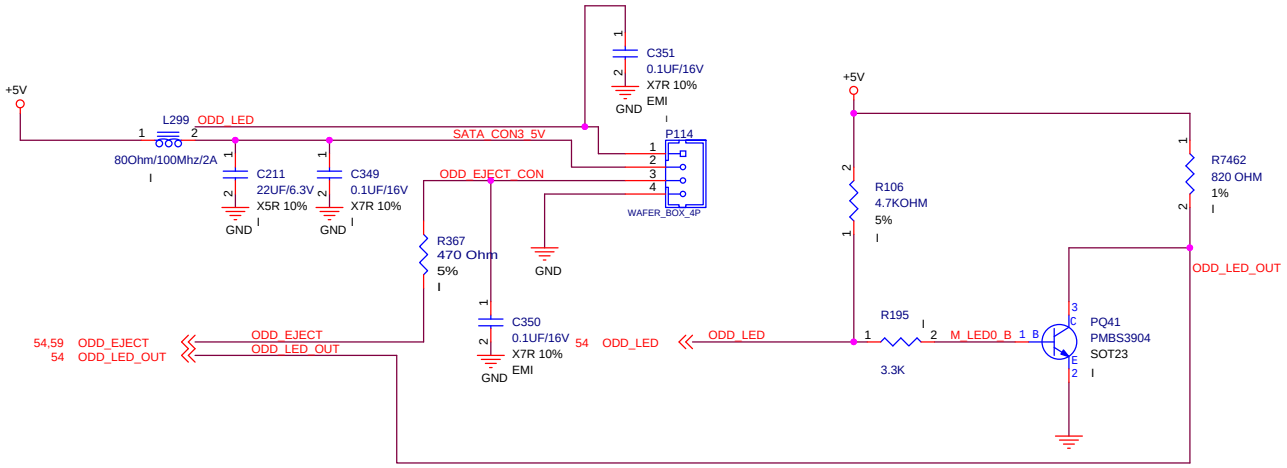
CHANNEL 0 MASTER
Dark Blue
HDD



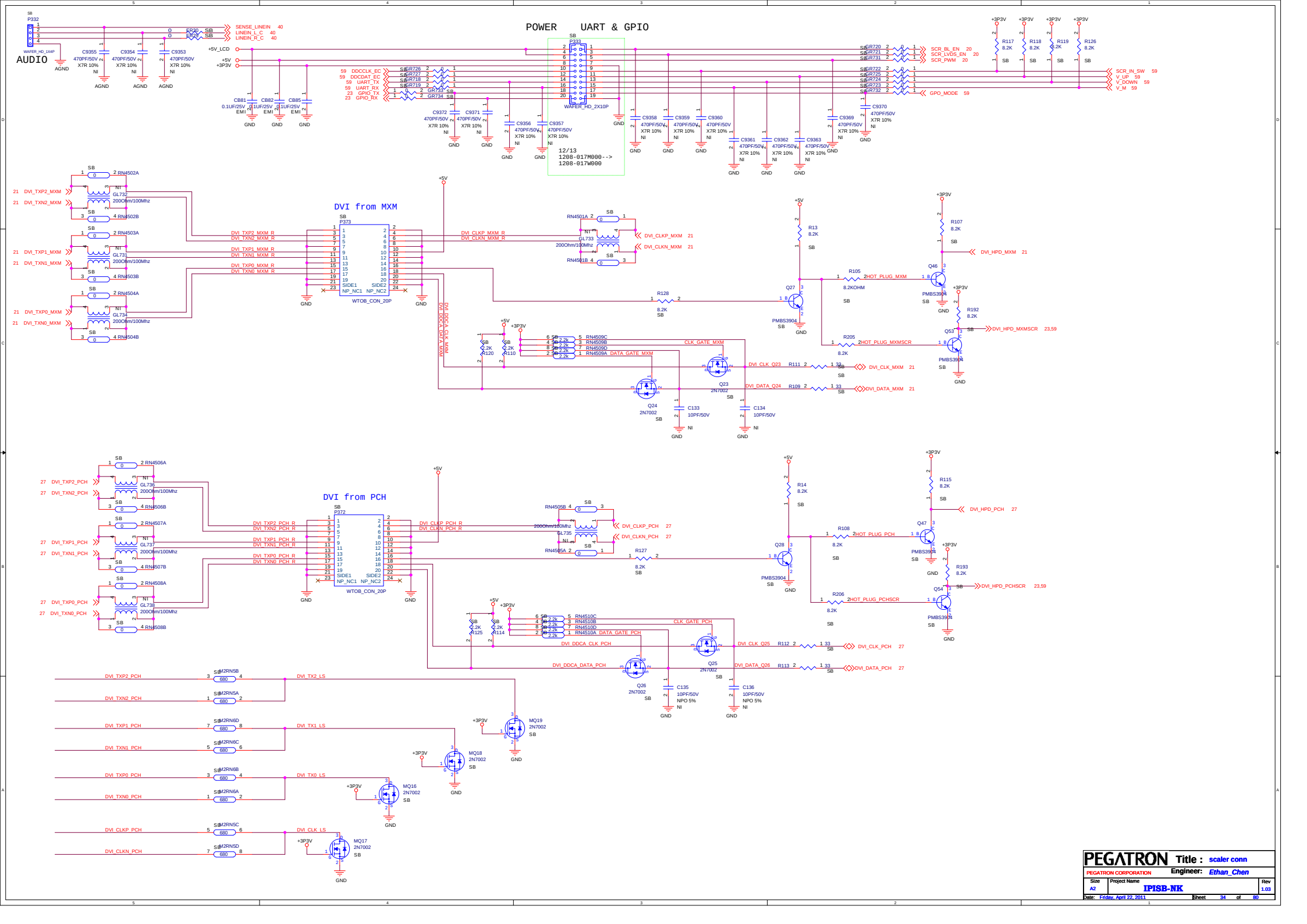
CHANNEL 1 MASTER
White

ODD





PEGATRON	Title : SATA		
PEGATRON CORPORATION	Engineer: Ethan_Chen		
Size: A3	Project Name: IPISB-NK		Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 33 of 80		


POWER UART & GPIO
AUDIO
DVI from MXM
DVI from PCH
WTOB_CON_20P
WAFER_HD_2X10P
12/13
1208-017M000-->
1208-017W000
PEGATRON
Title : scaler conn
PEGATRON CORPORATION
Engineer: Ethan_Chen
Size A2
Project Name IPISB-NK
Rev 1.03
Date: Friday, April 22, 2011
Sheet 34 of 80

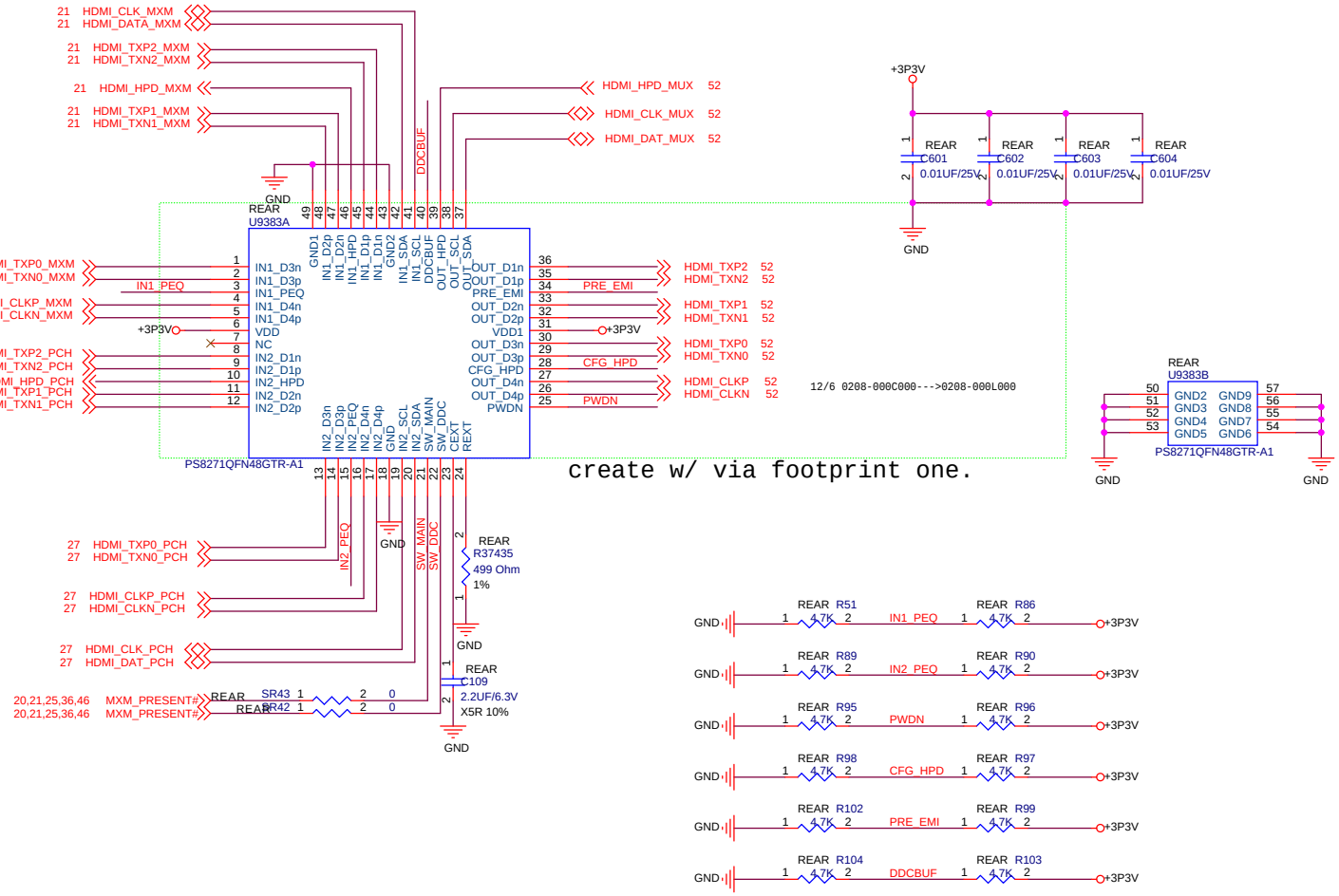
<Core Design>

PEGATRON Title : N/A

Pegatron Corp. Engineer: Ethan_Chen

Size	Project Name	Rev
C	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 35 of 80



PEGATRON

Title : HDMI mux

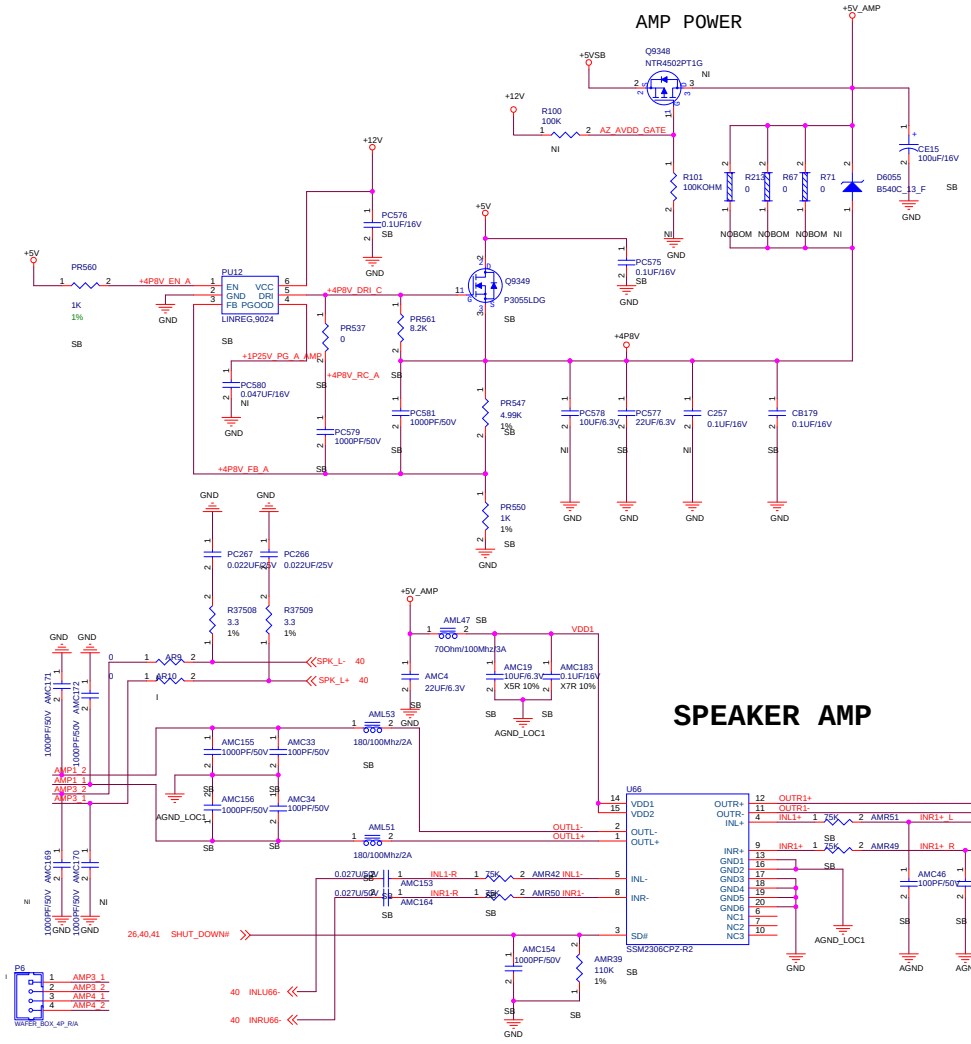
PEGATRON CORPORATION

Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

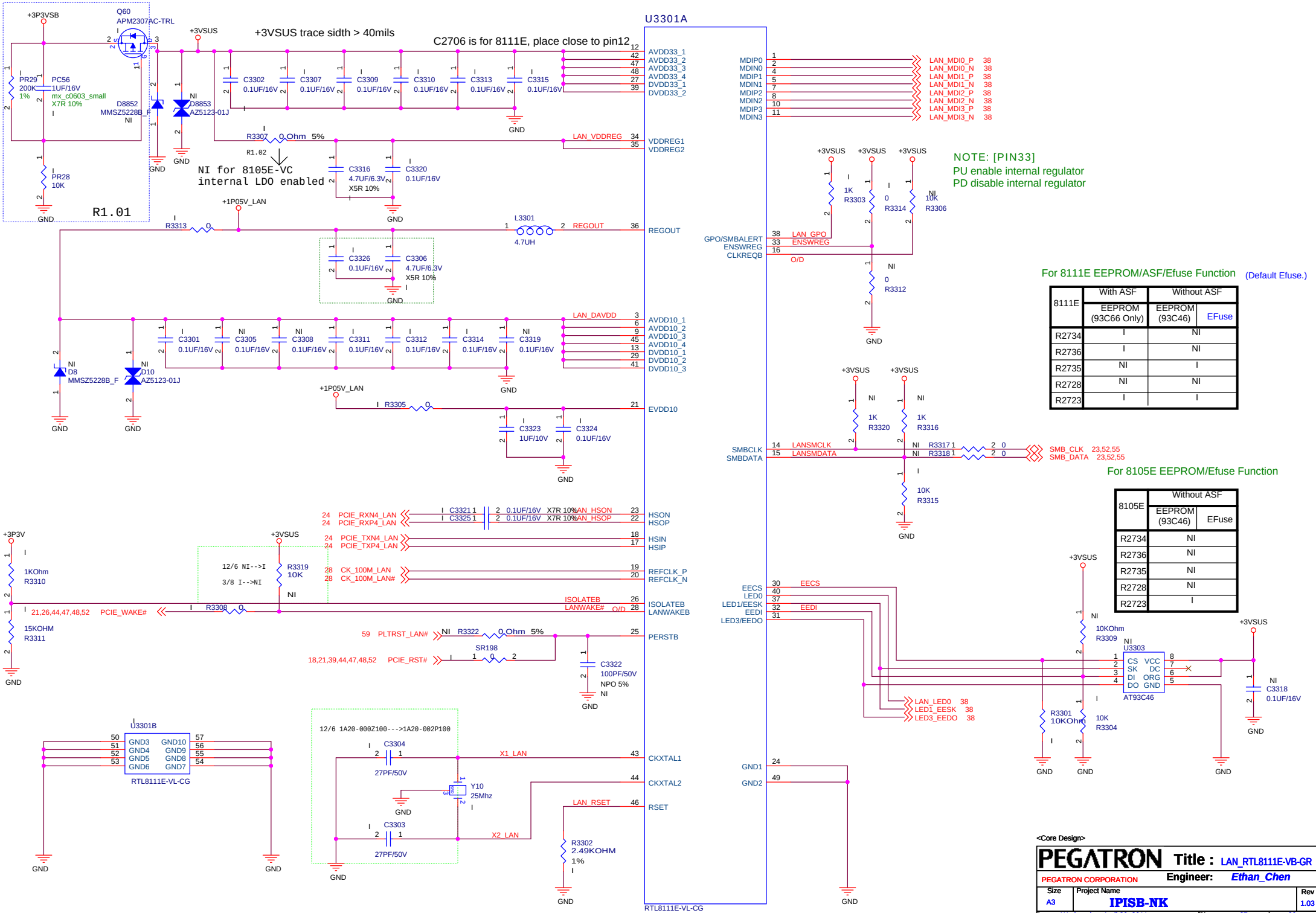
Date: Wednesday, April 20, 2011 Sheet 36 of 80

AMP POWER



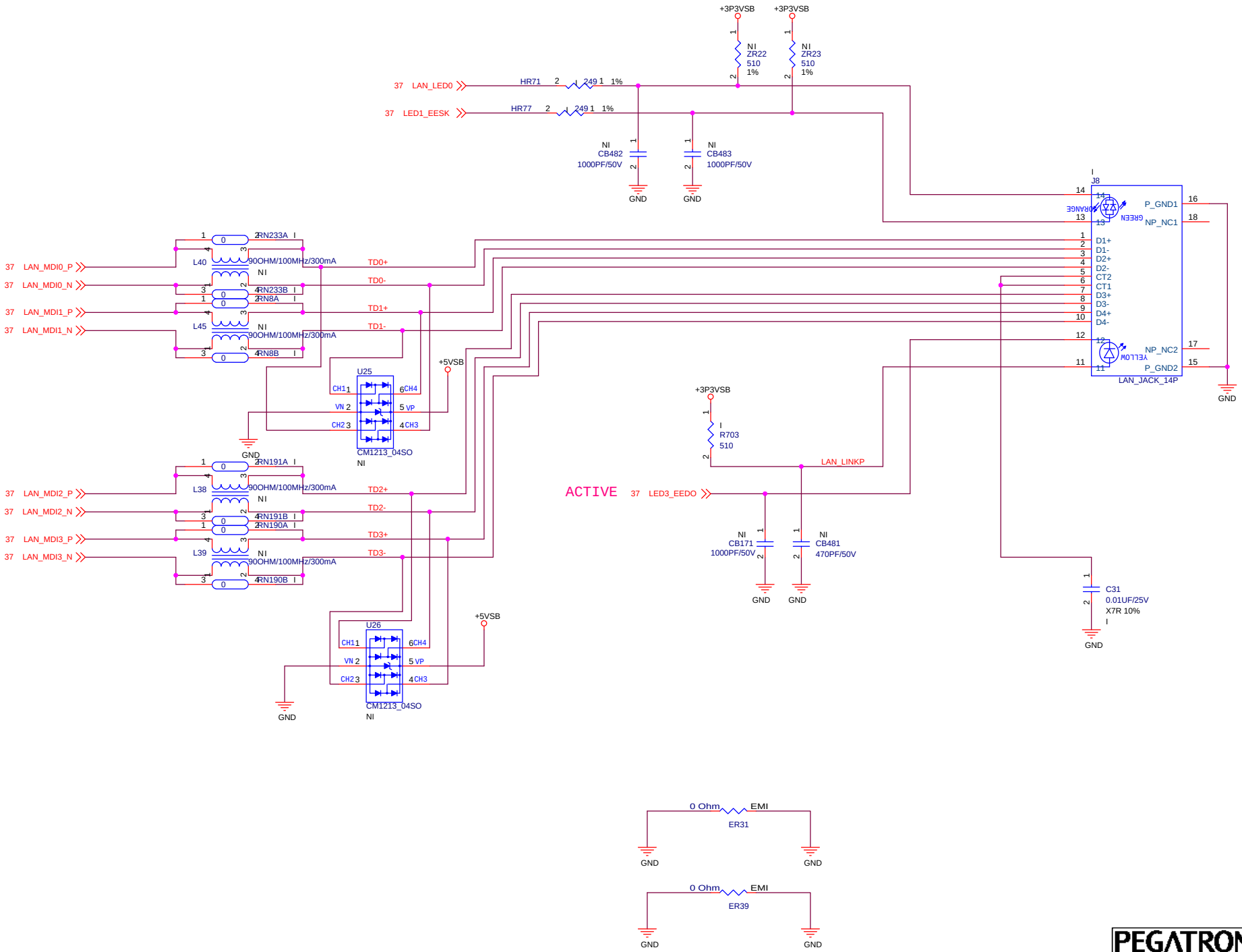
SPEAKER AMP

PEGATRON	Title : AMP/PWR		
PEGATRON CORPORATION	Engineer: Ethan_Chen		
Size: A2	Project Name: IPISB-NK		Rev: 1.03
Date: Thursday, April 21, 2011	Sheet 43 of 80		

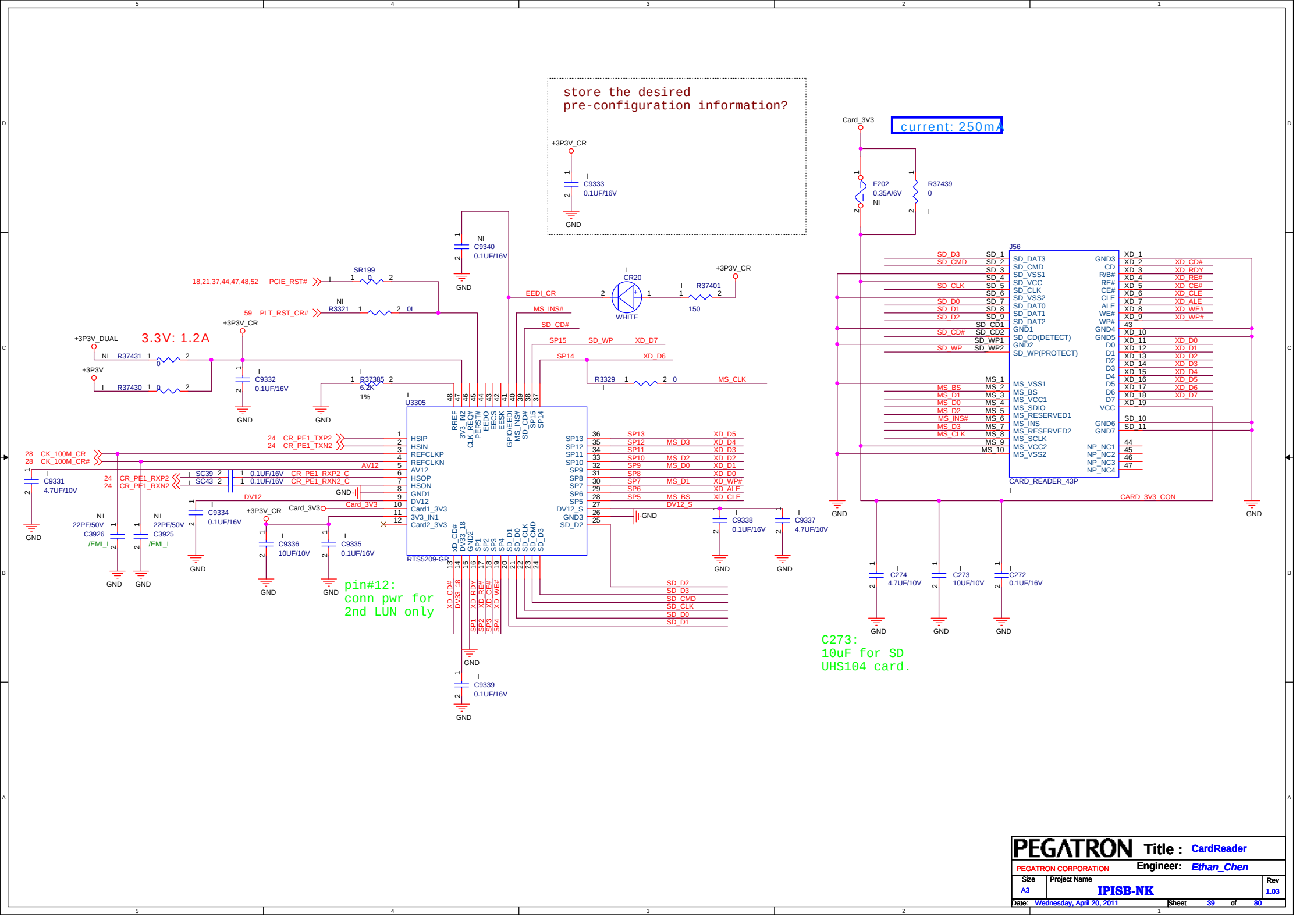


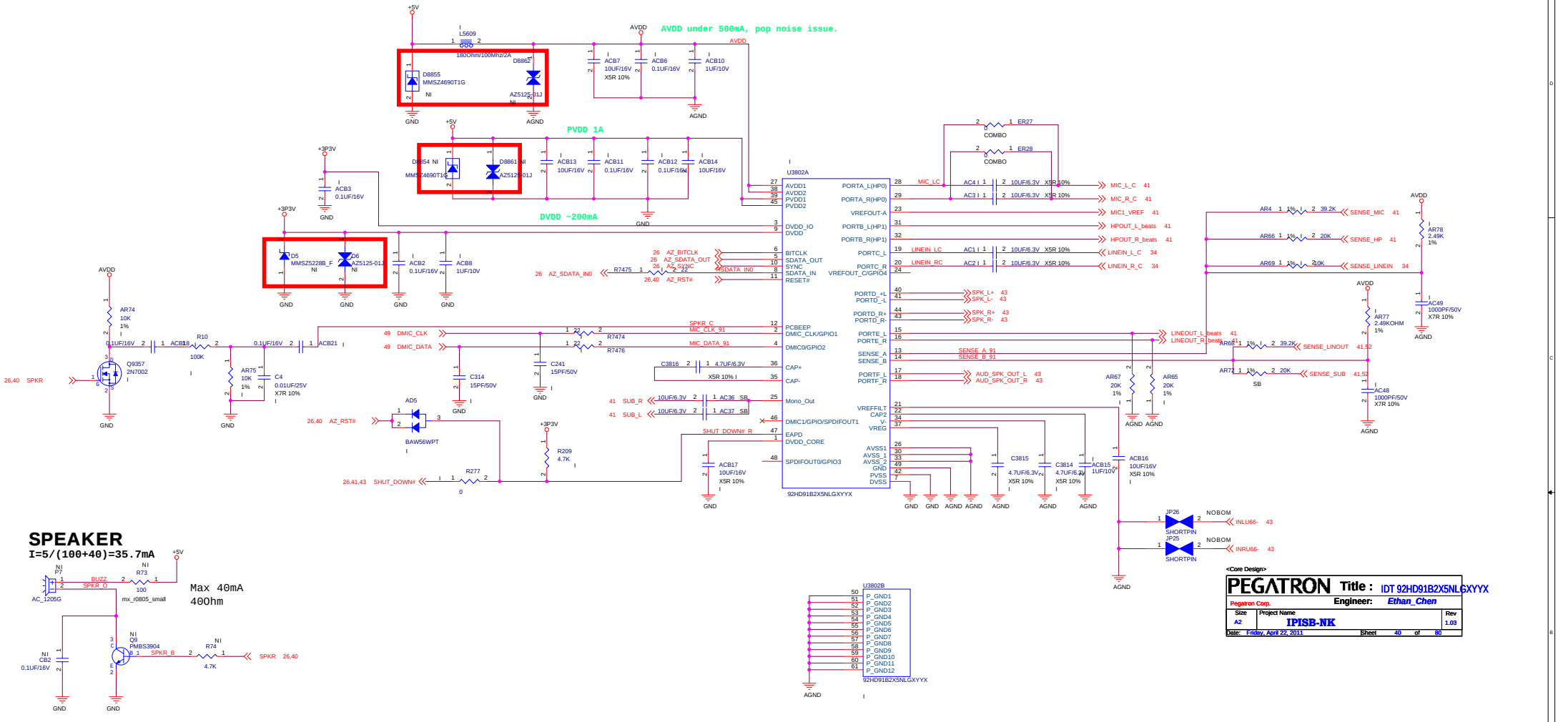
8111E	With ASF	Without ASF	
	EEPROM (93C66 Only)	EEPROM (93C46)	EFuse
R2734	I	NI	
R2736	I	NI	
R2735	NI	I	
R2728	NI	NI	
R2723	I	I	

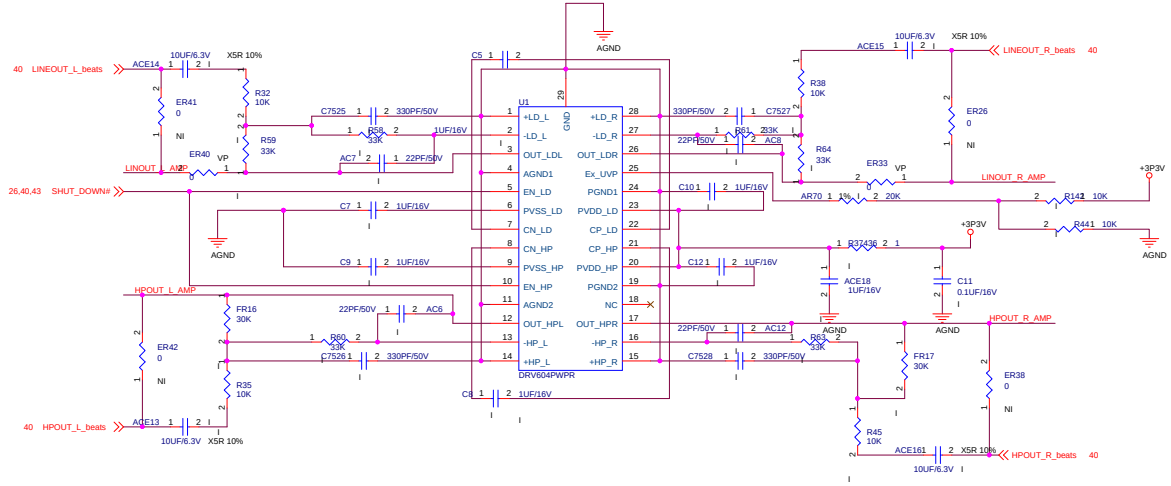
8105E	Without ASF	
	EEPROM (93C46)	EFuse
R2734	NI	
R2736	NI	
R2735	NI	
R2728	NI	
R2723	I	



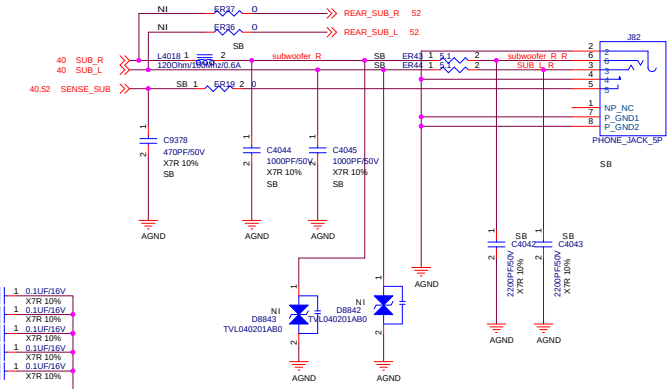
PEGATRON	Title :	LAN-CONN
PEGATRON CORPORATION	Engineer:	Ethan_Chen
Size: A3	Project Name: IPISB-NK	Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 38 of 80	

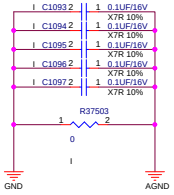

store the desired
pre-configuration information?
current: 250mA
3.3V: 1.2A
pin#12:
conn pwr for
2nd LUN only
C273:
10uF for SD
UHS104 card.
RTS5209-GR
CARD_READER_43P
PEGATRON
Title : CardReader
PEGATRON CORPORATION
Engineer: Ethan_Chen
Size A3
Project Name IPISB-NK
Rev 1.03
Date: Wednesday, April 20, 2011
Sheet 39 of 80


AVDD under 500mA, pop noise issue.
PVDD 1A
DVDD ~200mA
U3802A
92HD91B2X5NLGXYYX
SPEAKER
I=5/(100+40)=35.7mA
Max 40mA
40Ohm
U3802B
PEGATRON
Title : IDT 92HD91B2X5NLGXYYX
Pegatron Corp.
Engineer: Ethan_Chen
Project Name
IPISB-NK
Rev
1.03
Date: Friday, April 22, 2011
Sheet 40 of 80

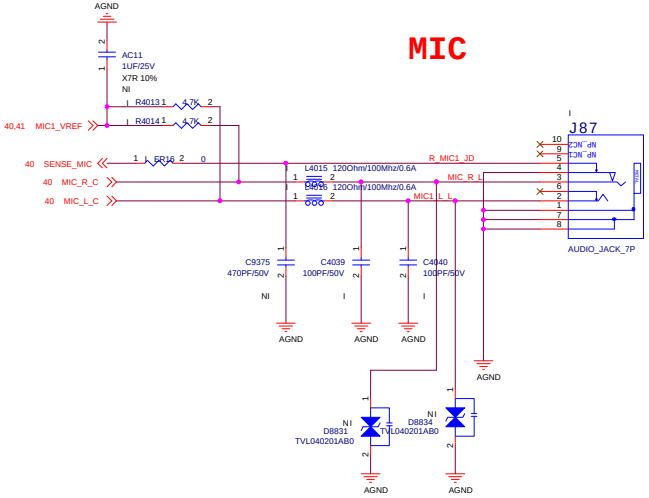


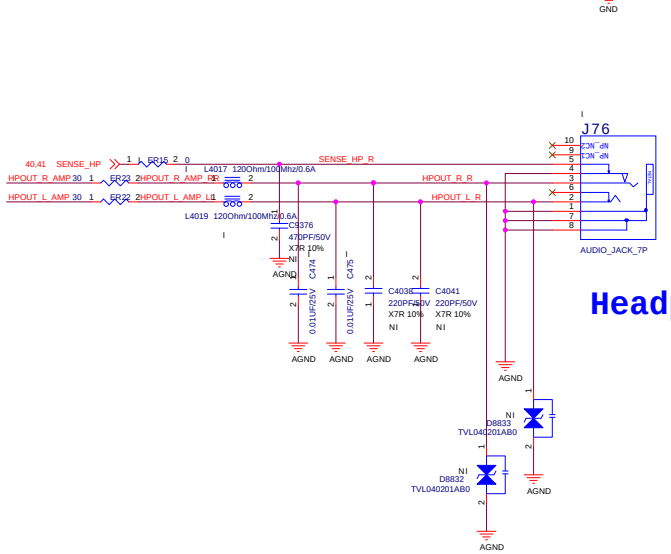
Subwoofer





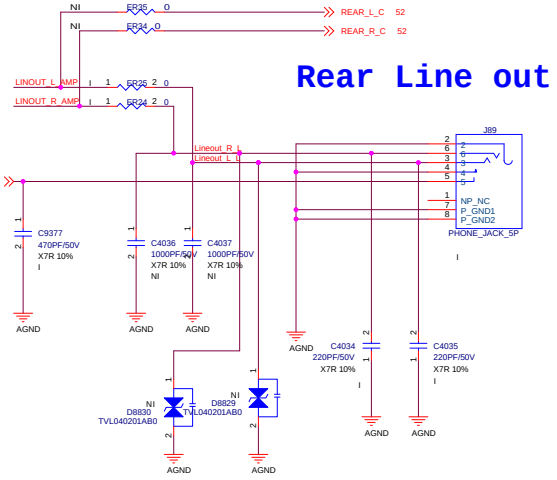
MIC

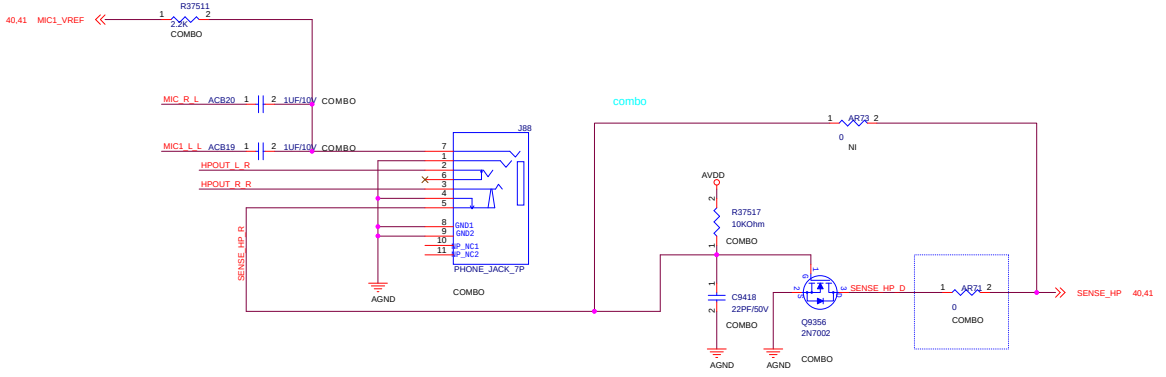




Headphone

Rear Line out





<Core Design>

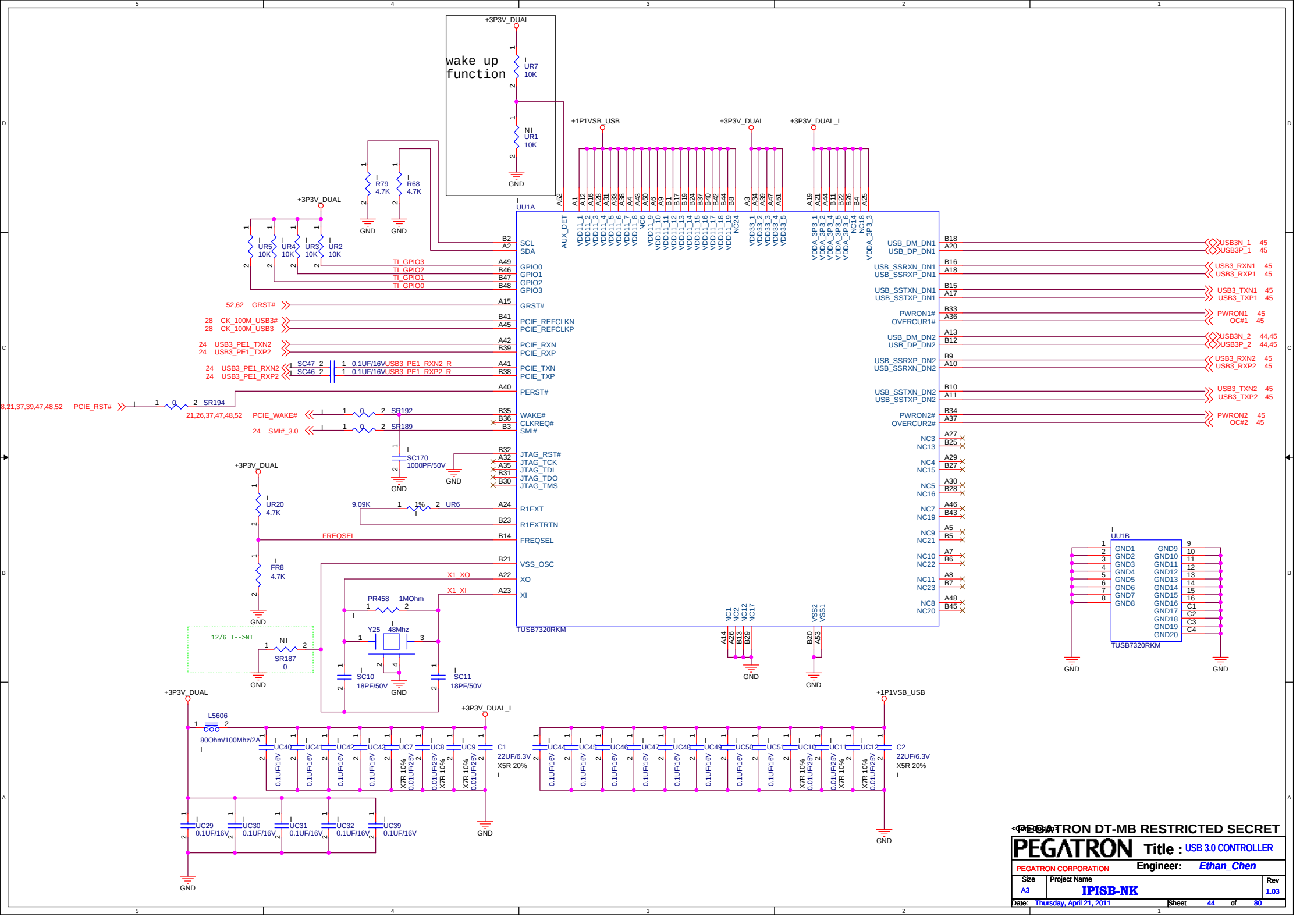
PEGATRON Title : Audio Jack

Pegatron Corp. Engineer: Ethan_Chen

Size	Project Name	Rev
A2	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 41 of 80

PEGATRON	Title :	IDT/89D3	
PEGATRON CORPORATION	Engineer:	*Ethan_Chen*	
Size: C	Project Name: IPISB-NK		Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 42 of 80		



PEGATRON

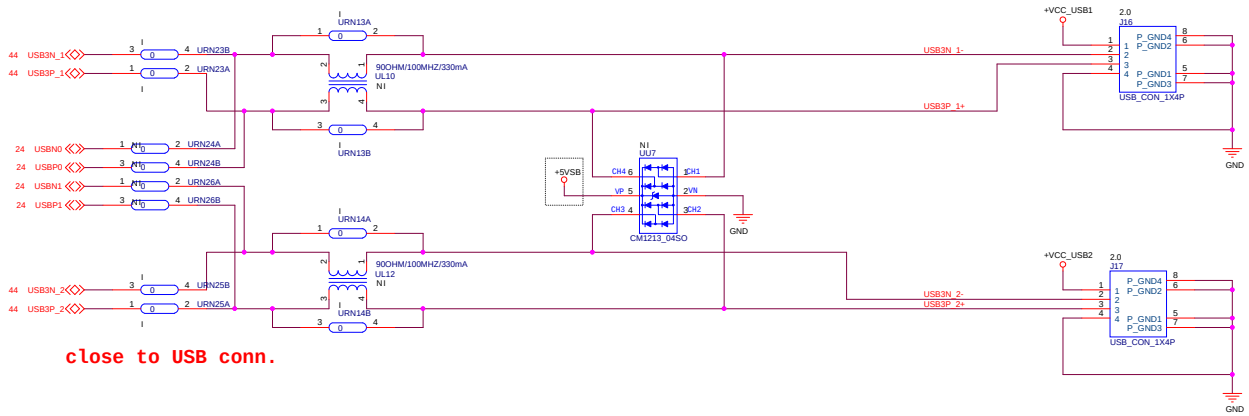
Title : USB 3.0 CONTROLLER

PEGATRON CORPORATION

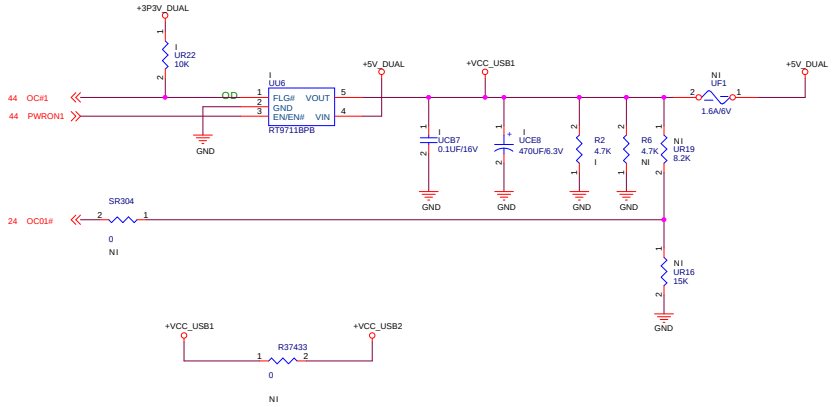
Engineer: Ethan_Chen

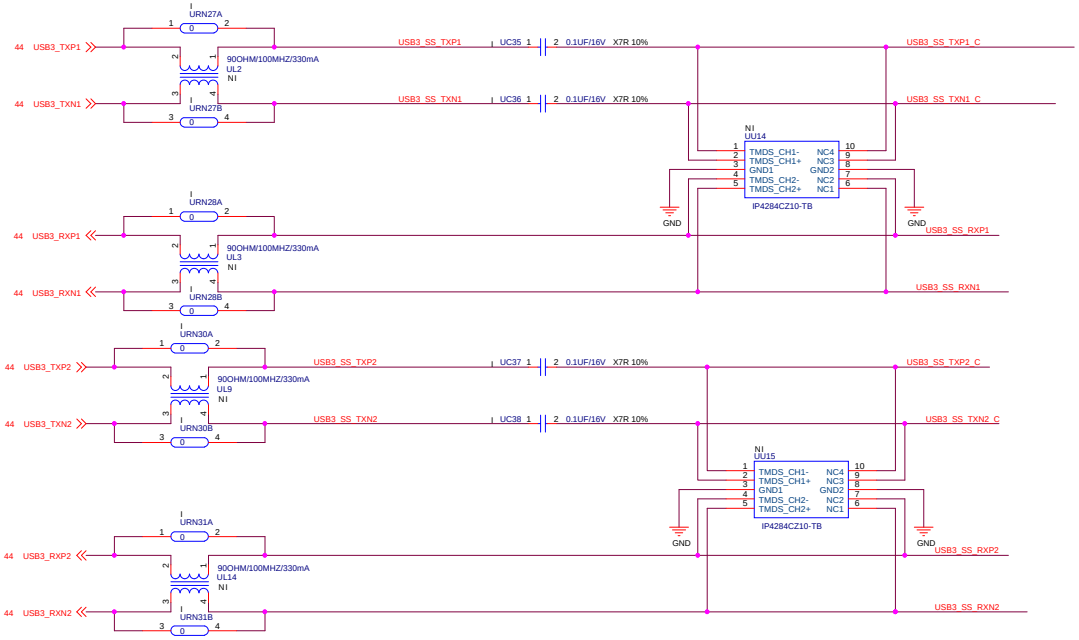
Size	Project Name	Rev
A3	IPISB-NK	1.03

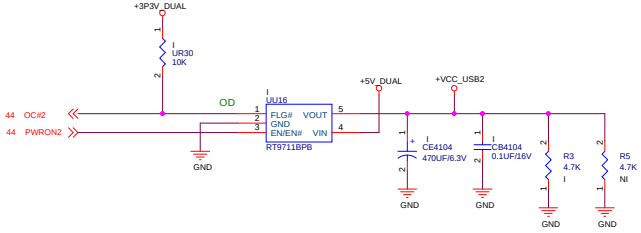
Date: Thursday, April 21, 2011 Sheet 44 of 80

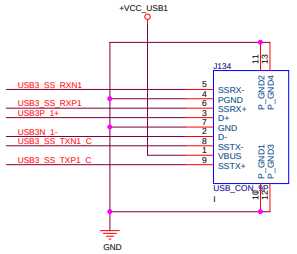


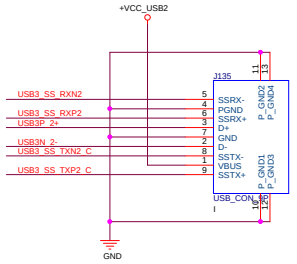
close to USB conn.











NOTE:
0722-0066000 ESD PROTECTION SOT1059 NXP/IP4284CZ10-TB
0722-003Y000 ESD PROTECTION TSLP-9-1 INFINEON/ESD5V3U4U-HDMI

1213-00LN000 USB2.0

PIN NO.	1	2	3	4
SIGNAL NAME	VBUS	D-	D+	PGND
REMARK	USB2.0 CONTACT PIN			

Gold flash only

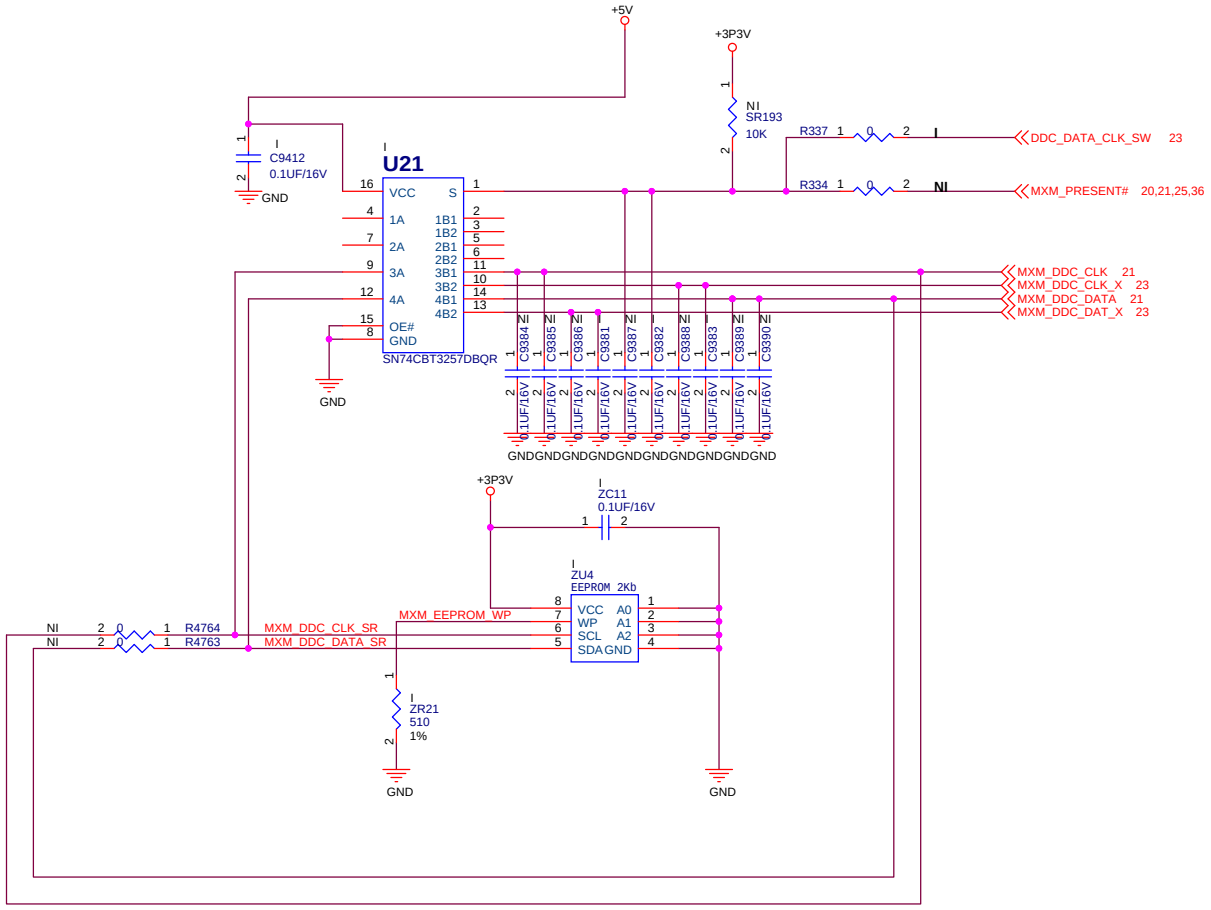
Co-lay USB connecter
1213-00LH000 USB3.0
1213-00LN000 USB2.0

<Core Design>

PEGATRON Title : USB colay
PEGATRON CORPORATION Engineer: Ethan_Chen

Size	Project Name	Rev
A2	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 45 of 80



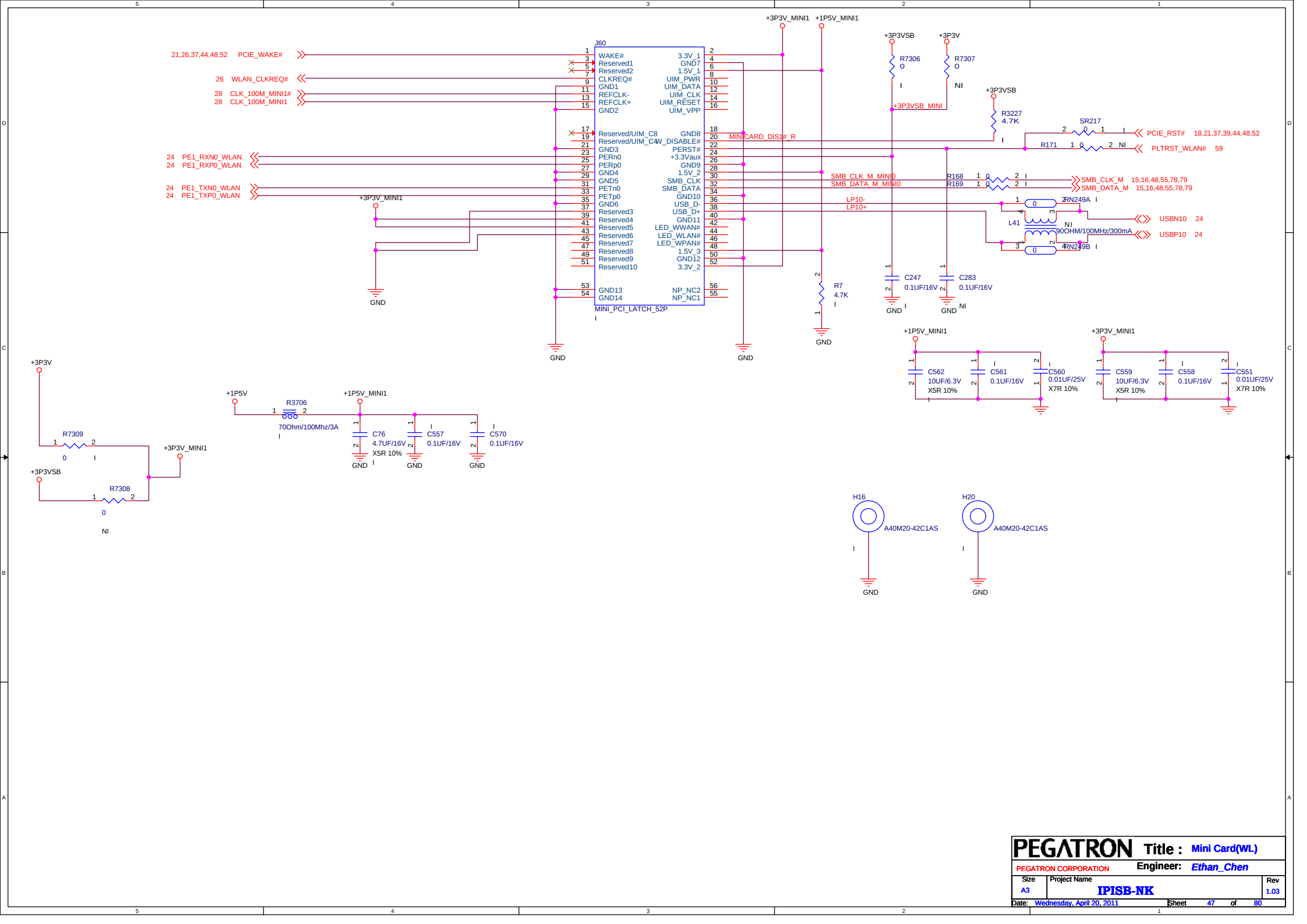
<Core Design>

PEGATRON Title : N/A

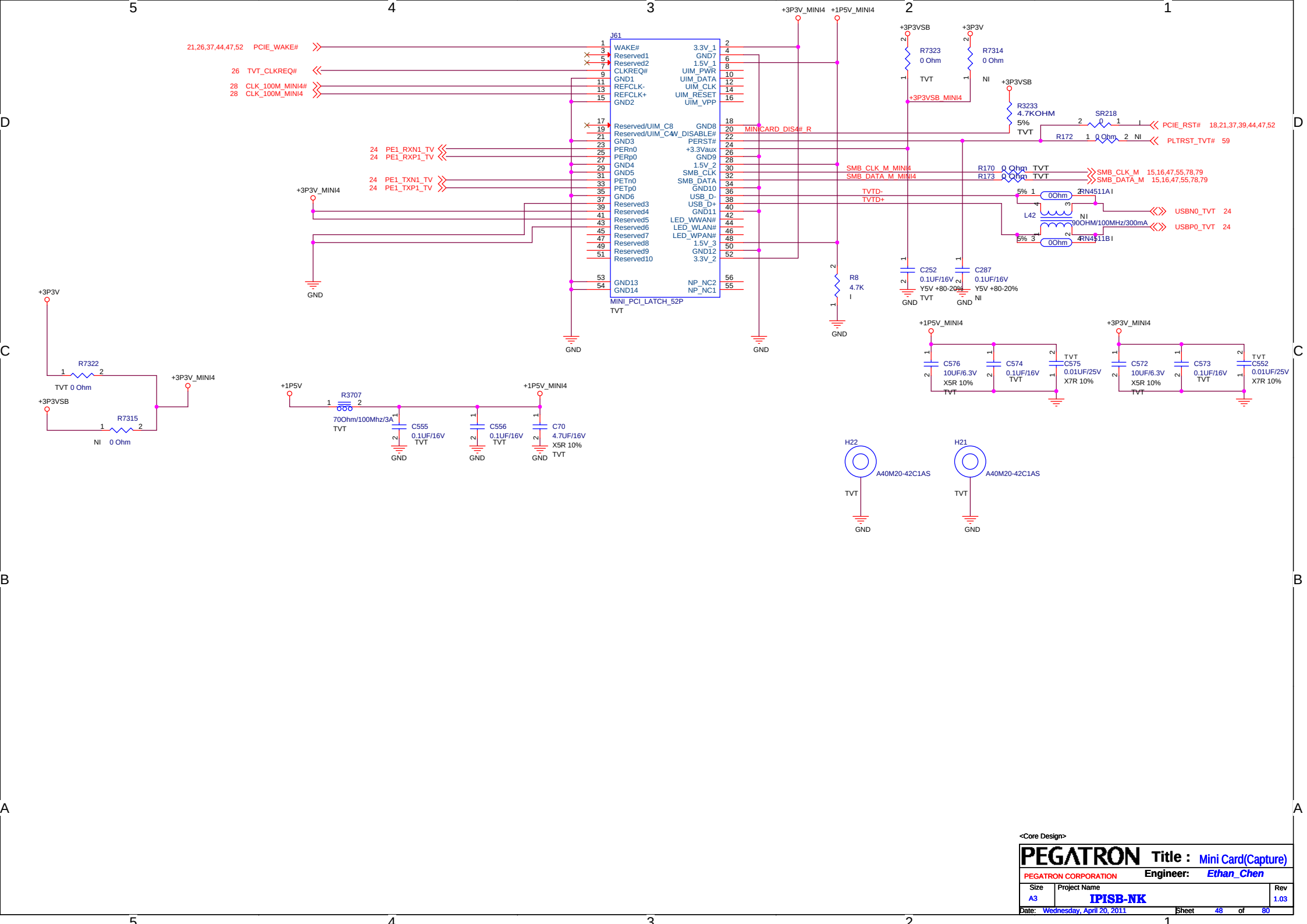
PEGATRON CORPORATION Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 46 of 80



PEGATRON	Title :	Mini Card(WL)
PEGATRON CORPORATION	Engineer:	Ethan_Chen
Size: A3	Project Name: IPISB-NK	Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 47 of 80	



<Core Design>

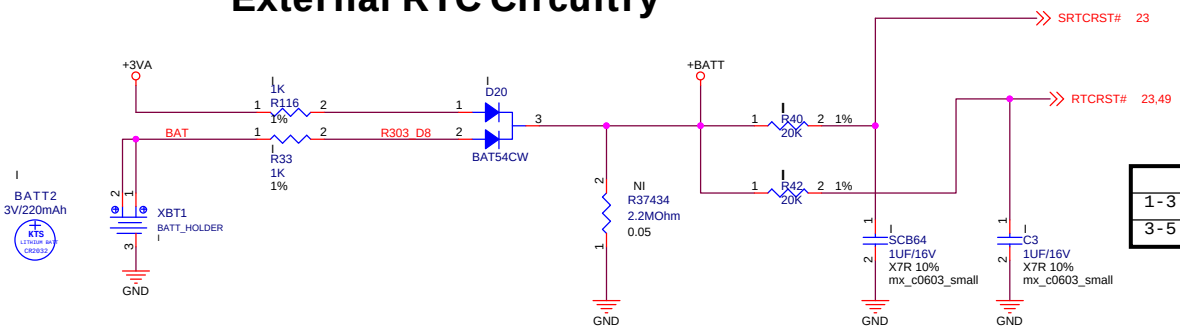
PEGATRON Title : Mini Card(Capture)

PEGATRON CORPORATION Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 48 of 80

External RTC Circuitry



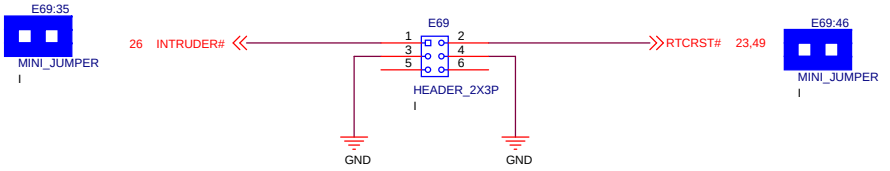
	PASSWORD
1-3	CLEAR
3-5	Default

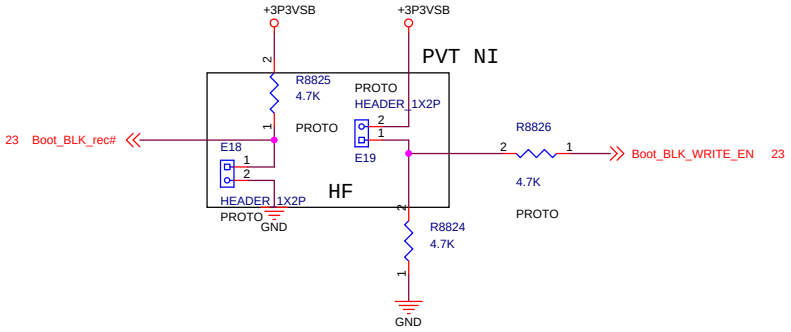
CLR CMOS AND PASSWORD CIRCUIT

	CMOS RTC
2-4	CLEAR
4-6	Default

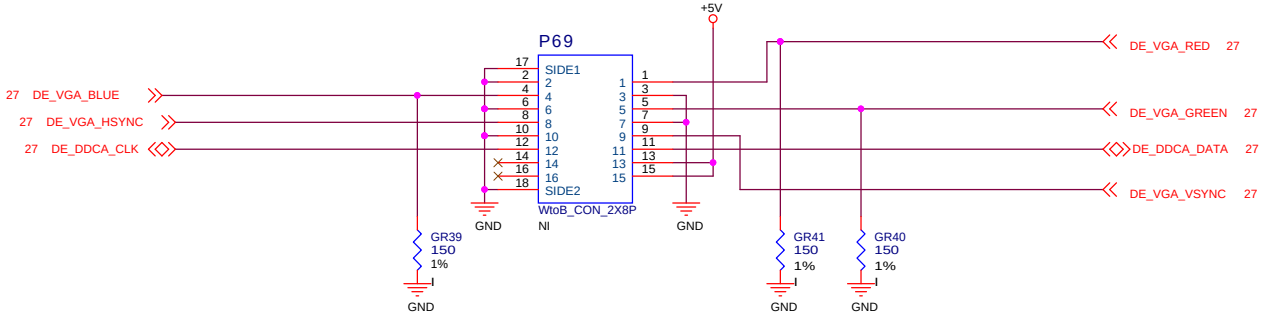
Battery Socket

NOTE:
Place C6 near PCH.

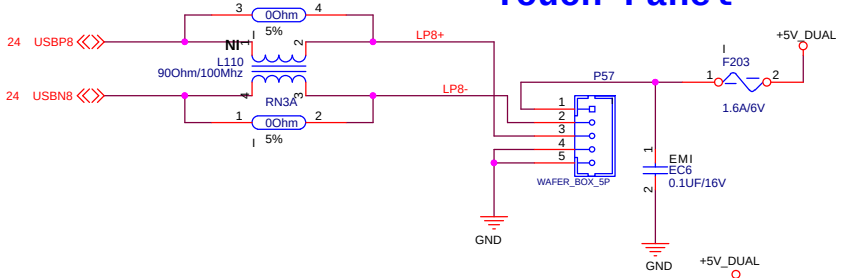


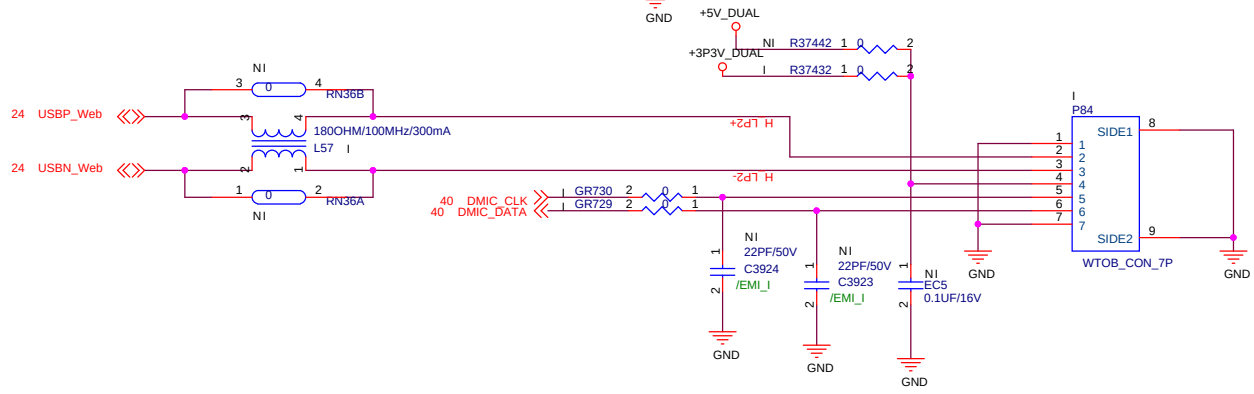


VGA Debug

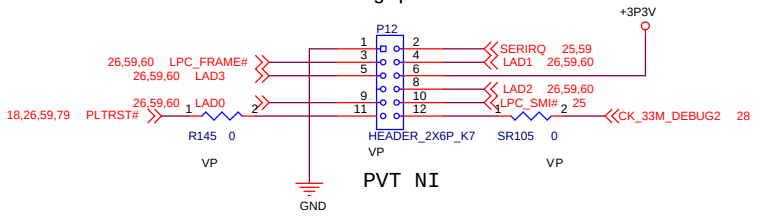


Touch Panel





HP debug port



PEGATRON

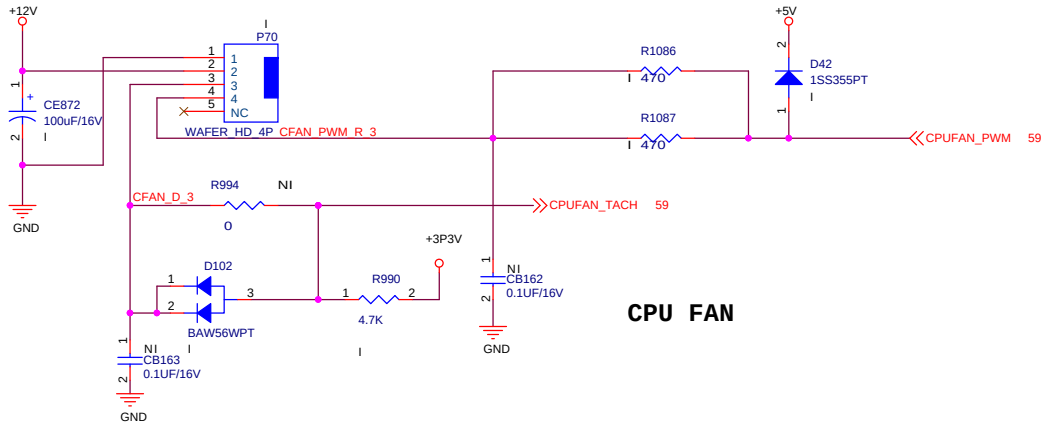
Title : SATA

PEGATRON CORPORATION

Engineer: Ethan_Chen

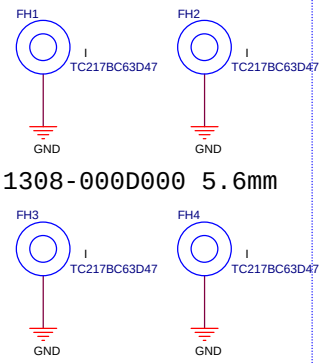
Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 49 of 80

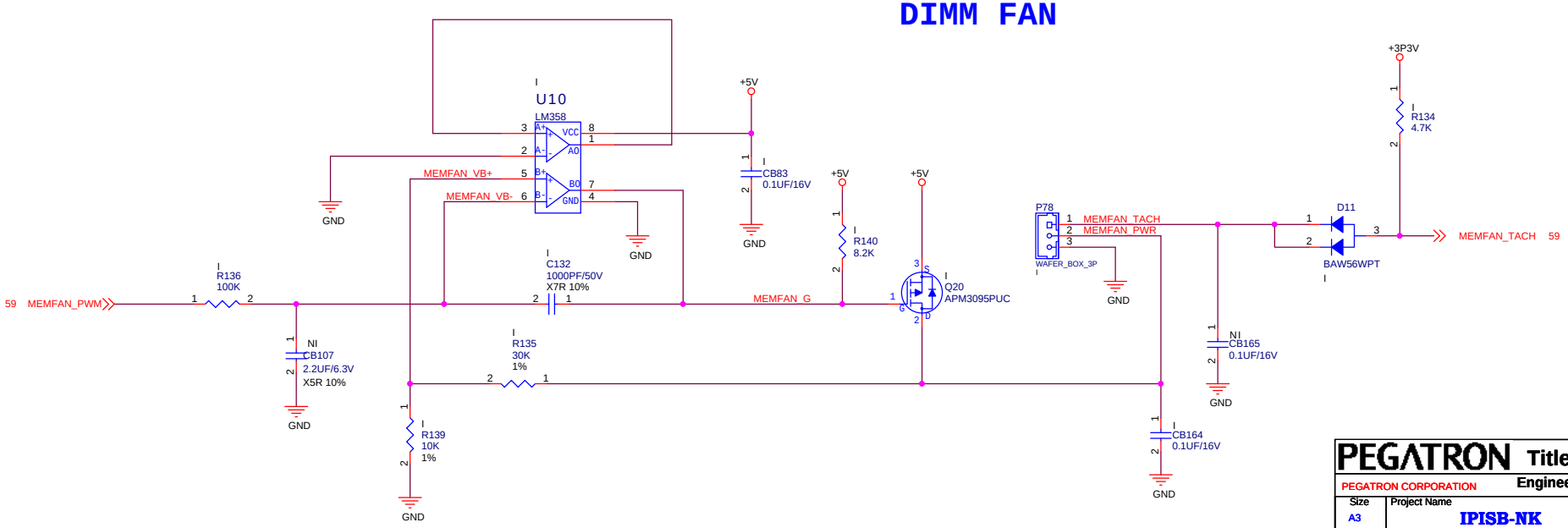


CPU FAN

DIMM FAN NUT

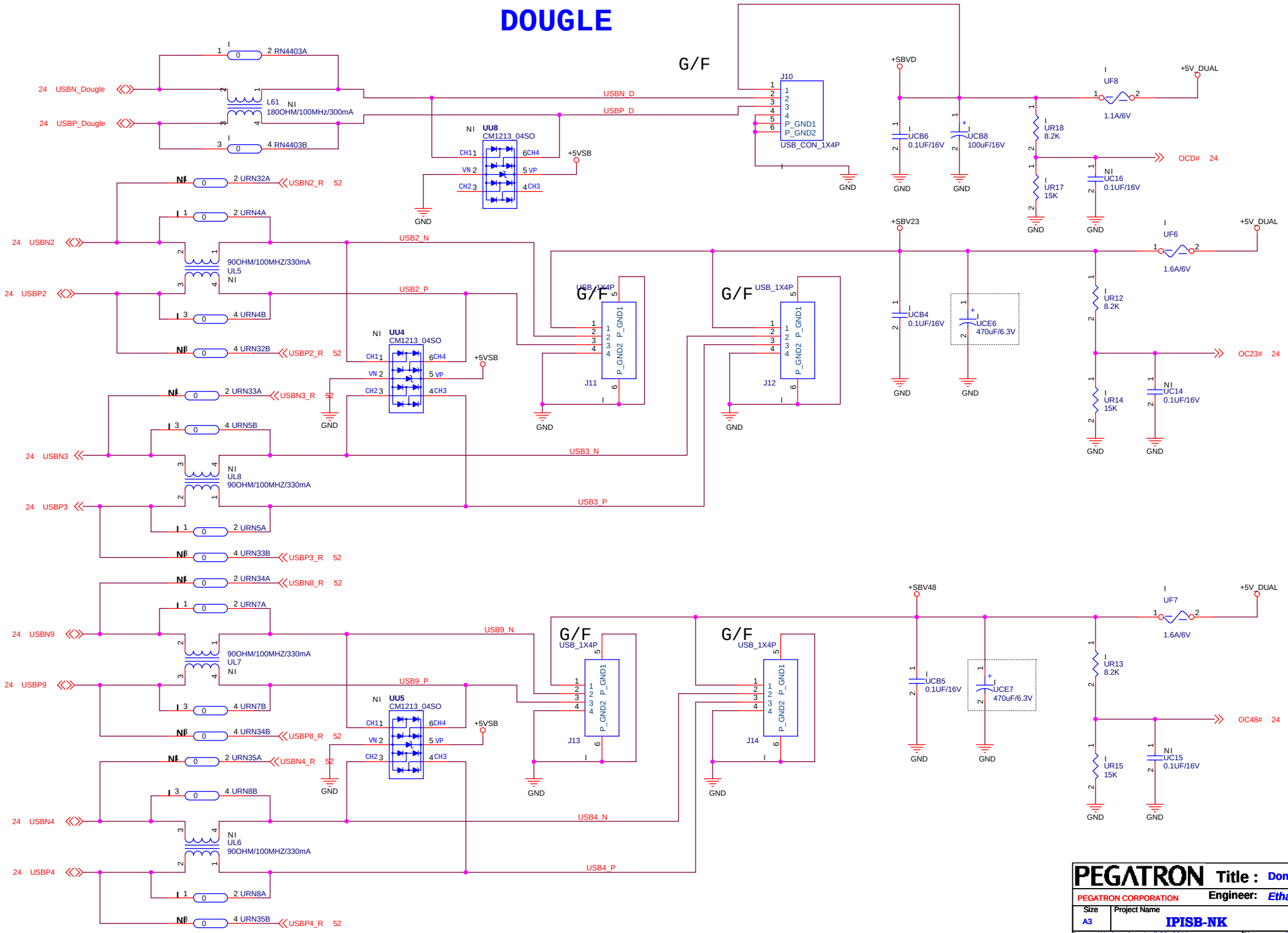


DIMM FAN



PEGATRON	Title : FAN	
PEGATRON CORPORATION	Engineer: Ethan_Chen	
Size: A3	Project Name: IPISB-NK	Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 50 of 80	

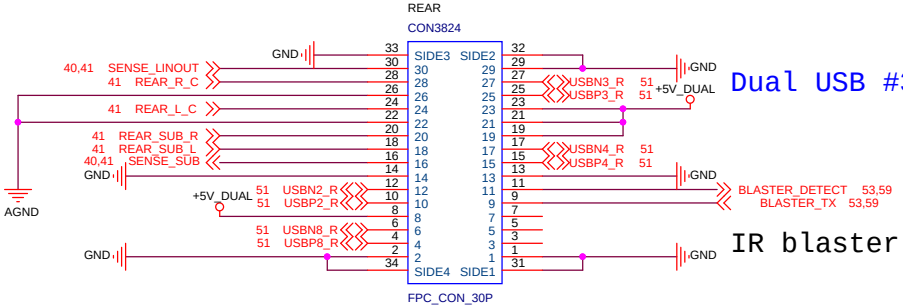
DOUGLE



PEGATRON	Title :	Dongle&rear USB	
PEGATRON CORPORATION	Engineer:	Ethan_Chen	
Size: A3	Project Name: IPISB-NK		Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 51 of 80		

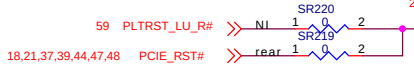
Line-out +
subwoofer

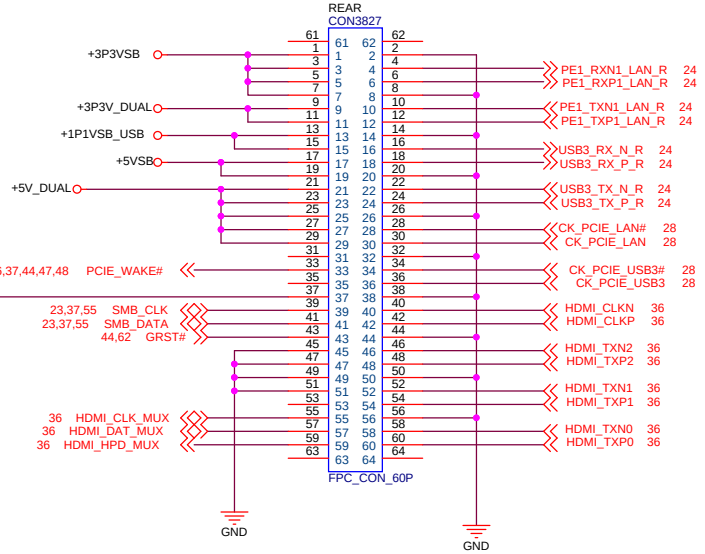
Dual USB #1,2



Dual USB #3,4

IR blaster





PEGATRON

Title : accelerometer

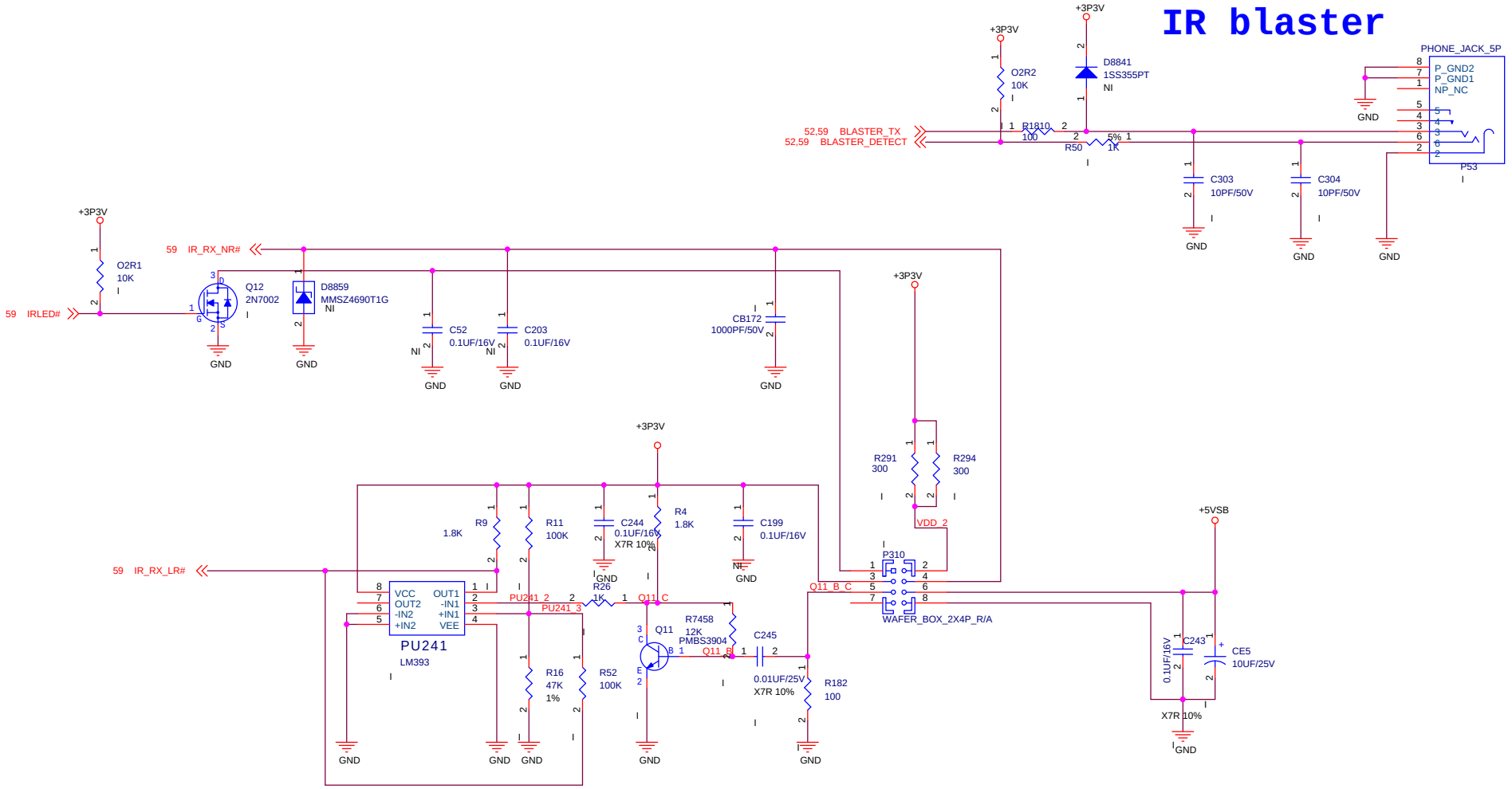
PEGATRON CORPORATION

Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

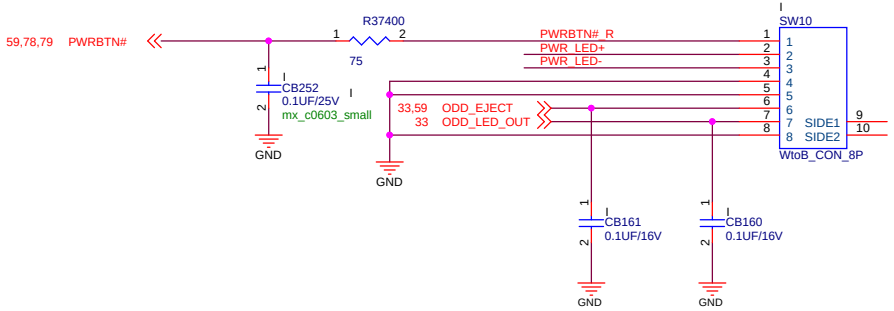
Date: Wednesday, April 20, 2011 Sheet 52 of 80

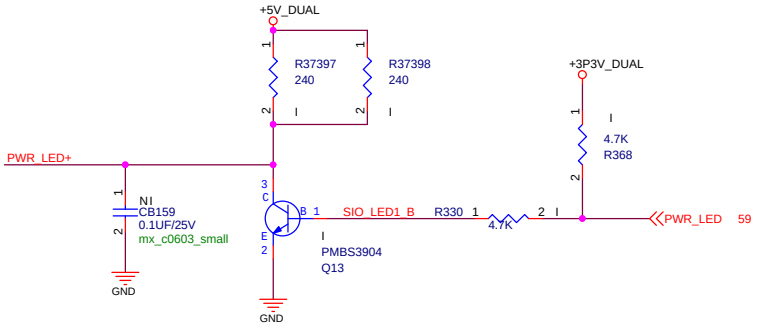
IR blaster

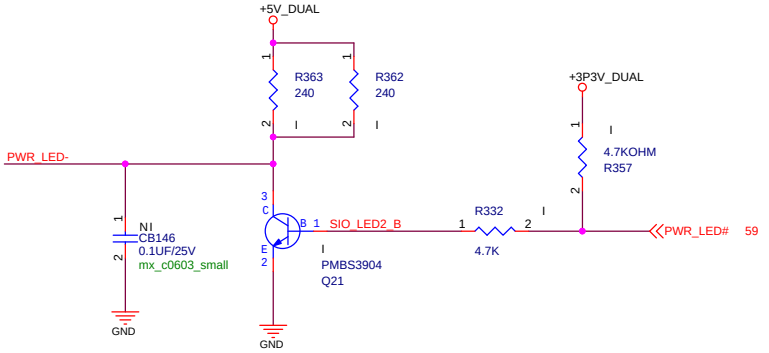


<Core Design>

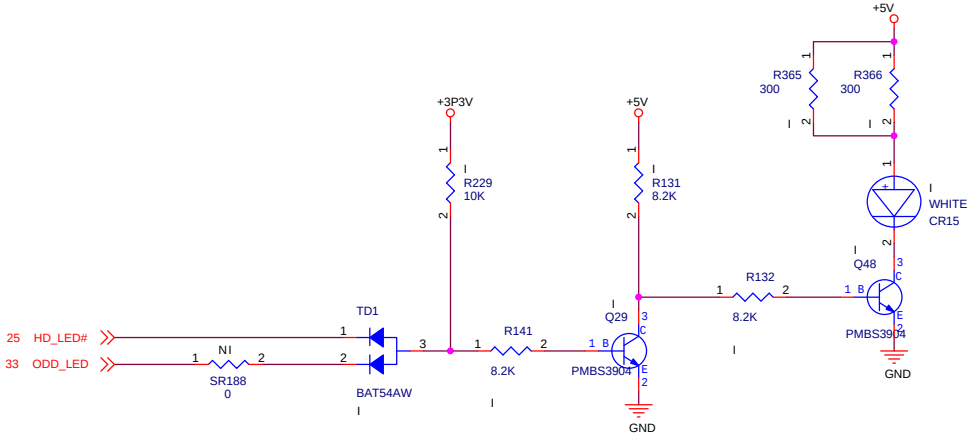
PEGATRON	Title : IR LEDs	
PEGATRON CORPORATION	Engineer: Ethan_Chen	
Size: A3	Project Name: IPISB-NK	Rev: 1.03
Date: Thursday, April 21, 2011	Sheet 53 of 80	



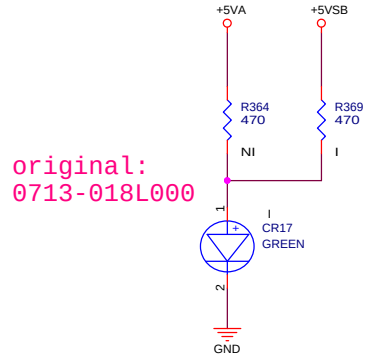




HDD LED



Power supply LED



<Core Design>

PEGATRON CORP.

Title : PWE LED

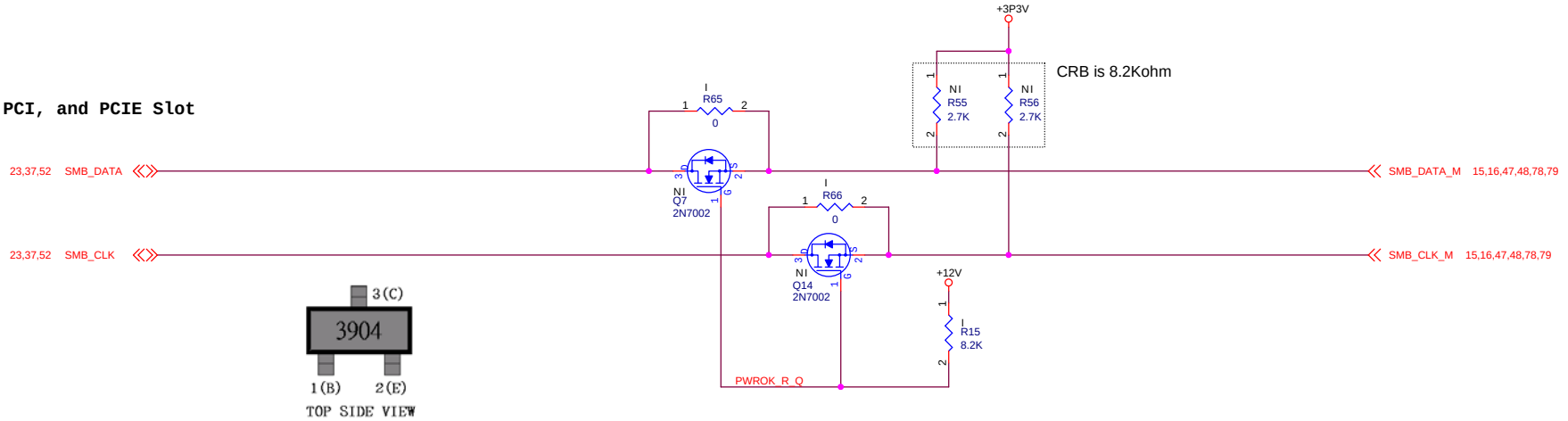
Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

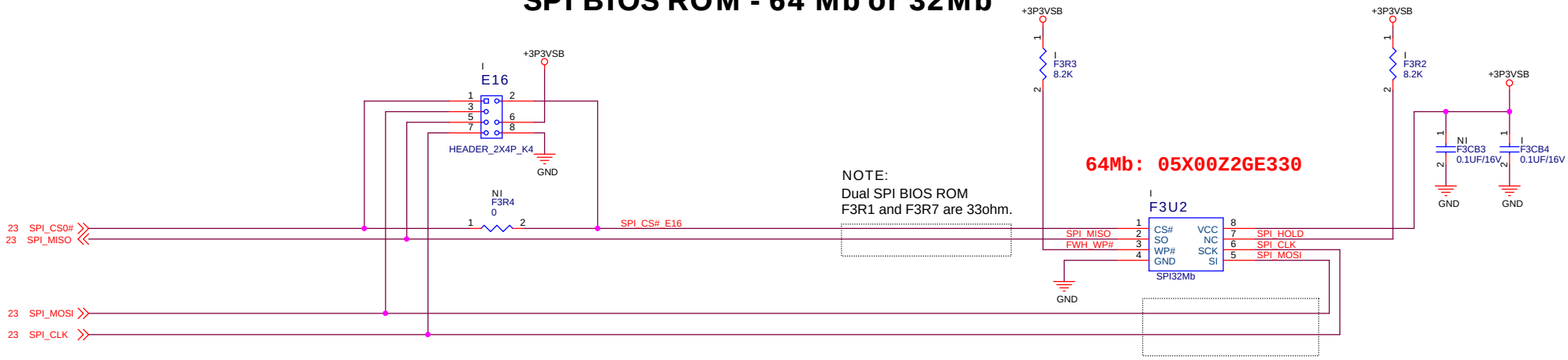
Date: Thursday, April 21, 2011 Sheet 54 of 80

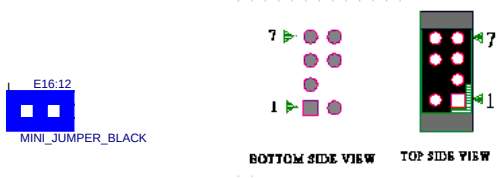
SM BUS Control

To PCH, PCI, and PCIE Slot



SPI BIOS ROM - 64 Mb or 32Mb





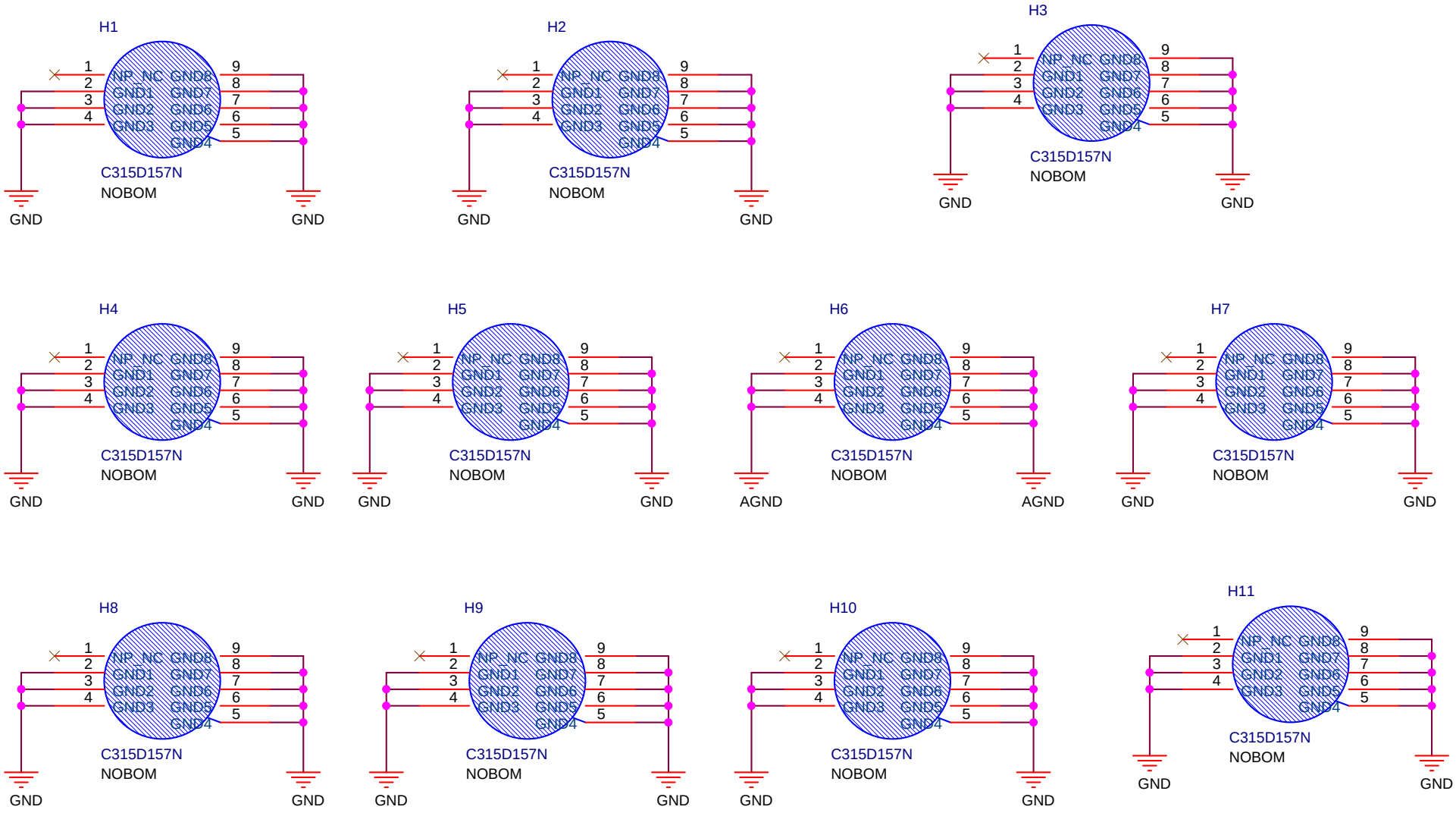
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : SM BUS & SPI ROM

PEGATRON CORPORATION Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 55 of 80



08M1-14B2200 08M1-14B3100
08M1-14B2000 08M1-14B3000
08M1-14B2100 08M1-14B3200

I
PCB_BRD1
PCB
IPISB-NK 1.01

VESA mount hole

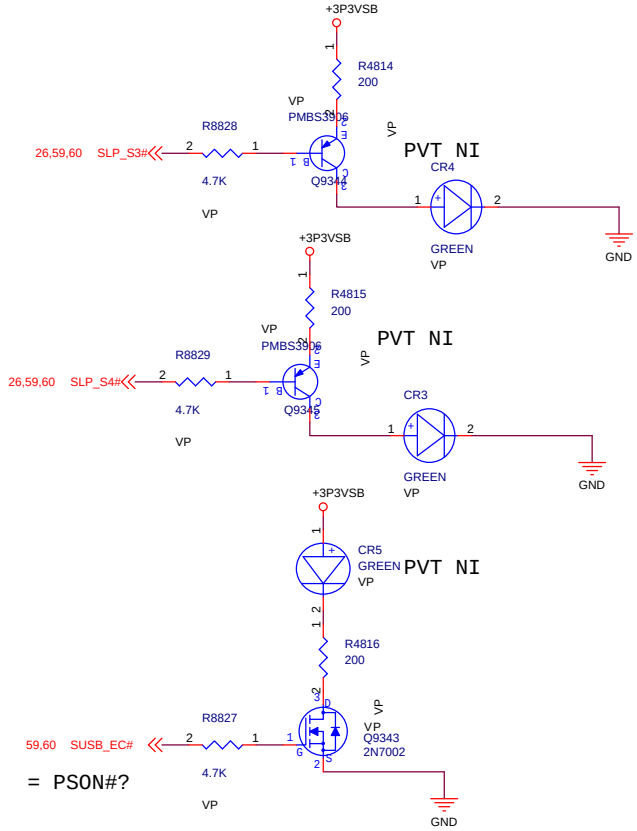
<Core Design>

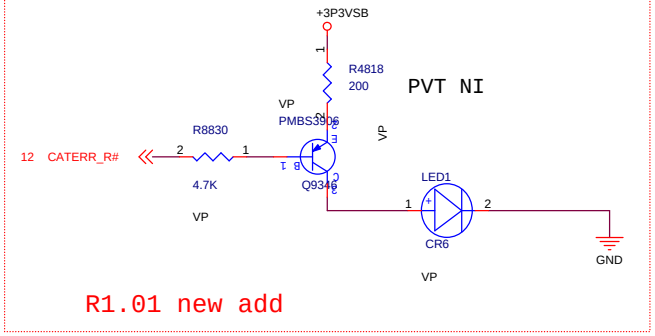
PEGATRON Title : SCREW HOLE

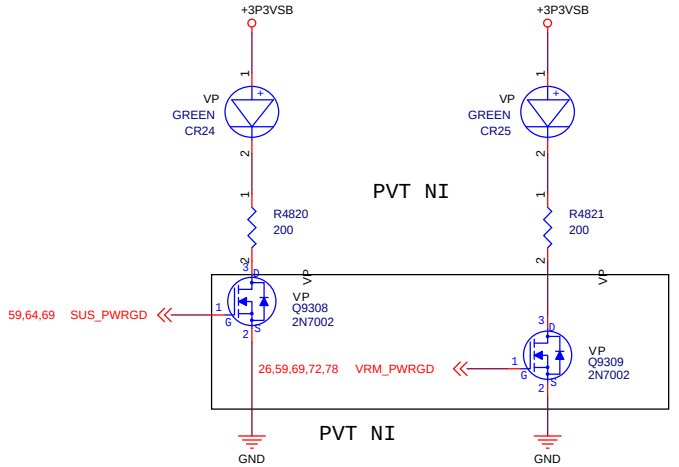
PEGATRON CORPORATION Engineer: Ethan_Chen

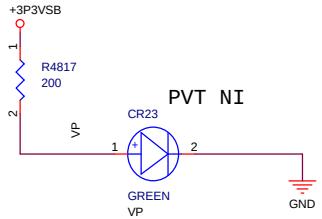
Size	Project Name	Rev
A	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 56 of 80









PEGATRON	Title : Debug LED	
PEGATRON CORPORATION	Engineer: Ethan_Chen	
Size: A3	Project Name: IPISB-NK	Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 57 of 80	

PEGATRON

Title : PLTRST_CPU#&SMbus

PEGATRON CORPORATION

Engineer: *Ethan_Chen*

Size	Project Name	Rev
A	**IPISB-NK**	1.03

Date: Wednesday, April 20, 2011 Sheet 58 of 80

place under ChA dimm

66~73 GPI (input only)

UART: 0 to 3.3V level

Please place crystal circuit near to EC

PLEASE DO NOT PLACE ANY PULL-UP RESISTOR ON GPG0, GPG2 AND GPG6 (Reserved hardware strapping).

<Core Design>

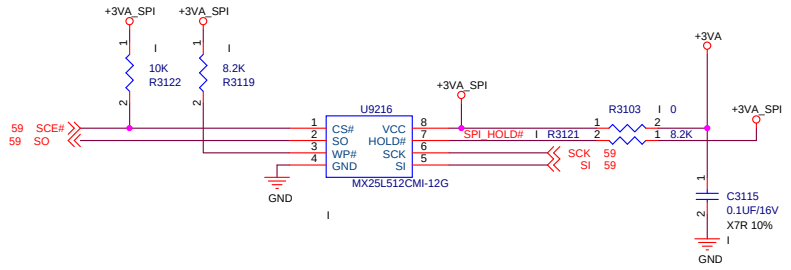
PEGATRON Title : EC_IT8519E-1

PEGATRON CORPORATION Engineer: Ethan_Chen

Size: Custom | Project Name: IPISB-NK | Rev: 1.03

Date: Thursday, April 21, 2011 | Sheet 59 of 80

SPI ROM+
External programming conn.



Touch PAD(deleted)

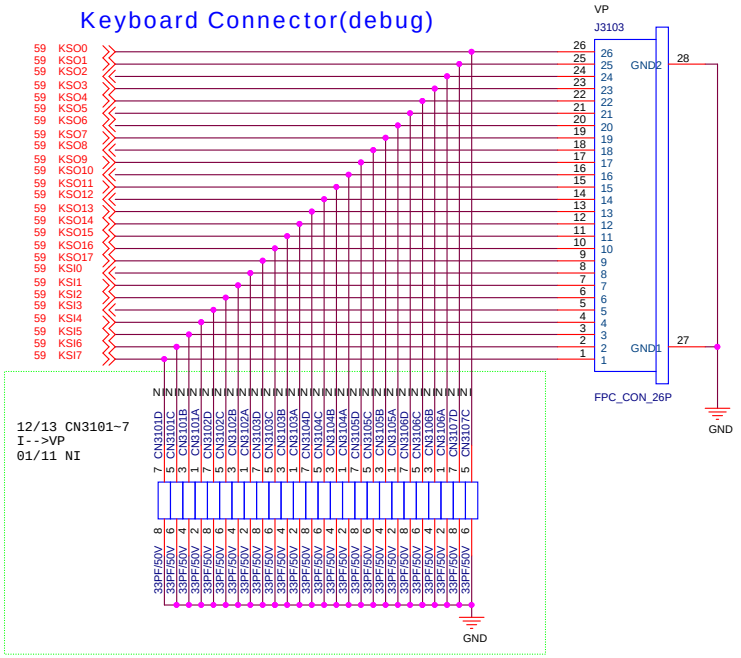
05X00Z2FC330 32Mb

0500-00P5000 (512Kb SPI)

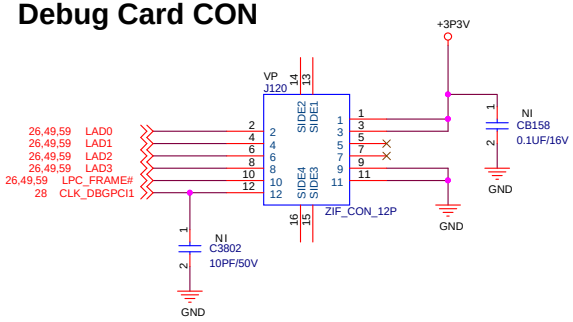
For Instant Key & Switch

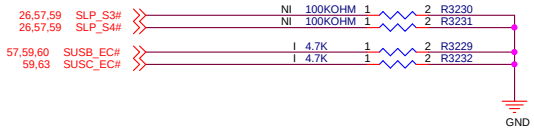
Note: **Close to EC**

Keyboard Connector(debug)

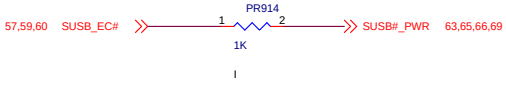


Debug Card CON





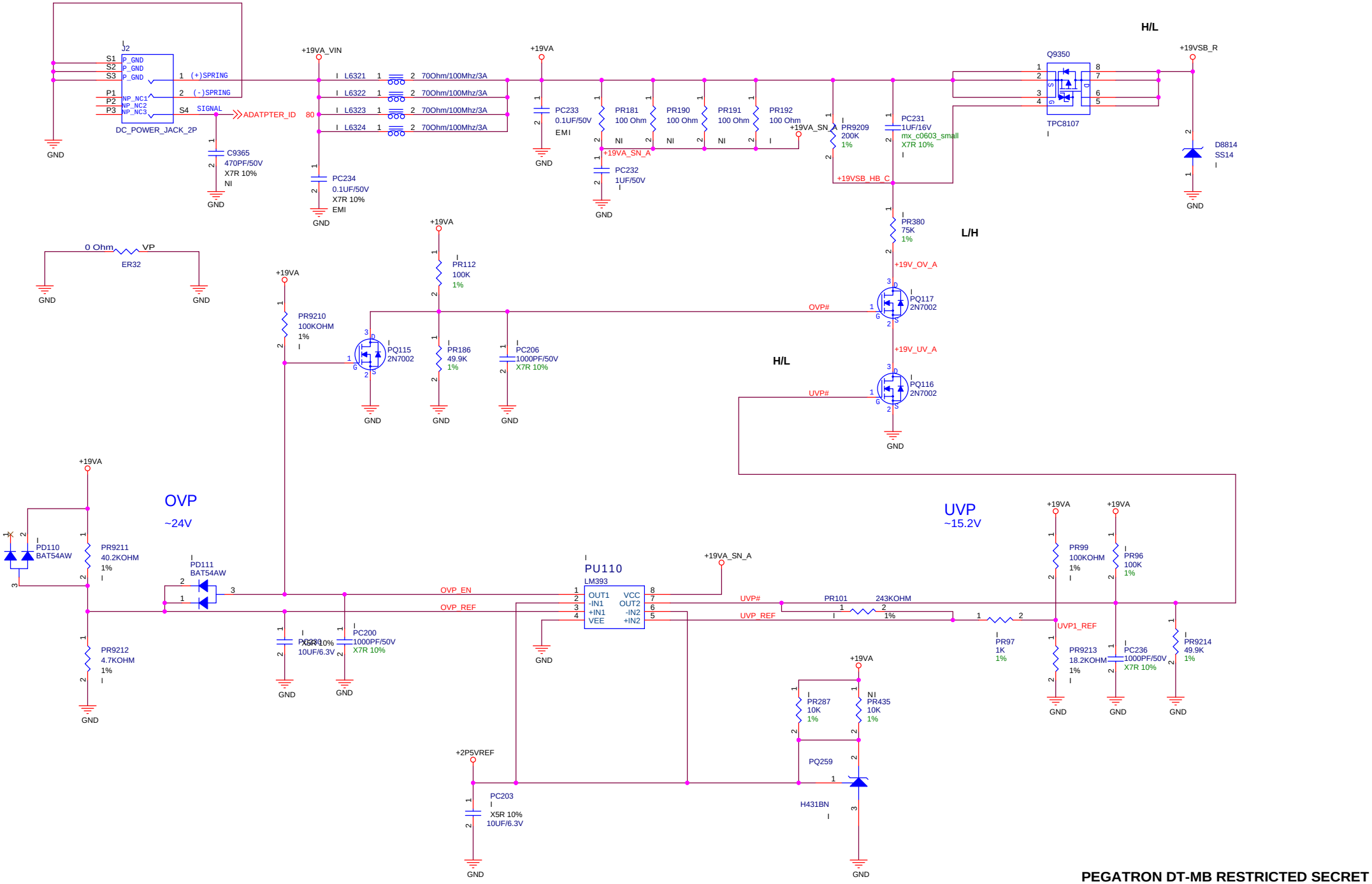
For EC PU/PD



<Core Design>

PEGATRON	Title : EC_IT8519E-2	
PEGATRON CORPORATION	Engineer: Ethan_Chen	
Size: Custom	Project Name: IPISB-NK	Rev: 1.03
Date: Thursday, April 21, 2011	Sheet 60 of 80	

change to SIMULA /AJ261B-Y090-42F, p/n applying....



PEGATRON DT-MB RESTRICTED SECRET

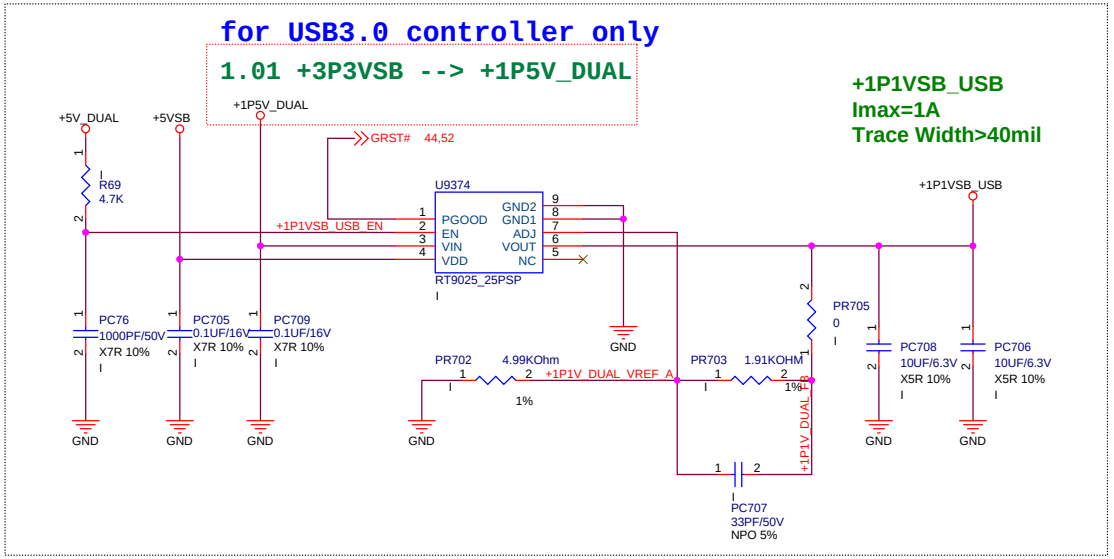
PEGATRON CORPORATION

Title : UVP, OVP & +19VSB

Engineer: Ethan_Chen

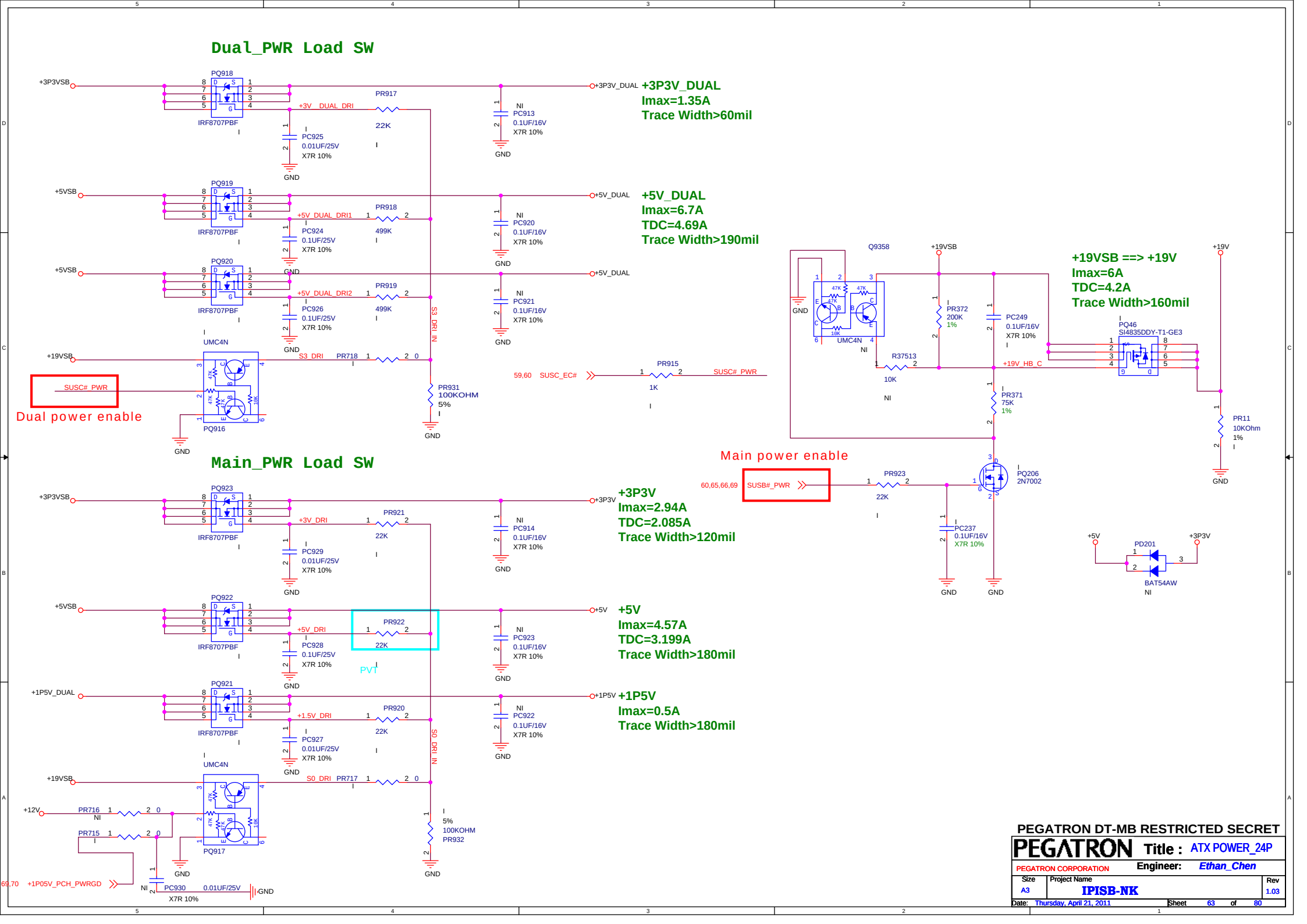
Size	Project Name	Rev
A3	IPISB-NK	1.03

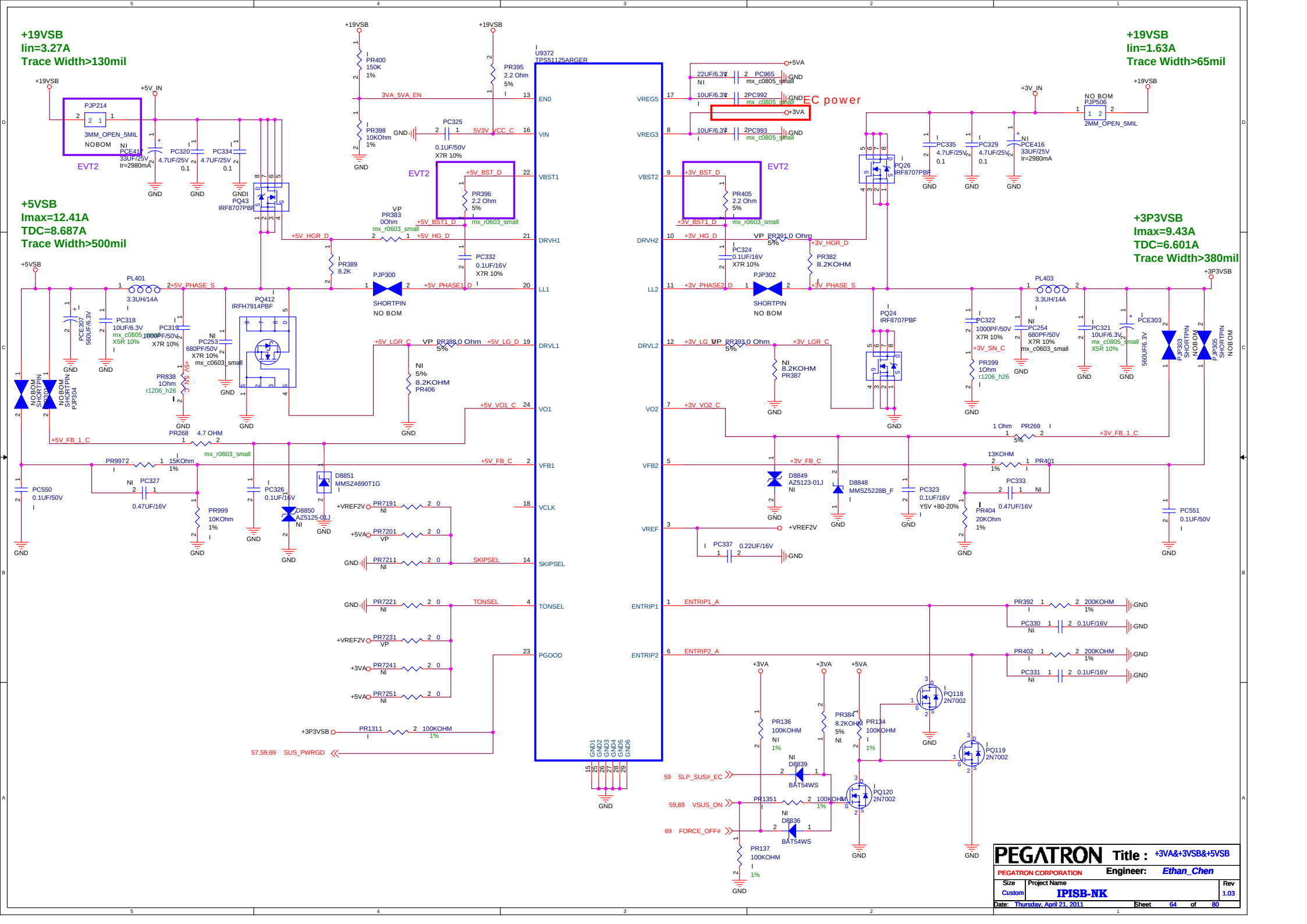
Date: Wednesday, April 20, 2011 Sheet 61 of 80

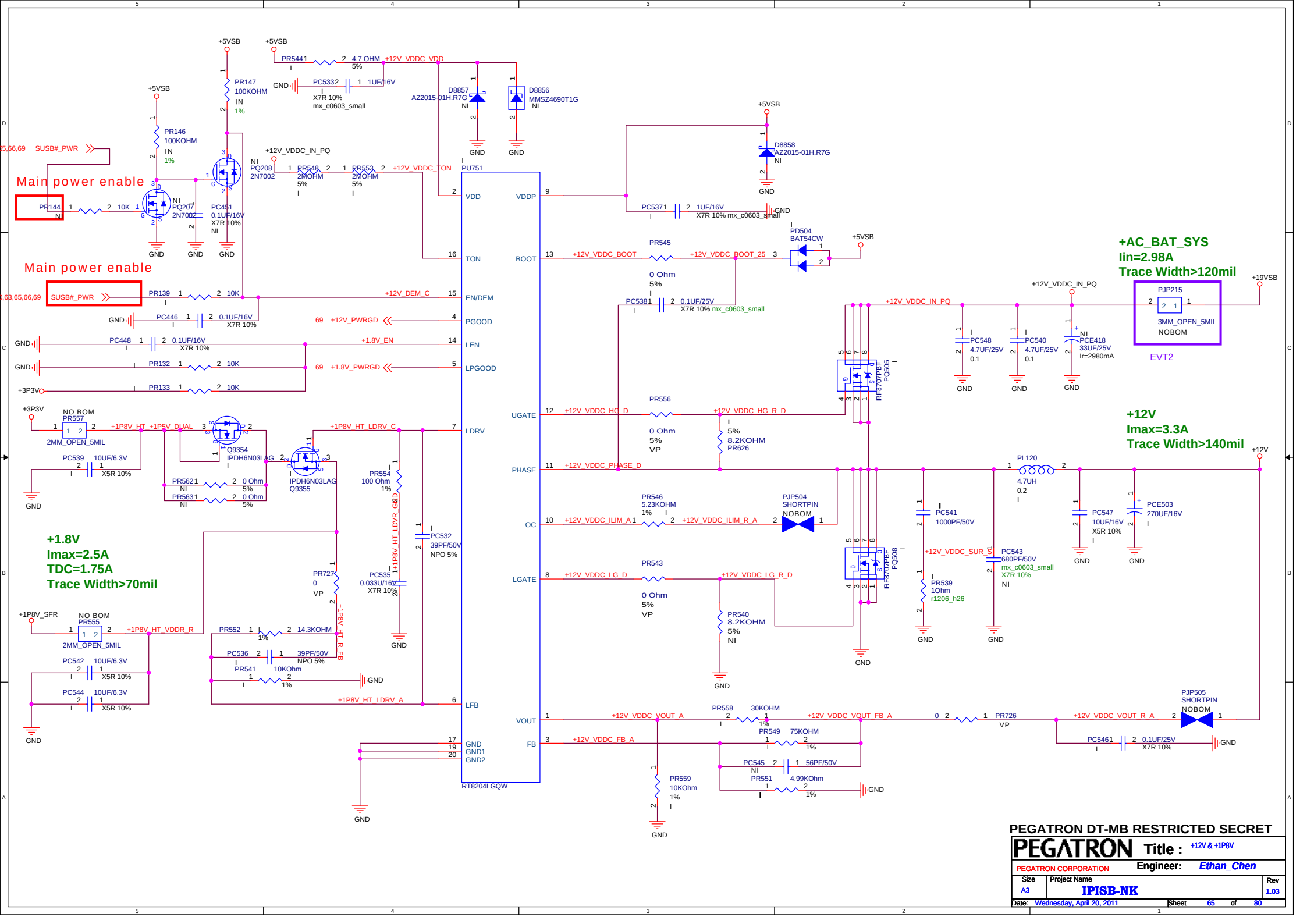


PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : +1P1VSB_USB	
PEGATRON CORPORATION	Engineer: Ethan_Chen	
Size: A3	Project Name: IPISB-NK	Rev: 1.03
Date: Thursday, April 21, 2011	Sheet 62 of 80	


Dual_PWR Load SW
+3P3VSB
PQ918
IRF8707PBF
PR917
22K
+3V_DUAL_DRI
PC925
0.01UF/25V
X7R 10%
GND
NI
PC913
0.1UF/16V
X7R 10%
+3P3V_DUAL
+3P3V_DUAL
Imax=1.35A
Trace Width>60mil
+5VSB
PQ919
IRF8707PBF
PR918
499K
+5V_DUAL_DRI1
PC924
0.1UF/25V
X7R 10%
NI
PC920
0.1UF/16V
X7R 10%
+5V_DUAL
+5V_DUAL
Imax=6.7A
TDC=4.69A
Trace Width>190mil
PQ920
IRF8707PBF
PR919
499K
+5V_DUAL_DRI2
PC926
0.1UF/25V
X7R 10%
NI
PC921
0.1UF/16V
X7R 10%
UMC4N
+19VSB
S3_DRI
PR718
S3_DRI_IN
PR931
100KOHM
5%
PQ916
SUSC# PWR
Dual power enable
59,60 SUSC_EC#
PR915
1K
SUSC# PWR
Q9358
UMC4N
NI
+19VSB
PR372
200K
1%
PC249
0.1UF/16V
X7R 10%
R37513
10K
NI
+19V_HB_C
PR371
75K
1%
+19VSB ==> +19V
Imax=6A
TDC=4.2A
Trace Width>160mil
PQ46
SI4835DDY-T1-GE3
+19V
PR11
10KOhm
1%
Main_PWR Load SW
+3P3VSB
PQ923
IRF8707PBF
PR921
22K
+3V_DRI
PC929
0.01UF/25V
X7R 10%
NI
PC914
0.1UF/16V
X7R 10%
+3P3V
+3P3V
Imax=2.94A
TDC=2.085A
Trace Width>120mil
+5VSB
PQ922
IRF8707PBF
PR922
22K
+5V_DRI
PC928
0.1UF/25V
X7R 10%
PVT
NI
PC923
0.1UF/16V
X7R 10%
+5V
+5V
Imax=4.57A
TDC=3.199A
Trace Width>180mil
+1P5V_DUAL
PQ921
IRF8707PBF
PR920
22K
+1.5V_DRI
PC927
0.01UF/25V
X7R 10%
NI
PC922
0.1UF/16V
X7R 10%
+1P5V
+1P5V
Imax=0.5A
Trace Width>180mil
UMC4N
+19VSB
S0_DRI
PR717
S0_DRI_IN
PR932
100KOHM
5%
+12V
PR716
NI
PR715
PQ917
69,70 +1P05V_PCH_PWRGD
PC930
0.01UF/25V
X7R 10%
Main power enable
60,65,66,69 SUSB#_PWR
PR923
22K
PQ206
2N7002
PC237
0.1UF/16V
X7R 10%
+5V
+3P3V
PD201
BAT54AW
NI
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : ATX POWER_24P
PEGATRON CORPORATION
Engineer: Ethan_Chen
Size A3
Project Name IPISB-NK
Rev 1.03
Date: Thursday, April 21, 2011
Sheet 63 of 80


+19VSB
Iin=3.27A
Trace Width>130mil
+5VSB
Imax=12.41A
TDC=8.687A
Trace Width>500mil
+19VSB
Iin=1.63A
Trace Width>65mil
+3P3VSB
Imax=9.43A
TDC=6.601A
Trace Width>380mil
EC power
EVT2
U9372
TPS51125ARGER
EN0
VIN
VBST1
DRVH1
LL1
DRVL1
VO1
VFB1
VCLK
SKIPSEL
TONSEL
PGOOD
VREG5
VREG3
VBST2
DRVH2
LL2
DRVL2
VO2
VFB2
VREF
ENTRIP1
ENTRIP2
PEGATRON
Title : +3VA&+3VSB&+5VSB
PEGATRON CORPORATION
Engineer: Ethan_Chen
Size Custom
Project Name IPISB-NK
Rev 1.03
Date: Thursday, April 21, 2011
Sheet 64 of 80


Main power enable
Main power enable
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Imax=2.5A
TDC=1.75A
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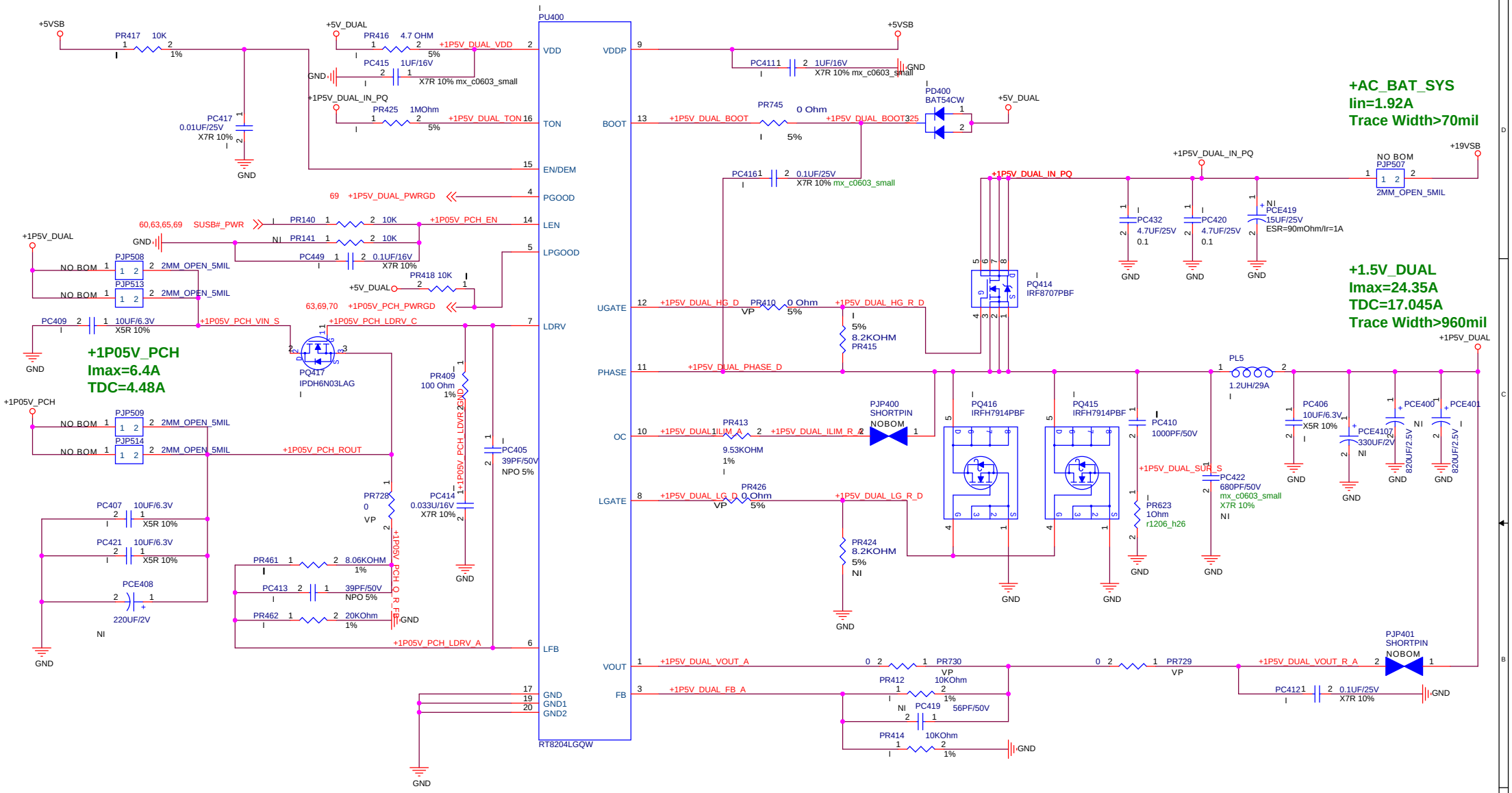
Iin=2.98A
Trace Width>120mil
EVT2
+12V
Imax=3.3A
Trace Width>140mil
RT8204LGQW
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : +12V & +1P8V
PEGATRON CORPORATION
Engineer: Ethan_Chen
Size A3
Project Name IPISB-NK
Rev 1.03
Date: Wednesday, April 20, 2011
Sheet 65 of 80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Imax=24.35A
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Trace Width>960mil
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Imax=6.4A
TDC=4.48A
PU400
RT8204LGQW
+5VSB
+5V_DUAL
+19VSB
+1P5V_DUAL_IN_PQ
+1P5V_DUAL_VDD
+1P5V_DUAL_TON
+1P5V_DUAL_PWRGD
+1P05V_PCH_EN
+1P5V_DUAL_BOOT
+1P5V_DUAL_BOOT325
+1P5V_DUAL_HG_D
+1P5V_DUAL_HG_R_D
+1P5V_DUAL_PHASE_D
+1P5V_DUAL_LG_D
+1P5V_DUAL_LG_R_D
+1P5V_DUAL_ILIM_A
+1P5V_DUAL_ILIM_R_A
+1P5V_DUAL_VOUT_A
+1P5V_DUAL_VOUT_R_A
+1P5V_DUAL_FB_A
+1P5V_DUAL_SUR_S
+1P05V_PCH_VIN_S
+1P05V_PCH_LDRV_C
+1P05V_PCH_LDRV_A
+1P05V_PCH_ROUT
+1P05V_PCH_O_R_FB
SUSB#_PWR
PR417 10K 1%
PR416 4.7 OHM 5%
PC415 1UF/16V X7R 10% mx_c0603_small
PR425 1MOhm 5%
PC417 0.01UF/25V X7R 10%
PR745 0 Ohm 5%
PD400 BAT54CW
PC4111 1UF/16V X7R 10% mx_c0603_small
PC4161 0.1UF/25V X7R 10% mx_c0603_small
PR140 10K
PR141 10K
PC449 0.1UF/16V X7R 10%
PR418 10K
PJP508 NO BOM 2MM_OPEN_5MIL
PJP513 NO BOM 2MM_OPEN_5MIL
PC409 10UF/6.3V X5R 10%
PQ417 IPDH6N03LAG
PR409 100 Ohm 1%
PC405 39PF/50V NPO 5%
PC414 0.033U/16V X7R 10%
PR728 0 VP
PJP509 NO BOM 2MM_OPEN_5MIL
PJP514 NO BOM 2MM_OPEN_5MIL
PC407 10UF/6.3V X5R 10%
PC421 10UF/6.3V X5R 10%
PCE408 220UF/2V
PR461 8.06KOHM 1%
PC413 39PF/50V NPO 5%
PR462 20KOhm 1%
PR410 0 Ohm VP 5%
PR415 8.2KOHM 5%
PR413 9.53KOHM 1%
PR426 0 Ohm VP 5%
PR424 8.2KOHM 5% NI
PJP400 SHORTPIN NOBOM
PQ414 IRF8707PBF
PQ416 IRFH7914PBF
PQ415 IRFH7914PBF
PC432 4.7UF/25V 0.1
PC420 4.7UF/25V 0.1
PCE419 15UF/25V ESR=90mOhm/Ir=1A
PJP507 NO BOM 2MM_OPEN_5MIL
PL5 1.2UH/29A
PC410 1000PF/50V
PR623 1Ohm r1206_h26
PC422 680PF/50V mx_c0603_small X7R 10% NI
PC406 10UF/6.3V X5R 10%
PCE407 330UF/2V NI
PCE400 820UF/2.5V NI
PCE401 820UF/2.5V
PR730 VP
PR729 VP
PR412 10KOhm 1%
PC419 56PF/50V NI
PR414 10KOhm 1%
PJP401 SHORTPIN NOBOM
PC4121 0.1UF/25V X7R 10%
PEGATRON
PEGATRON CORPORATION
Title : +1P5V_DUAL&+1P05V_PCH
Engineer: Ethan_Chen
Size A3
Project Name IPISB-NK
Rev 1.03
Date: Wednesday, April 20, 2011
Sheet 66 of 80

+VTT_DDR
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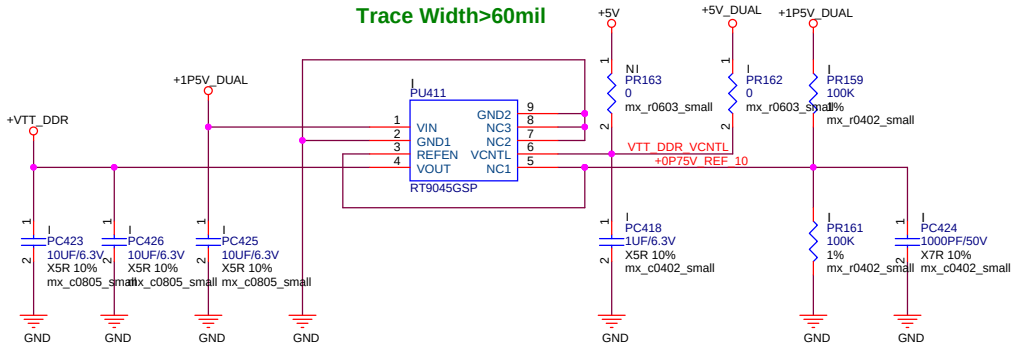
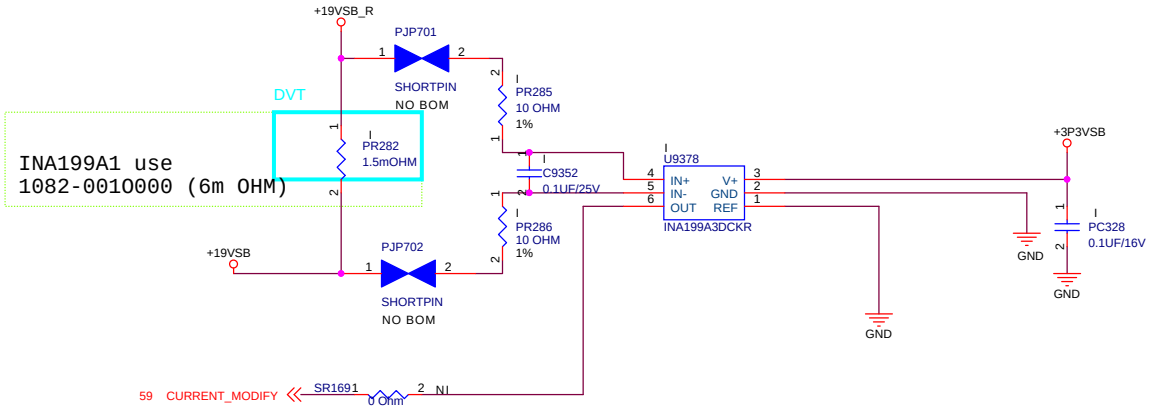
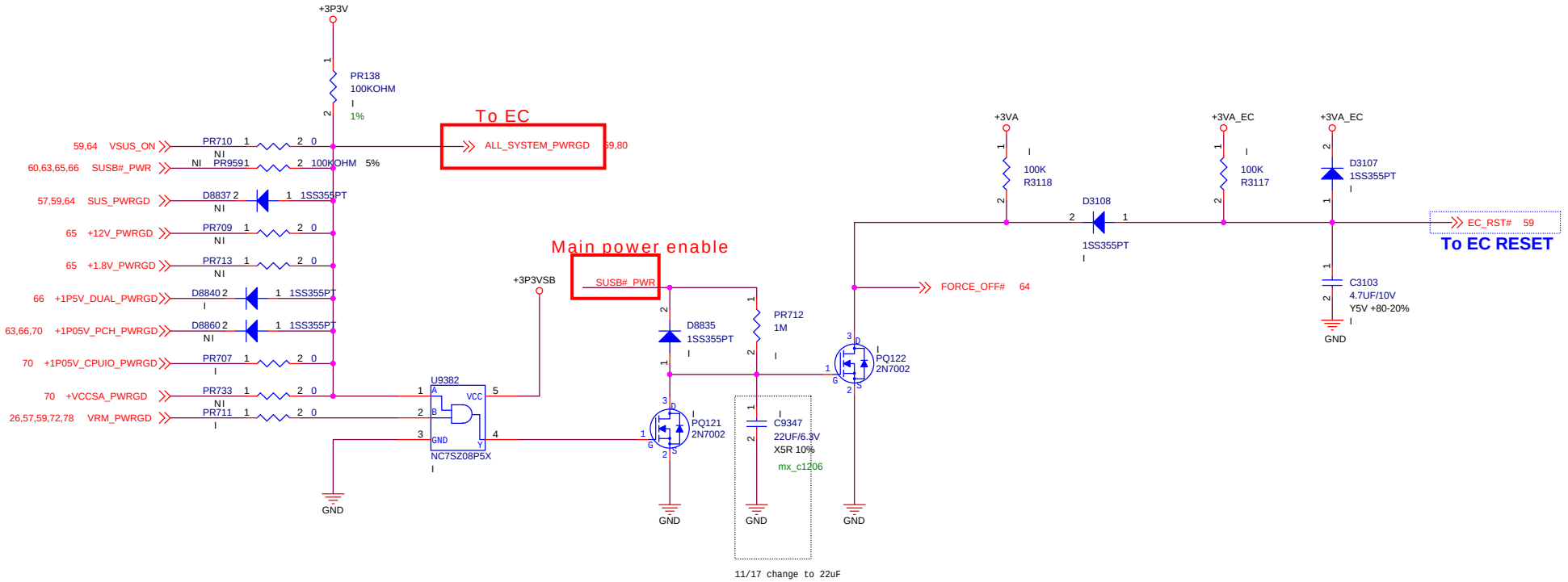


PEGATRON	Title : +VTT_DDR	
PEGATRON CORPORATION	Engineer: Ethan_Chen	
Size: A3	Project Name: IPISB-NK	Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 67 of 80	

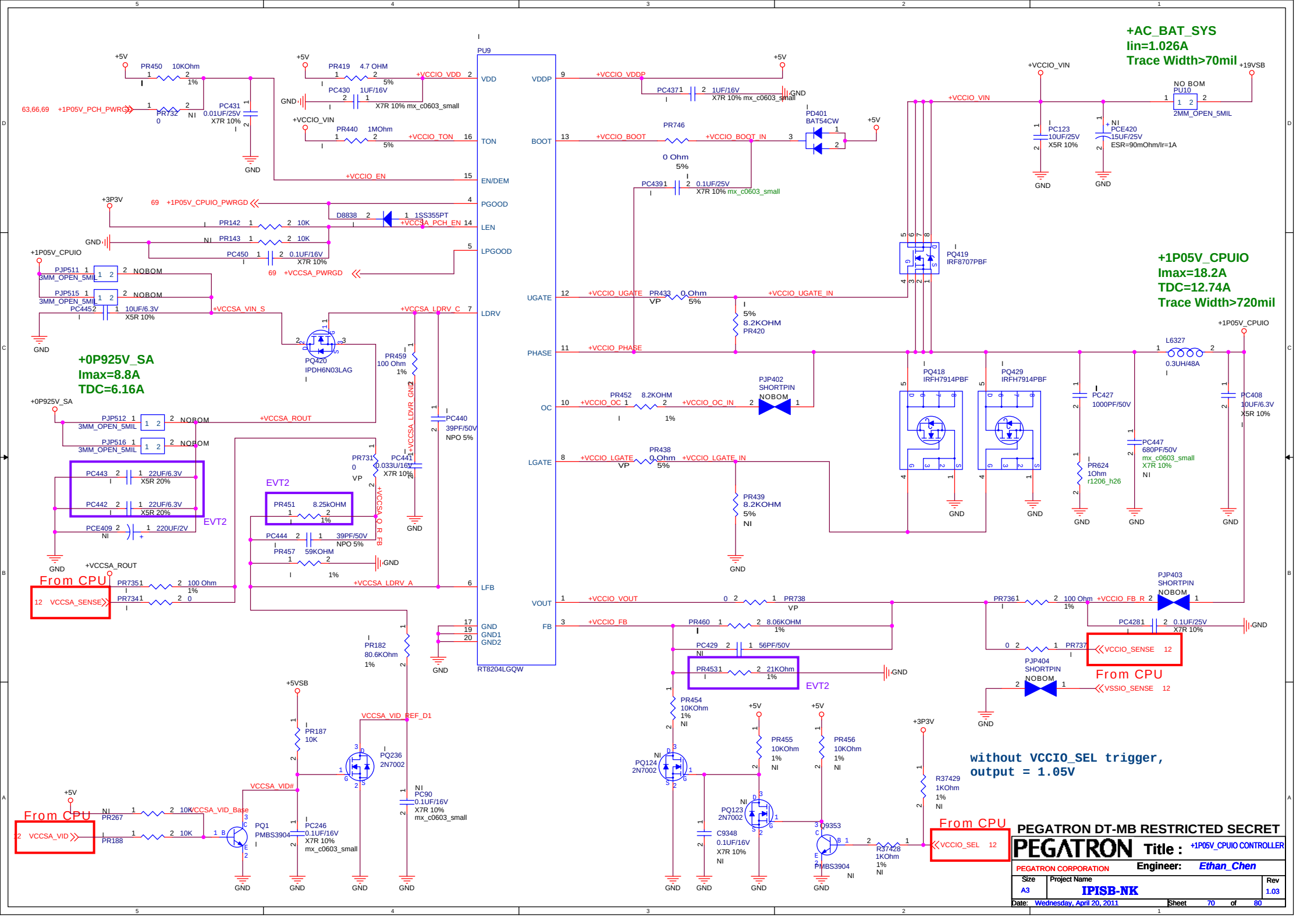


PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : N/A	
PEGATRON CORPORATION	Engineer: Ethan_Chen	
Size: A3	Project Name: IPISB-NK	Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 68 of 80	



PEGATRON	Title :	+1P05V_ME	
PEGATRON CORPORATION	Engineer:	Ethan_Chen	
Size: A3	Project Name: IPISB-NK		Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 69 of 80		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Imax=18.2A
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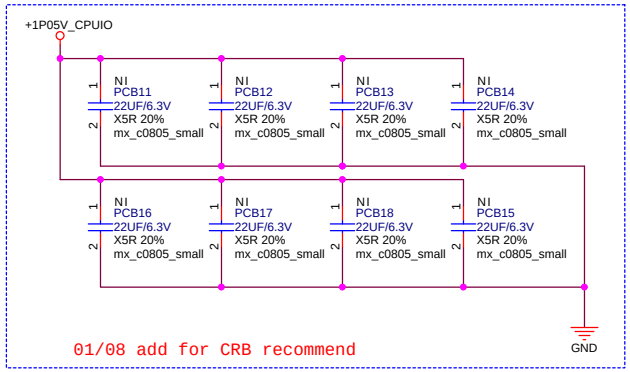
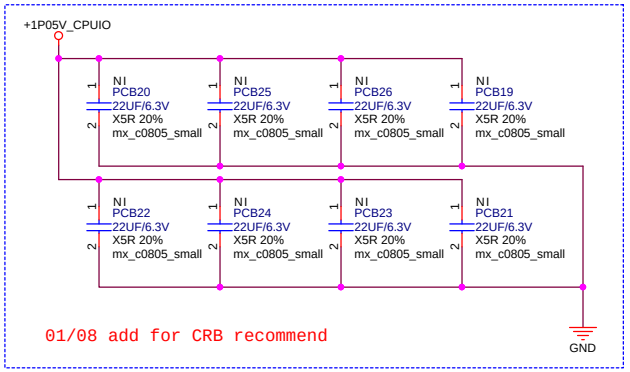
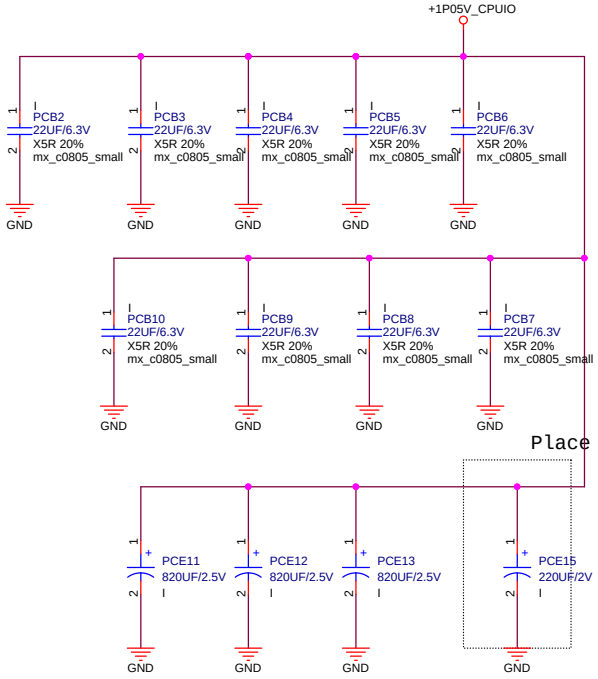
Imax=8.8A
TDC=6.16A
PU9
RT8204LGQW
VDD
VDDP
TON
BOOT
EN/DEM
PGOOD
LEN
LPGOOD
UGATE
PHASE
LDRV
OC
LGATE
VOUT
FB
GND
GND1
GND2
LFB
+5V
+19VSB
+VCCIO_VIN
+3P3V
+5VSB
+1P05V_CPUIO
+0P925V_SA
+VCCSA_ROUT
PR450 10KOhm
PR419 4.7 OHM
PC430 1UF/16V
PC431 0.01UF/25V X7R 10%
PR440 1MOhm
PR746
0 Ohm 5%
PC4391 0.1UF/25V X7R 10% mx_c0603_small
PC4371 1UF/16V X7R 10% mx_c0603_small
PD401 BAT54CW
PC123 10UF/25V X5R 10%
PCE420 15UF/25V ESR=90mOhm/Ir=1A
NO BOM PU10 2MM_OPEN_5MIL
PR142 10K
PR143 10K
PC450 0.1UF/16V X7R 10%
D8838 1SS355PT
PJP511 3MM_OPEN_5MIL NOBOM
PJP515 3MM_OPEN_5MIL NOBOM
PC4452 10UF/6.3V X5R 10%
PQ420 IPDH6N03LAG
PR459 100 Ohm 1%
PC440 39PF/50V NPO 5%
PR731 0 VP
PC441 0.033U/16V X7R 10%
PJP512 3MM_OPEN_5MIL NOBOM
PJP516 3MM_OPEN_5MIL NOBOM
PC443 22UF/6.3V X5R 20%
PC442 22UF/6.3V X5R 20%
PCE409 220UF/2V
EVT2
PR451 8.25kOHM 1%
PC444 39PF/50V NPO 5%
PR457 59KOHM 1%
PR7351 100 Ohm 1%
PR7341 0
From CPU
VCCSA_SENSE 12
PR182 80.6KOhm 1%
PR187 10K
PQ236 2N7002
VCCSA_VID_REF_D1
VCCSA_VID#
VCCSA_VID_Base
PR267
PR188
PQ1 PMBS3904
PC246 0.1UF/16V X7R 10% mx_c0603_small
PC90 0.1UF/16V X7R 10% mx_c0603_small
VCCSA_VID 12
PR738 0 VP
PR460 8.06KOHM 1%
PC429 56PF/50V
PR4531 21KOhm 1%
PR454 10KOhm 1%
PR455 10KOhm 1%
PR456 10KOhm 1%
PQ124 2N7002
PQ123 2N7002
C9348 0.1UF/16V X7R 10%
Q9353 PMBS3904
R37429 1KOhm 1%
R37428 1KOhm 1%
VCCIO_SEL 12
PR452 8.2KOHM 1%
PR433 0 Ohm 5%
8.2KOHM 5% PR420
PR438 0 Ohm 5%
PR439 8.2KOHM 5%
PJP402 SHORTPIN NOBOM
PQ419 IRF8707PBF
PQ418 IRFH7914PBF
PQ429 IRFH7914PBF
PR624 1Ohm r1206_h26
PC427 1000PF/50V
PC447 680PF/50V mx_c0603_small X7R 10%
PC408 10UF/6.3V X5R 10%
L6327 0.3UH/48A
PR7361 100 Ohm 1%
PJP403 SHORTPIN NOBOM
PC4281 0.1UF/25V X7R 10%
PR737
VCCIO_SENSE 12
PJP404 SHORTPIN NOBOM
VSSIO_SENSE 12
From CPU
without VCCIO_SEL trigger,
output = 1.05V
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : +1P05V_CPUIO CONTROLLER
PEGATRON CORPORATION
Engineer: Ethan_Chen
Size A3
Project Name IPISB-NK
Rev 1.03
Date: Wednesday, April 20, 2011
Sheet 70 of 80







VCCIO Decoupling Requirements

Capacitance	Qty	ESR (each)	ESL (each)	Filter	Placement	Notes
Aluminum Polymer 560µF	3	7mΩ	1.4nH	Output	Various. See layout figures	1
22µF 0805 X5R	9	5mΩ	0.55nH	Output	Inside processor socket cavity	1, 2 3
0805 placeholders	16				Backside	

PEGATRON DT-MB RESTRICTED SECRET

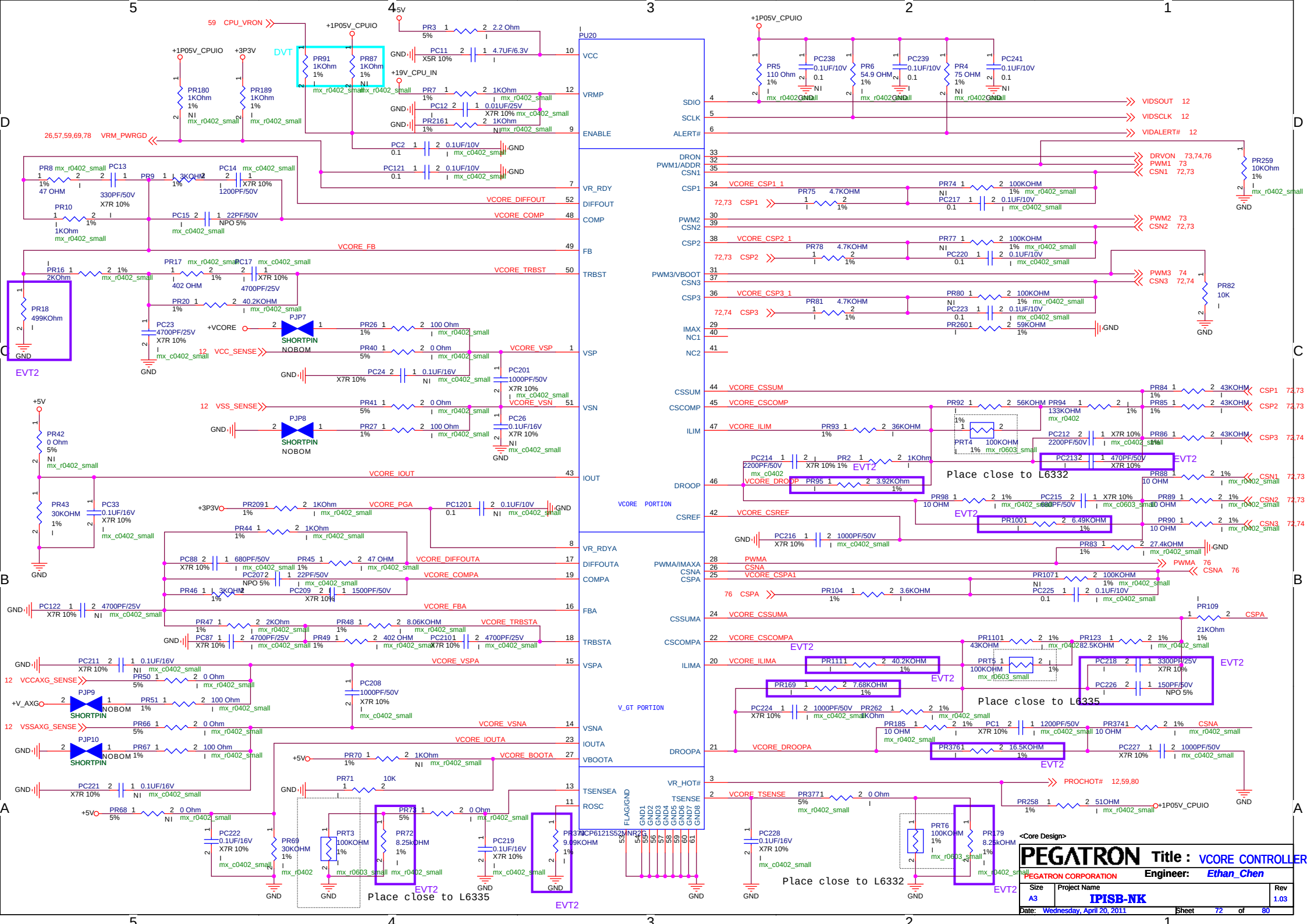
PEGATRON CORPORATION

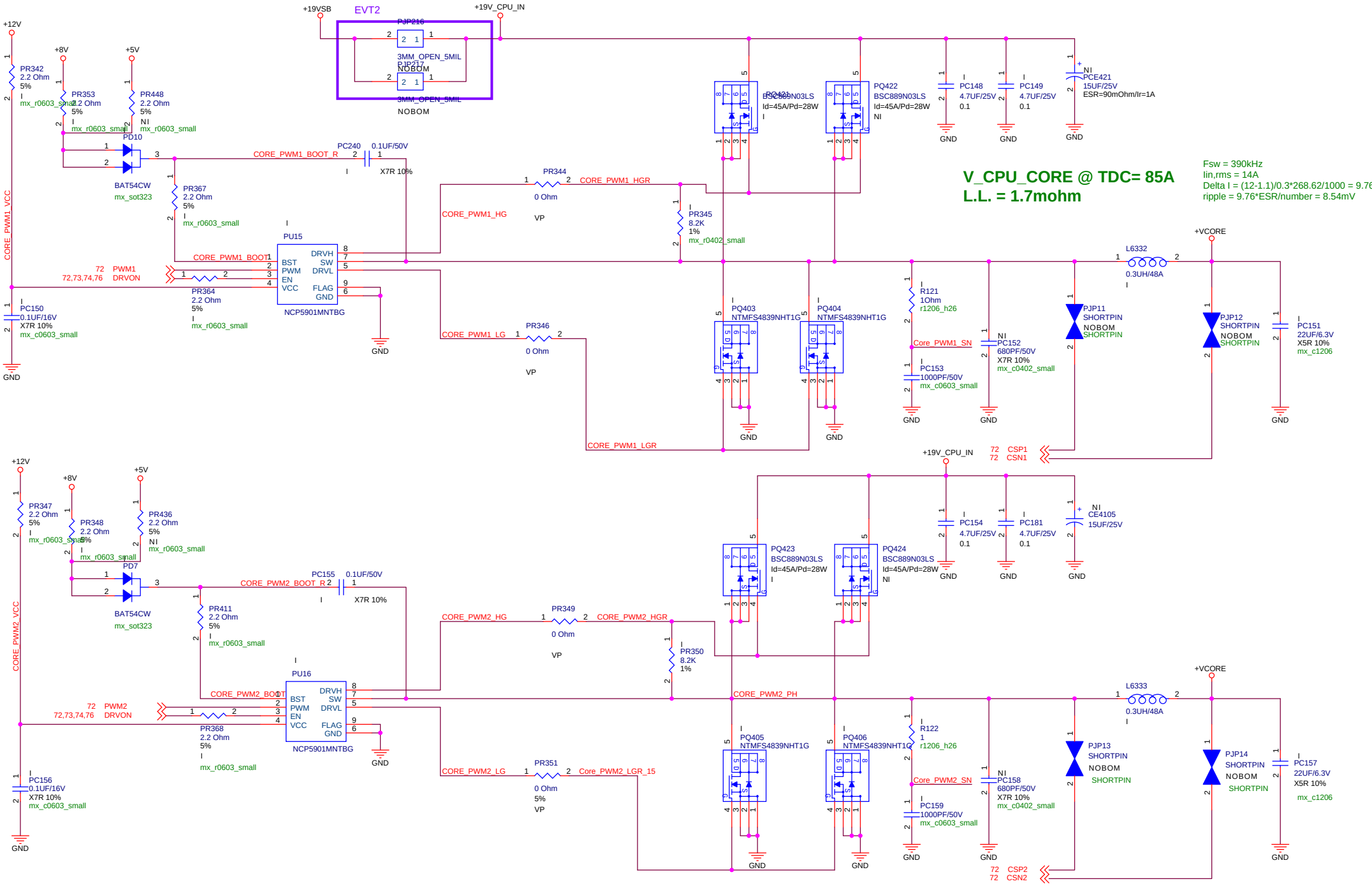
Title : 1P05V_CPUIO CAP

Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 71 of 80


PU20
VCC
VRMP
ENABLE
VR_RDY
DIFFOUT
COMP
FB
TRBST
VSP
VSN
IOUT
VR_RDYA
DIFFOUTA
COMPA
FBA
TRBSTA
VSPA
VSNA
IOUTA
VBOOTA
TSENSEA
ROSC
SDIO
SCLK
ALERT#
DRON
PWM1/ADDR
CSN1
CSP1
PWM2
CSN2
CSP2
PWM3/VBOOT
CSN3
CSP3
IMAX
NC1
NC2
CSSUM
CSCOMP
ILIM
DROOP
CSREF
PWMA/IMAXA
CSNA
CSPA
CSSUMA
CSCOMPA
ILIMA
DROOPA
VR_HOT#
TSENSE
FLAG/GND
VCORE PORTION
V_GT PORTION
MCP6121S52MNR2G
Place close to L6332
Place close to L6335
Place close to L6332
Place close to L6335
EVT2
DVT
SHORTPIN
NOBOM
<Core Design>
PEGATRON
Title : VCORE CONTROLLER
PEGATRON CORPORATION
Engineer: Ethan_Chen
Size A3
Project Name IPISB-NK
Rev 1.03
Date: Wednesday, April 20, 2011
Sheet 72 of 80



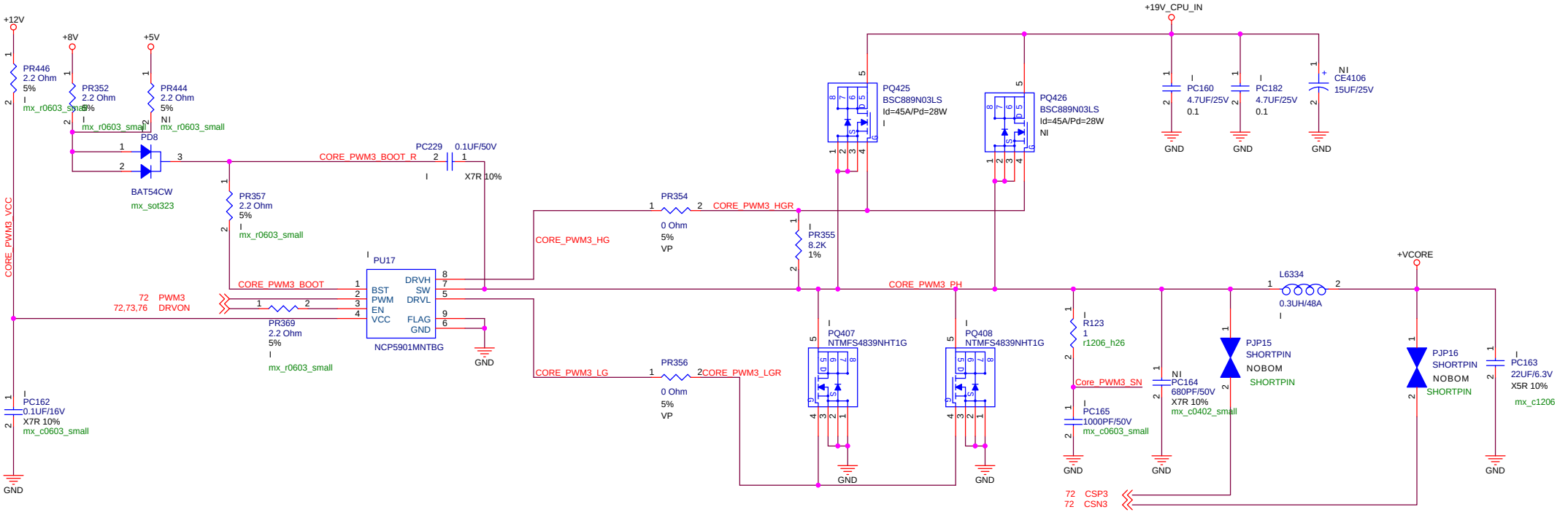
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : VCORE DRIVER1-2

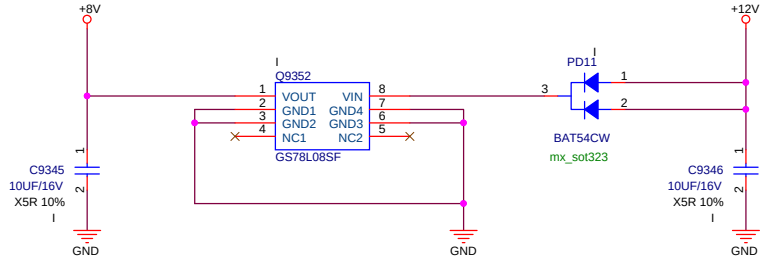
Pegatron Corp. Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 73 of 80



+12V==> +8V(Max=1A)



PEGATRON DT-MB RESTRICTED SECRET

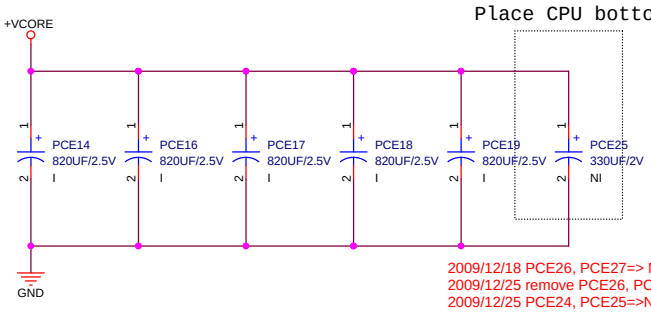
PEGATRON Pegatron Corp.	Title : VCORE DRIVER 2-2	
	Engineer: Ethan_Chen	
Size: A3	Project Name: IPISB-NK	Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 74 of 80	

Output CAP

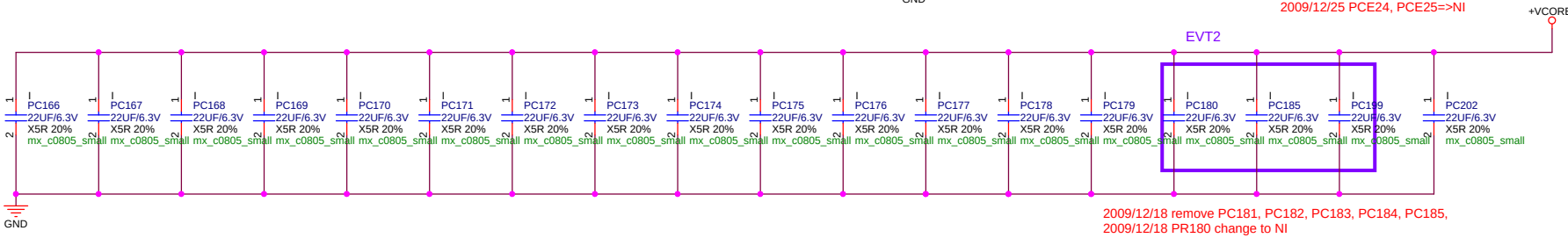
Table 10-2. Decoupling Requirements

Capacitance	Qty	ESR (each)	ESL (each)	Filter	Placement	Notes
Aluminum Polymer 560µF	4	7mΩ	1.4nH	Output	North of processor - as close to RM keep-out as possible	1
22µF 0805 X5R	18	5mΩ	0.55nH	Output	14 - Inside processor socket cavity 4- North of processor - as close to RM keep-out as possible	1, 2 3
Aluminum Electrolytic 390µF	4	51mΩ	6.1nH	Input		1
4.7µF X5R	9	7mΩ	0.6nH	Input		1

PL-CAP *4 +2(NI)
MLCC *18 +3(NI)



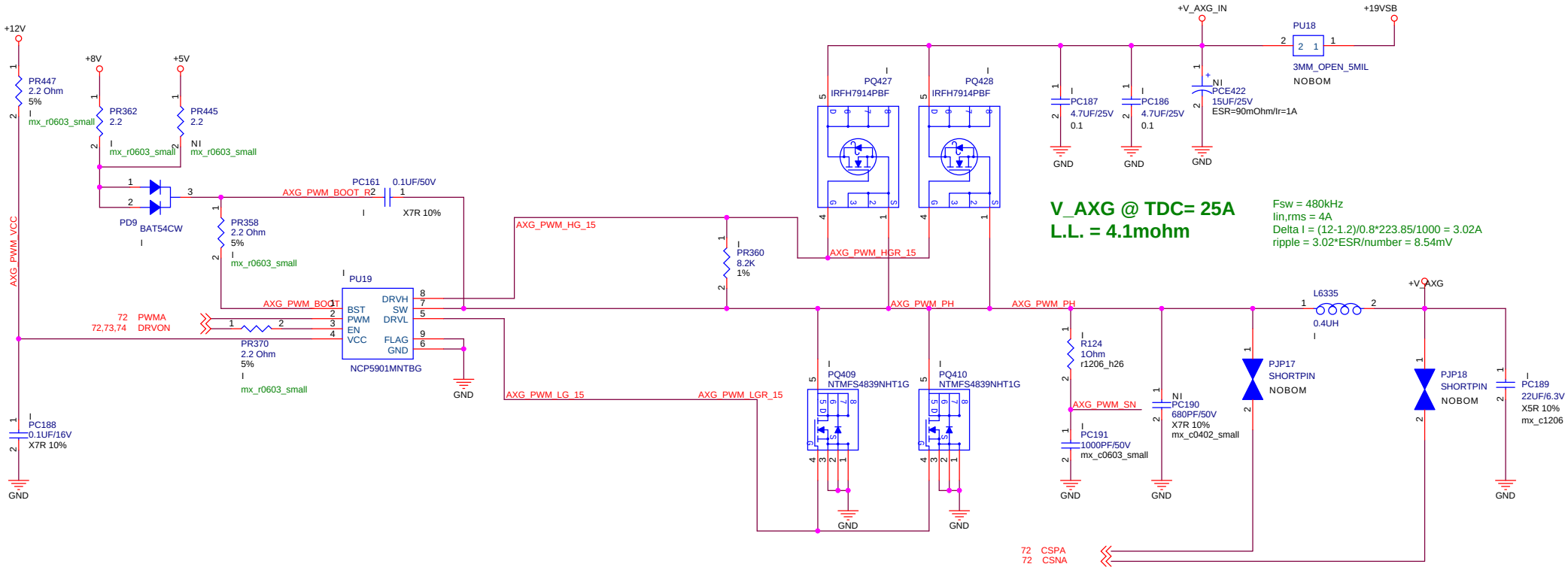
2009/12/18 PCE26, PCE27=> NI
2009/12/25 remove PCE26, PCE27
2009/12/25 PCE24, PCE25=>NI



2009/12/18 remove PC181, PC182, PC183, PC184, PC185,
2009/12/18 PR180 change to NI
2009/12/21 PR180 change to I
2009/12/21 add PC185, PC199
2009/12/25 add PC200, PC201, PC202,
2009/01/09 remove PC200, PC201

<Core Design>

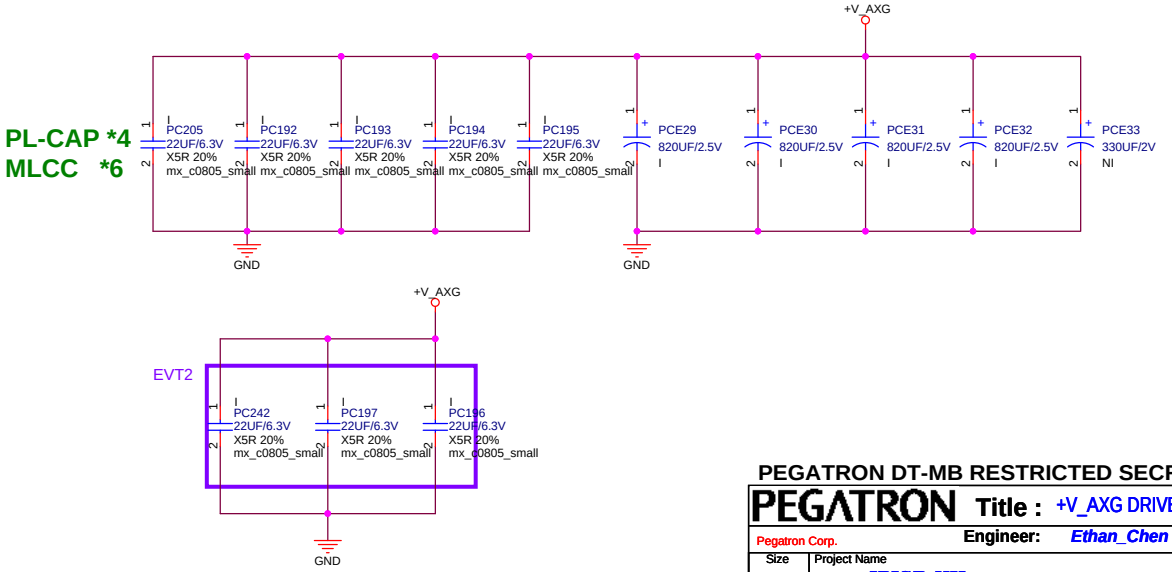
Title: <Title>		
Size: A3	Document Number: IPISB-NK	Rev: 1.03
Date: Wednesday, April 20, 2011	Sheet 75 of 80	



Output CAP

Table 30-4. VCCAXG Decoupling Requirements

Capacitance	Qty	ESR (each)	ESL (each)	Filter	Placement	Notes
Aluminum Polymer 560µF	4	7mΩ	1.4nH	Output	East of processor - as close to RM keep-out as possible	1
22µF 0805 X5R	6	5mΩ	0.55nH	Output	4 - inside processor socket cavity 2(empty) - Bottom of board, near socket	1, 2 3
4.7µF X5R	3	7mΩ	0.6nH	Input		1



PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : +V_AXG DRIVER

Pegatron Corp. Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 76 of 80

PEGATRON

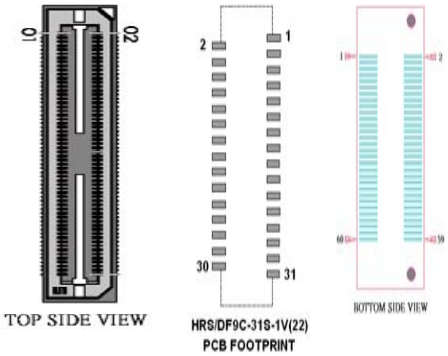
Title : PLTRST_CPU#&SMbus

PEGATRON CORPORATION

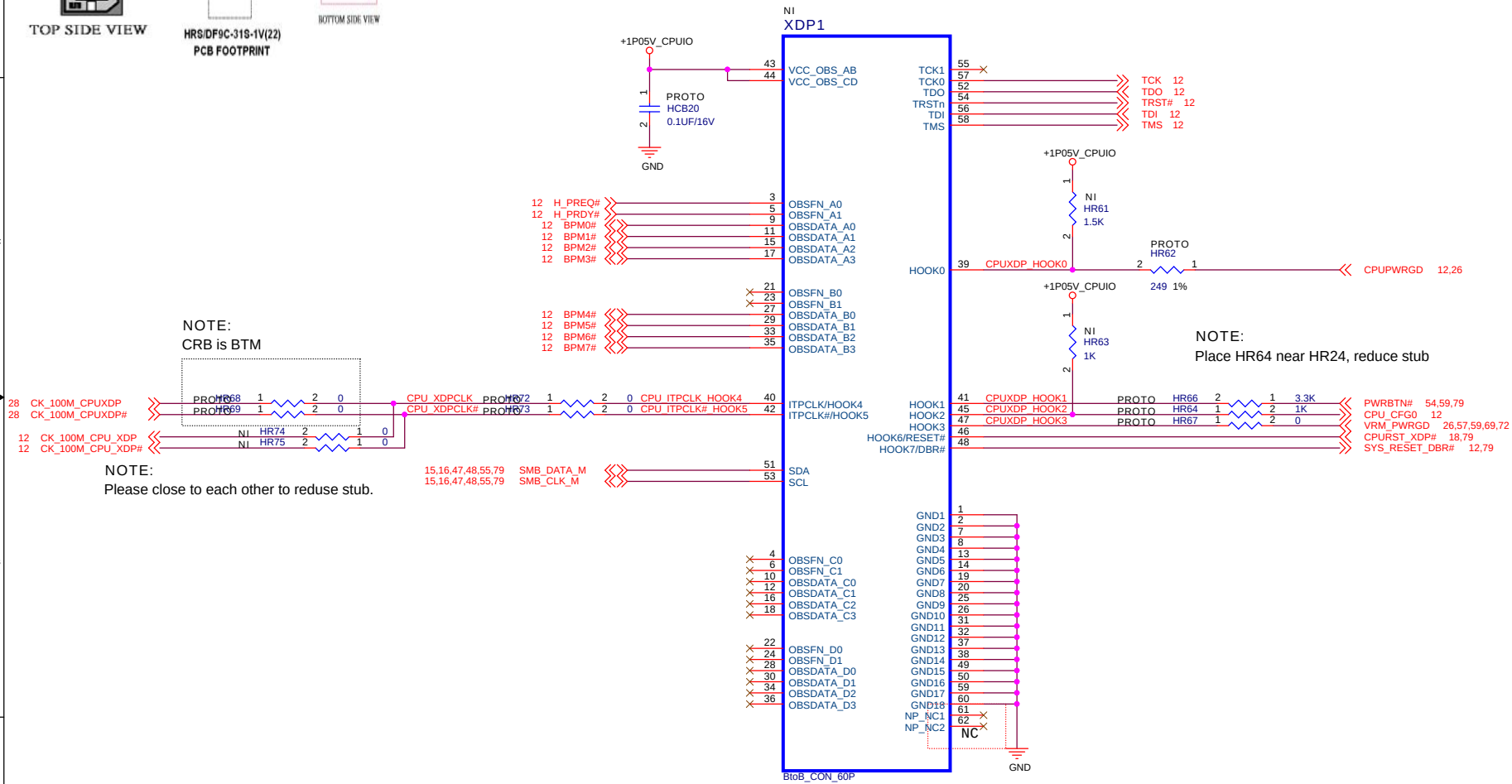
Engineer: *Ethan_Chen*

Size	Project Name	Rev
A	**IPISB-NK**	1.03

Date: Wednesday, April 20, 2011 Sheet 77 of 80



INTEL CPU XDP DEBUG PORT



PEGATRON CORPORATION

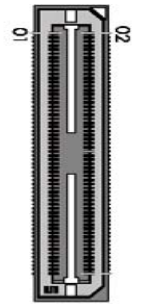
Title : CPU XDP DEBUG

Engineer: Ethan_Chen

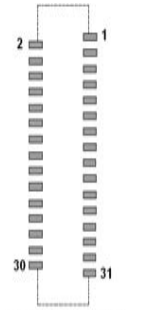
Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 78 of 80

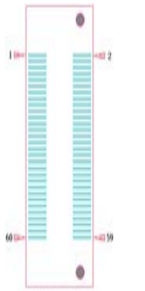
INTEL PCH XDP DEBUG PORT



TOP SIDE VIEW



HRS/DF9C-31S-1V(22)
PCB FOOTPRINT



BOTTOM SIDE VIEW

NOTE:
Place strap resistors of TDO near to XDP connector, and TDI and TMS near to CPU.

TBD

NOTE:
Place SR214 near to source in order to avoid stub.

PEGATRON

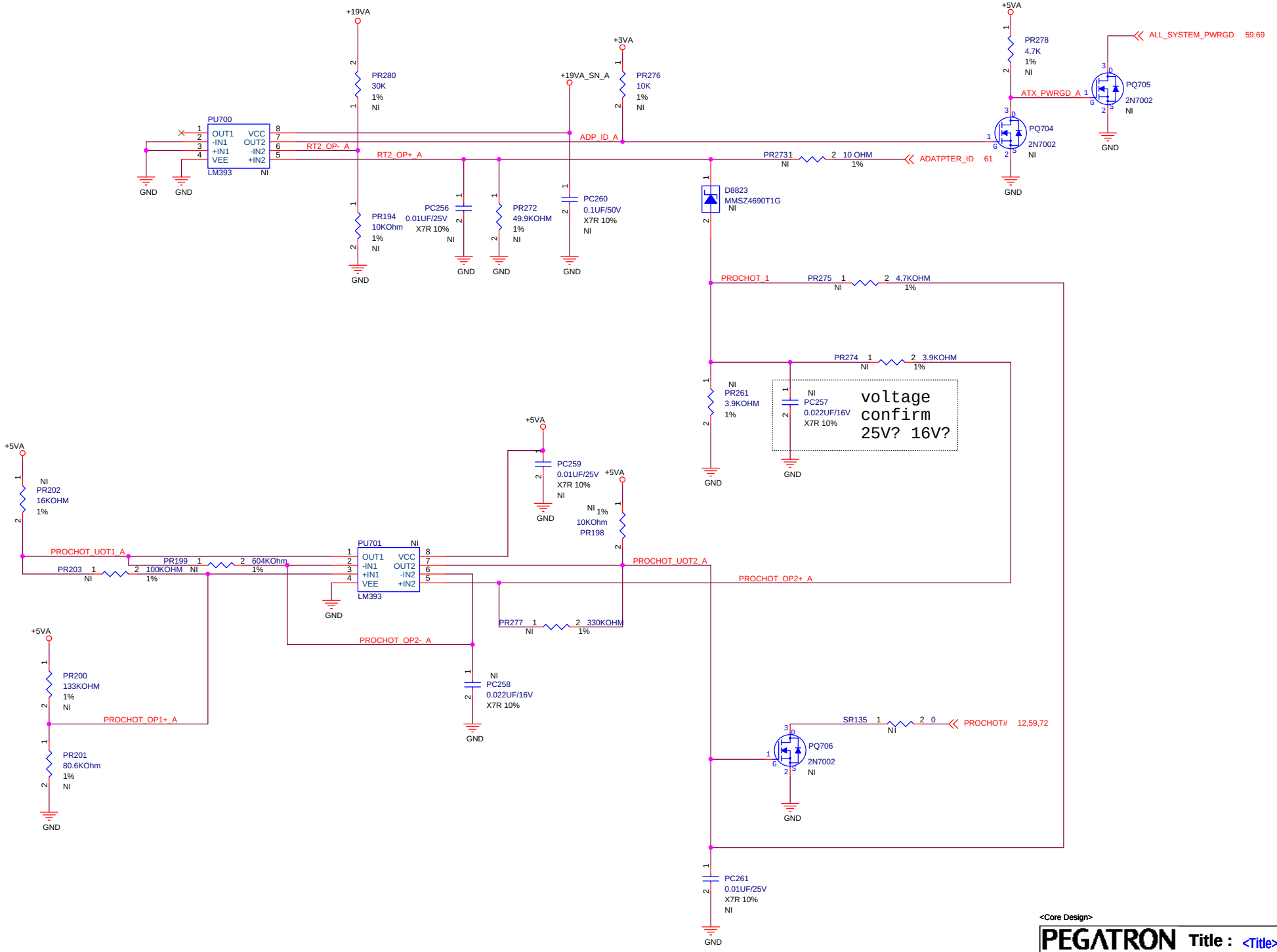
Title : PCH XDP DEBUG

PEGATRON CORPORATION

Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 79 of 80



<Core Design>

PEGATRON Title : <Title>

<OrgName> Engineer: Ethan_Chen

Size	Project Name	Rev
A3	IPISB-NK	1.03

Date: Wednesday, April 20, 2011 Sheet 80 of 80