POS-PIQ57BQ

Revision: R1.01 (2010/04/20)

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53	RTL8111DL LAN
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56	ATX POWER CONNECTOR
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60	VAGX CONTROLLER
61	VAGX DRIVER
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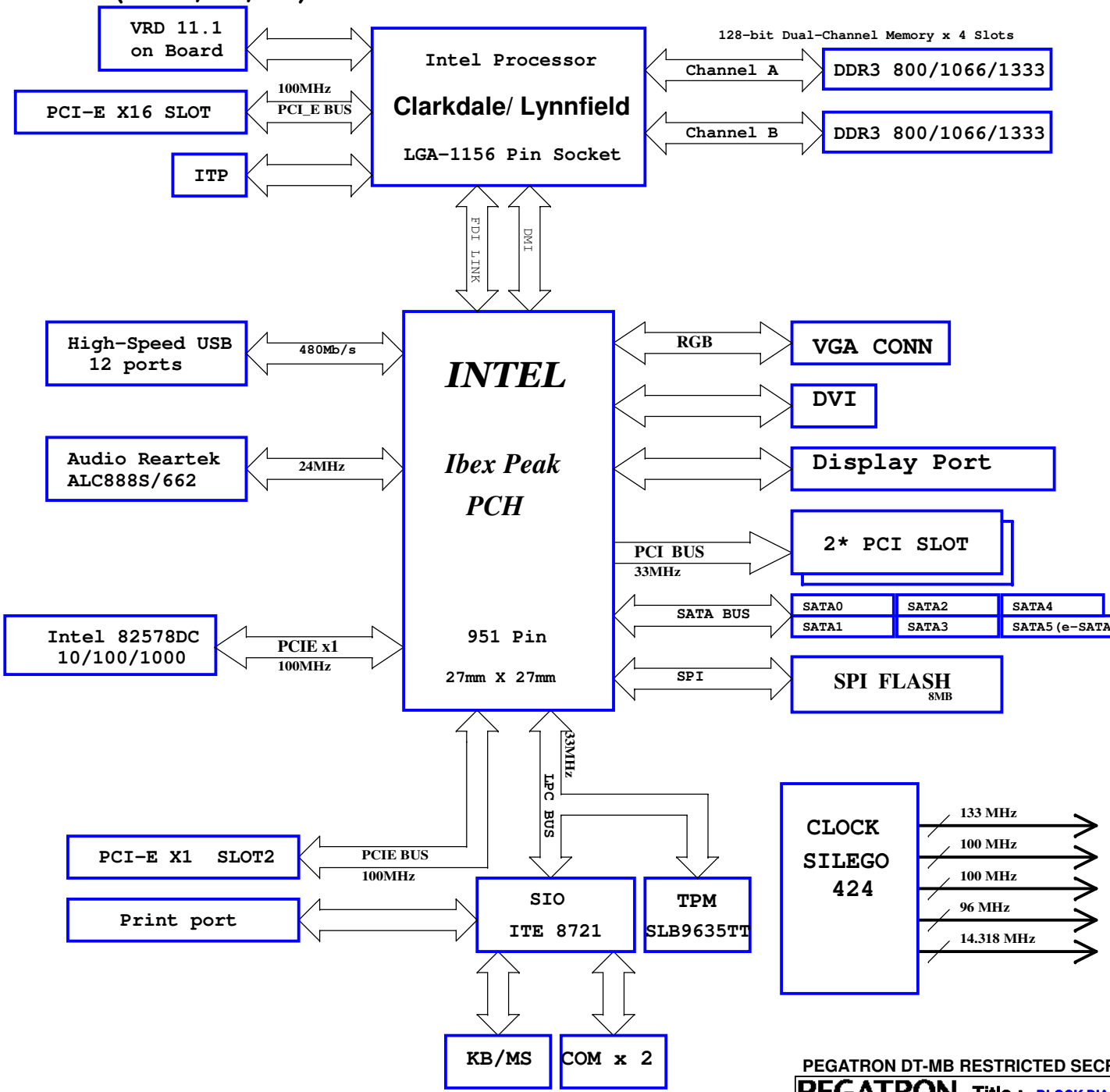
63	+1P5V_DUAL
64	+1P05V_PCH / +1P05V_ME
65	+5V_DUAL / +3P3V_ME
66	+SM_VTT / +1P8V_SFR



PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : BLOCK DIAGRAM

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Friday, April 23, 2010 Sheet 1 of 68

Schematics Change History

Version	Date	Comments
1.01	2010/03/23	1.Change PCE20,PCE21BOM to 11X090567160. SR92 BOM to 10X212100510.
1.01	2010/03/23	2.SIO pin 76 pull high to +5VSB_ATX form ITE vender request.(Fix EuP mode issue)
1.01	2010/03/23	3.Remove +3P3V_ME schematic to meet core team request.
1.01	2010/03/23	4.Change VC10,VC11,VC12,VC13 BOM default NI.10X212300040
1.01	2010/03/23	5.Change VR8 , VR9 to 10X212300040
1.01	2010/03/24	
1.01	2010/03/24	7.Change P1R4 to 10X212100140 , Del P1R1 , ADD O2R28.
1.01	2010/03/24	8.D3CB7,D3CB15 from 0.1uF to 2.2uF,to fix EA VREF_CA issue
1.01	2010/03/25	9 . O3Q1' O3R2'O3R10 to NI.Change O3R6'O3Q2'O3R11 to I.
1.01	2010/03/29	10.Change [VL2,4,6 change to 0 ohm]_[VL3,5,7 to 0.068UH/300mA]_[VC1,4,7 default NI]to fix EA VGA signal issue.
1.01	2010/03/29	
1.01	2010/03/29	12.SR83,SR88 from 33 ohm to 22 ohm,to Fix VGA EA issue.
1.01	2010/03/30	13.Add HR60,to fix EA RESET signal issue.
1.01	2010/04/01	14.Change +1P5V_DUAL_OV to SIO GP10.
1.01	2010/04/02	13.Add M1C15 , M1C18 for DP.

CAD Note:

Default component footprint is SMD 0402, Y5V, 5% type. Difference footprint show on schematics.

Property: BOM

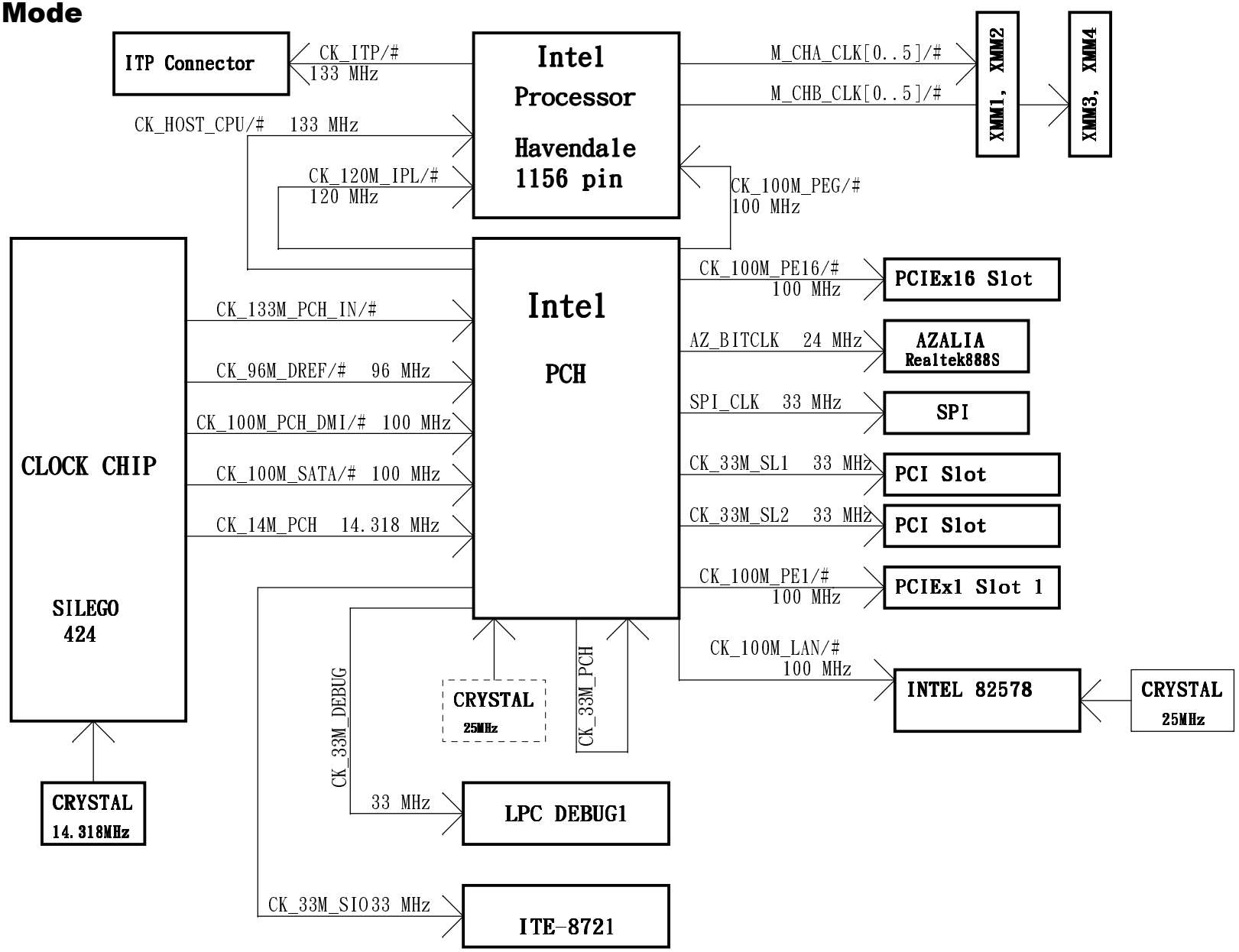
I = Installed Part.

NI = Not Installed Part.

PROTO = PROTO Phase Only.

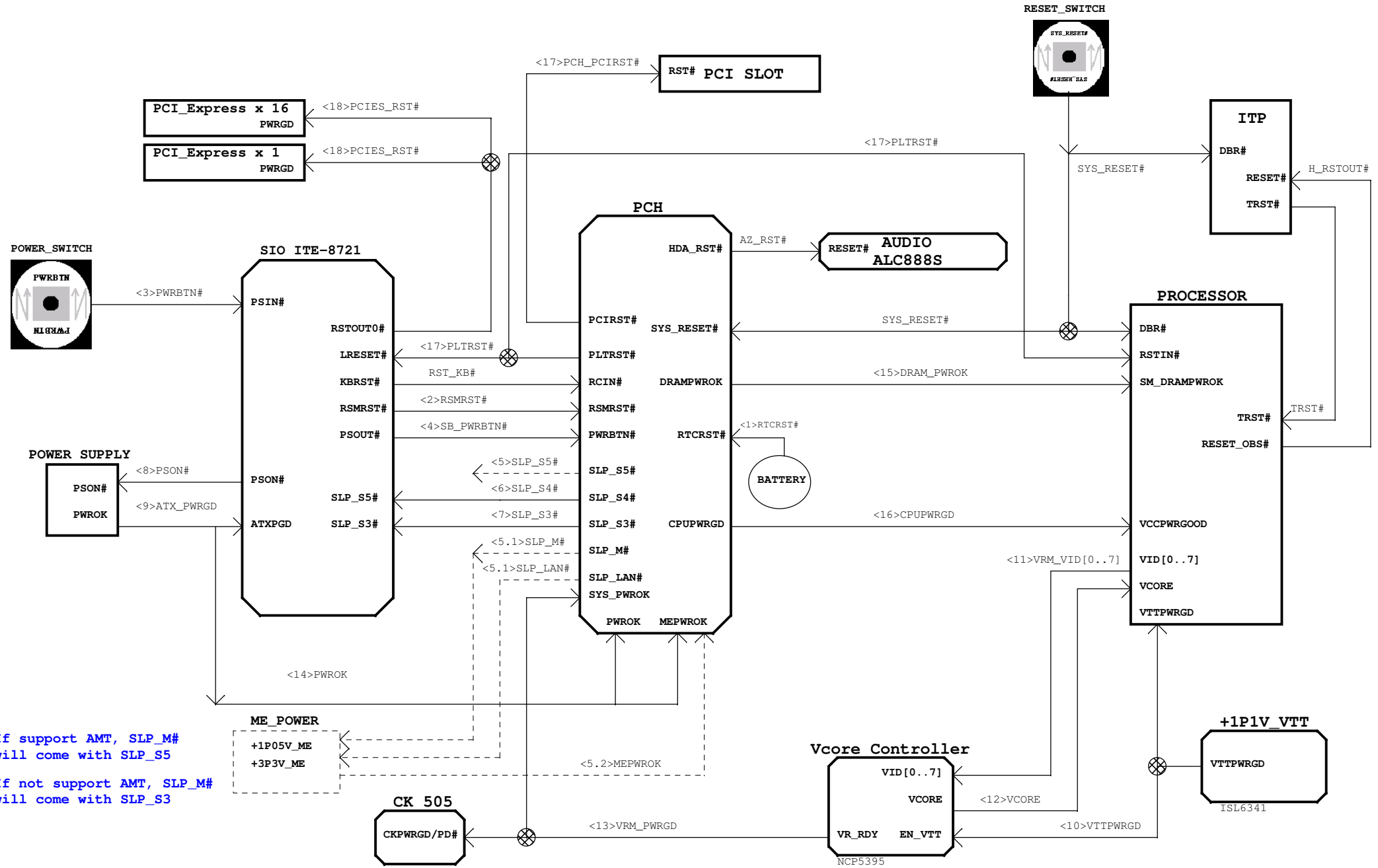
VP = Virtual Part.

PCH Buffer Mode



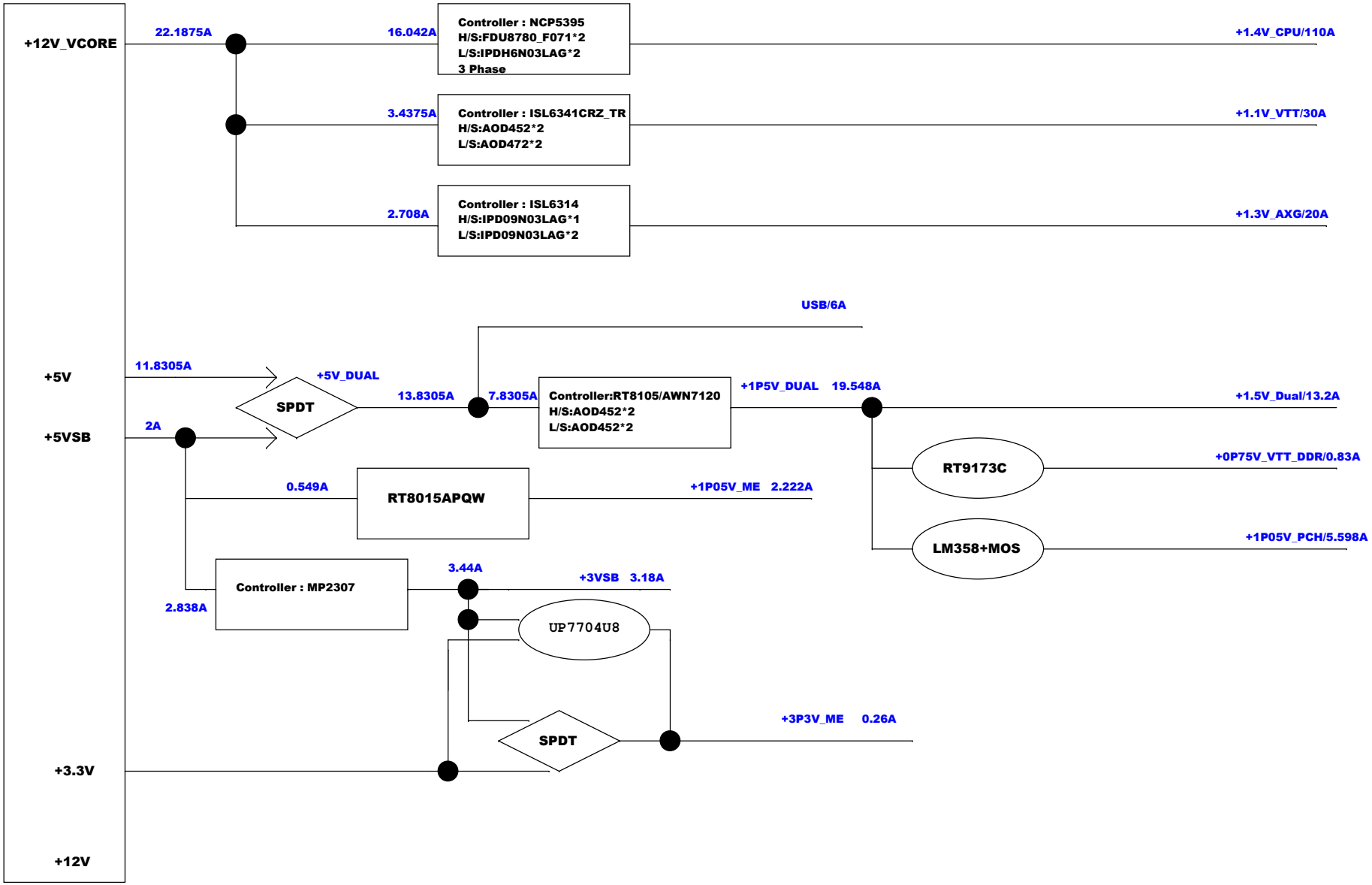
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : CLOCK DISTRIBUTION	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Tuesday, March 23, 2010	Sheet 3 of 68	



PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : SIGNAL & RESET MAP	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Tuesday, March 23, 2010	Sheet 4 of 68	



SWITCHING

LINEAR

SWITCH ON/OFF

<Variant Name>

PEGATRON Title : POWER FLOW

PEGATRON CORPOATION Engineer: Michael Lee

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Tuesday, March 23, 2010 Sheet 5 of 68

VCORE
+1.1V_VTT
+1.5V
+1.8V

Lynnfield/Clarkdale

-> 90A - 95(TBD)W
-> 30A(TBD) - 33W
Vddq -> 6A - 9W
Vccpll -> 1.35A - 2.43W

V_CPU_IO
+5V
+5V
+3.3V
+1.1V
+1.05V
+1.8V
+3P3V
+3P3VSB

Intel Ibex Peak

-> <1mA - 1.1mW
V5REF -> <1mA - 5mW
V5REF_Sus -> <1mA - 5mW

Vcc3_3 -> 0.357A - 1.178W
VccDAC -> 0.069A - 0.228W

VccDMI -> 0.065A - 0.07W

VccADPLLA -> 0.075A - 0.079W
VccADPLLB-> 0.075A - 0.079W
VccCORE -> 1.629A - 1.71W
VccIO -> 3.251A - 3.414W
VccLAN -> 0.372A - 0.39W
VccME -> 2.222A - 2.333W

VccqNAND -> 0.156A - 0.281W
VccVRM -> 0.196A - 0.353W
VccTX_LVDS -> 0.059A - 0.106W

VccALVDS -> <1mA - 3.3mW

VccRTC -> 2mA - 6.6mW
VccSus3_3 -> 0.168A - 0.554W
VccSusHDA -> 0.006A - 0.02W
VccME3_3-> 0.086A - 0.284W

+3P3V
+VDD_IO (0.8V)

CLOCK- CK505

-> 250mA - 0.825W
-> 80mA - 64mW

+1.5V_DAUL
SM_VTT(0.75V)

DDR3 DIMM (4) & Termination

VDD (S0, S1) -> 7.2 A - 10.8W
VDD (S3) -> 712mA - 1.07W

SM VTT (S0, S1) -> 0.83A - 0.623W

+12V
+3P3V
+3P3V_PCI

PCI Express x 1

-> 0.5A - 6W

-> 3.0A - 9.9W

WAKE -> 0.375A - 1.24W
No WAKE-> 20mA - 66mW

+12V
+3P3V
+3P3V_PCI

PCI Express x 16

-> 5.5A - 66W

-> 3.0A - 9.9W

WAKE -> 0.375A - 1.24W
No WAKE-> 20mA - 66mW

+12V
-12V
+5V
+3P3V
+3P3V_PCI

PCI SLOTS

-> 0.5A - 6W

-> 0.1A - 1.2W

-> 5.0A - 25W

-> 7.6A - 25.08W

WAKE -> 0.375A - 1.24W
No WAKE-> 20mA - 66mW

+3P3V_CL
+1P8VSB_LAN
VCC_LAN(1.05V)

INTEL 82578

-> 15.5mA(TBD) - 51.15mW

-> 300mA - 540mW

-> 300mA -315mW

+5V
+3.3VSB
+3.3V

SIO ITE-8721

-> 1mA - 5mW

-> 2.4uA - 7.92uW

-> 2mA - 6.6mW

+5VSB
+3P3V

ALC888S Azalia Codec

-> 0.6A - 3W

-> 0.4A - 1.32W

+5V_DUAL

USB 12 PORTS

(S0, S1) -> 8.4A - 42W
(S3) -> 0.336A - 1.68W

+3P3V

1394A

-> mA - W

+3P3V
+2P5V_DVI

HDMI

-> mA - mW

-> mA - mW

+5V
+12V

SATA 6 PORTS

-> 0.975A - 4.875W

-> 0.9A - 10.8W

+12V

FAN

-> 0.6A - 7.2W

+5V_DUAL

PS2 KB/MS

(S0, S1) -> 0.345A - 1.73W
(S3) -> 2mA - 10mW

+3V

SPI

-> 30mA - 99mW

+12V
+5V

HDD

-> 0.75A - 9.0W

-> 0.75A - 3.75W

+12V
+5V

CD ROM

-> 0.75A - 9.0W

-> 0.75A - 3.75W

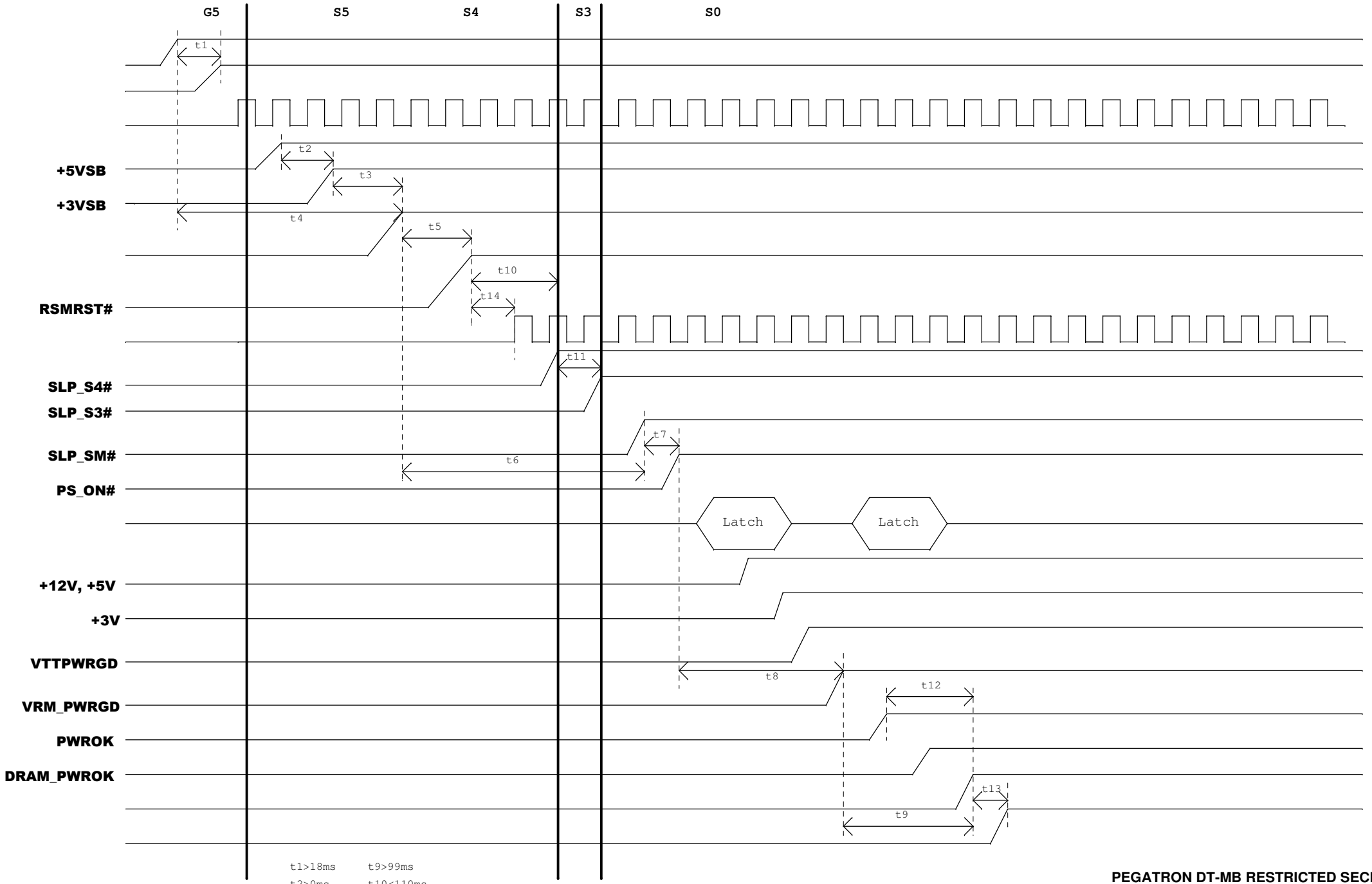
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : POWER DISTRIBUTION

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Tuesday, March 23, 2010 Sheet 6 of 68



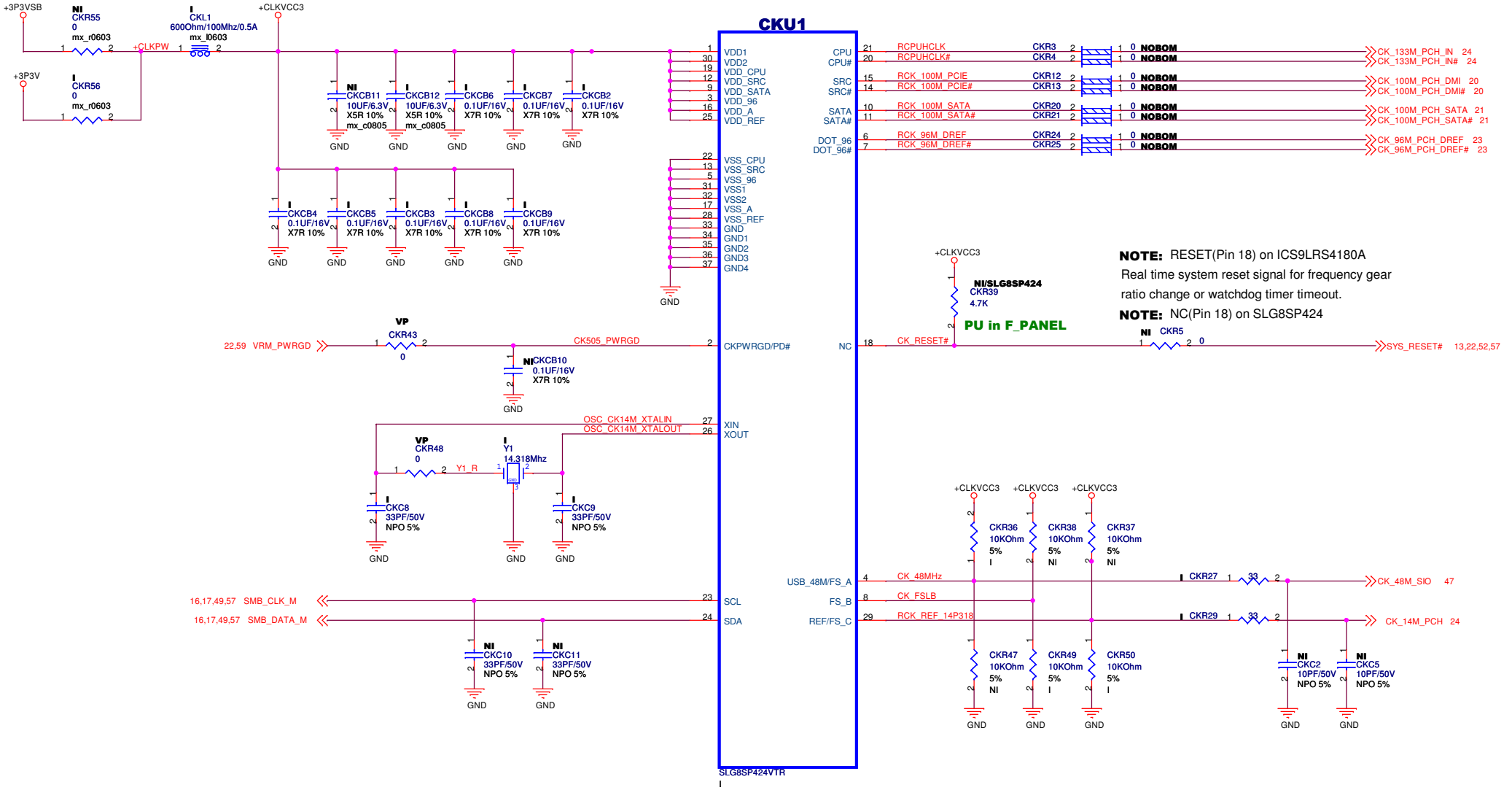
The data is not final

t1>18ms
t2>0ms
t4>0ms
t5>10ms
t6>0ms
t7>0ms
t9>99ms
t10<110ms
t11>1RTCCLK
t12>5ms
t13:35~74RTCCLK
t14<110ms

PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : POWER SEQUENCE		
Pegatron Corp.	Engineer: Michael Lee		
Size: A3	Project Name: IPMIP-DP		Rev: 1.01
Date: Tuesday, March 23, 2010	Sheet 7 of 68		

ICS9LRS4180AKLFT: 0610-0038000
SLG8SP424VTR: 0610-007D000



NOTE: RESET(Pin 18) on ICS9LRS4180A
Real time system reset signal for frequency gear ratio change or watchdog timer timeout.

NOTE: NC(Pin 18) on SLG8SP424

NOTE:

FSLC	FSLB	FSLA	CPU FREQ
0	0	1	133MHz
1	0	1	100MHz

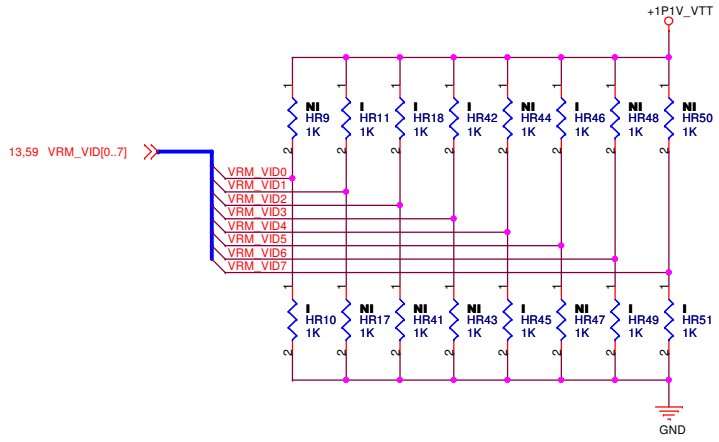
PEGATRON DT-MB RESTRICTED SECRET

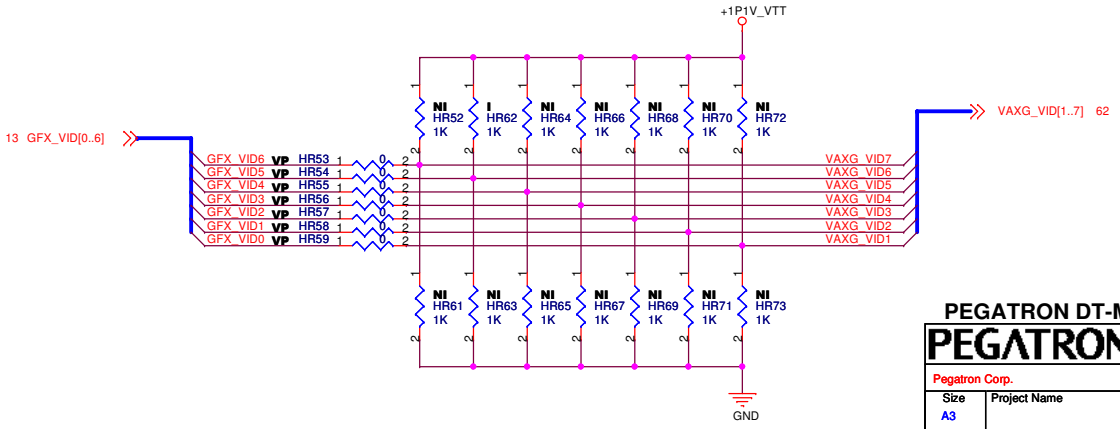
PEGATRON Title : ICS 4180/SLG 424

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 8 of 68





POWER ON CONFIGURATION (POC) TABLE

	FUNCTION	DEFAULT
VID0	MSI0	0
VID1	MSI1	1
VID2	MSI2	1
VID3	IMON CONFIG0	1
VID4	IMON CONFIG1	0
VID5	IMON CONFIG3	1
VID6	RESERVED	
VID7	VRD SELECT	LOW
PSI#	RESERVED	LOW

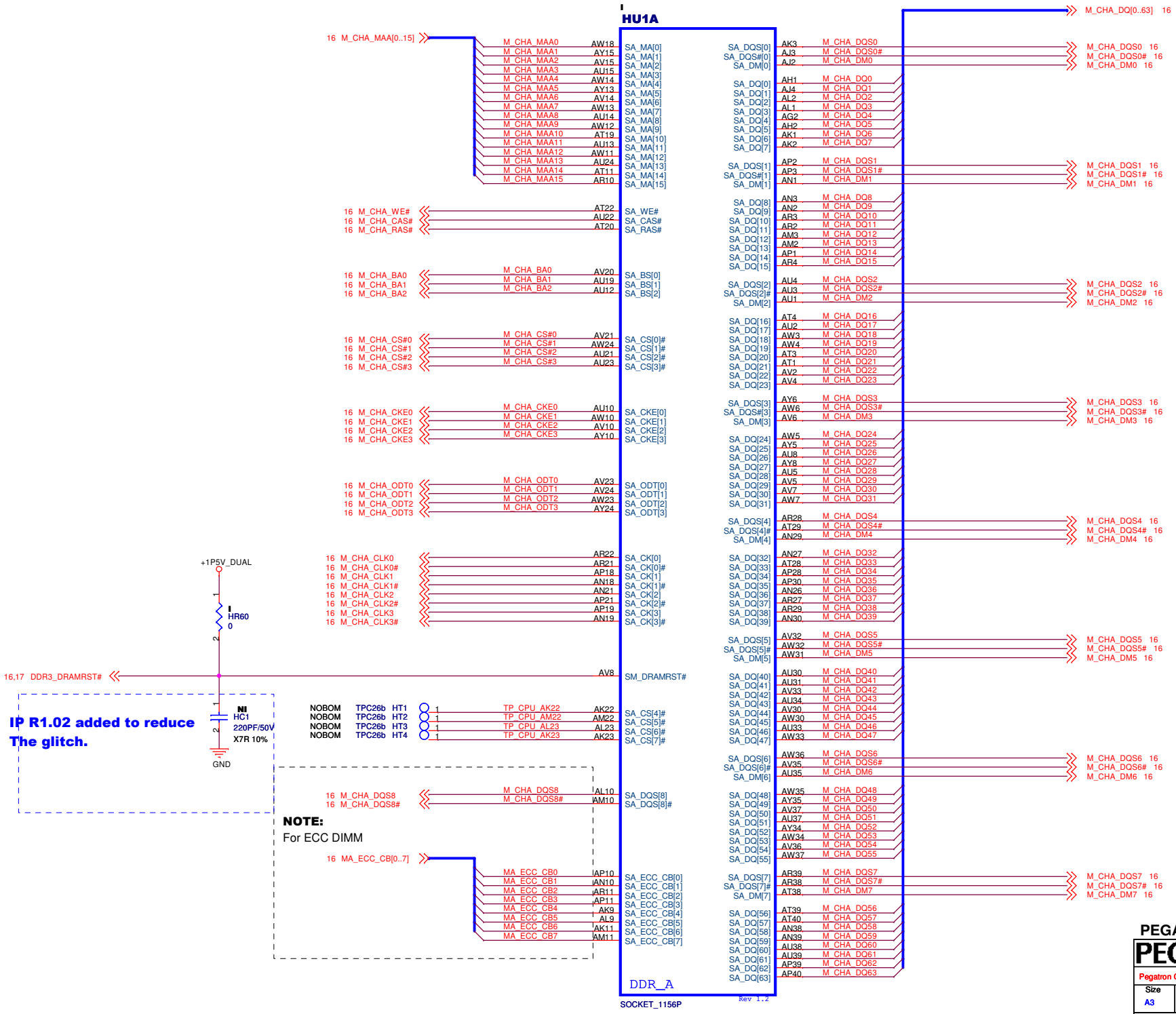
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : VID RES

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 9 of 68



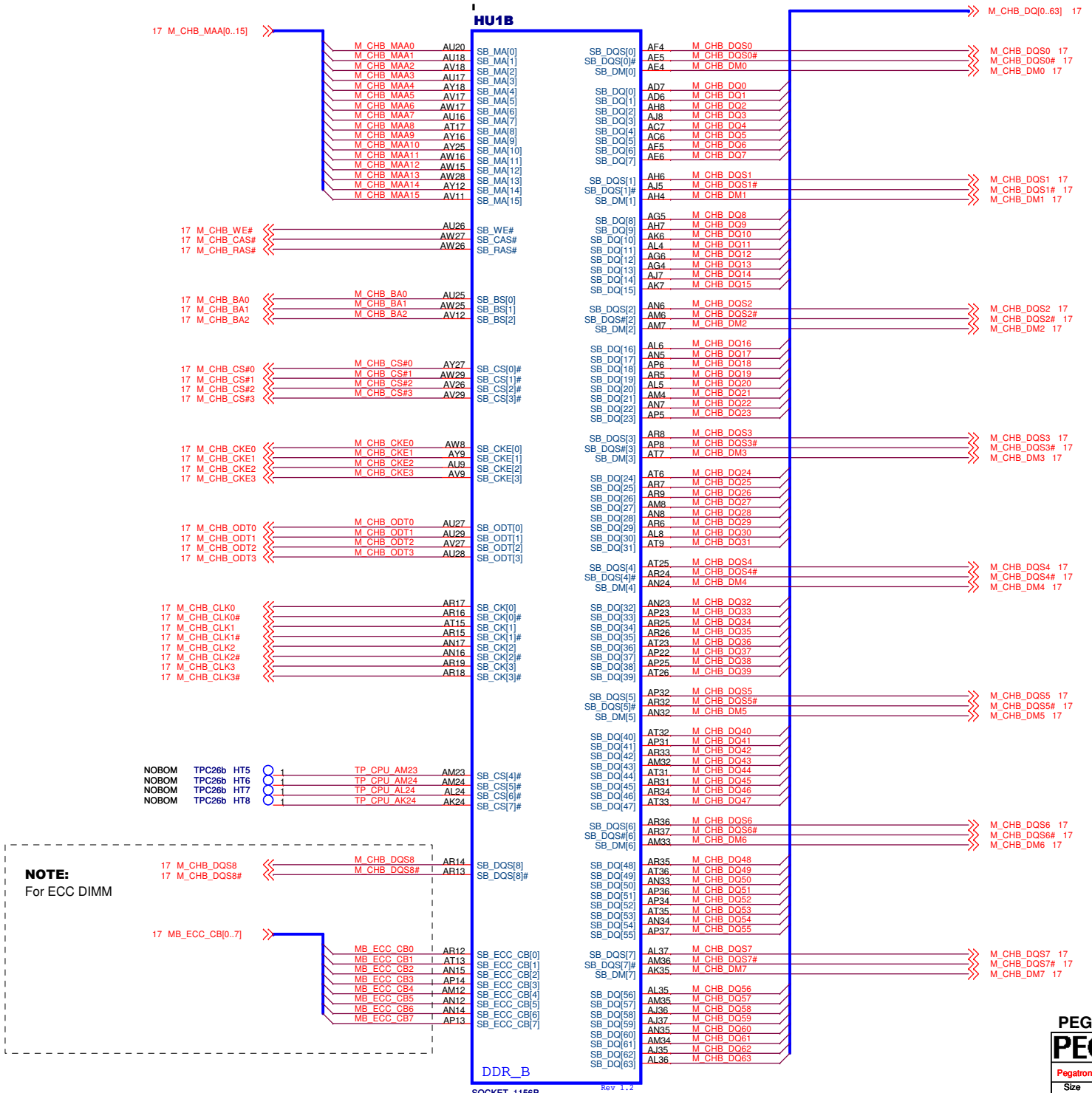
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : CPU 1160 + MEMORY - 1

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 10 of 68



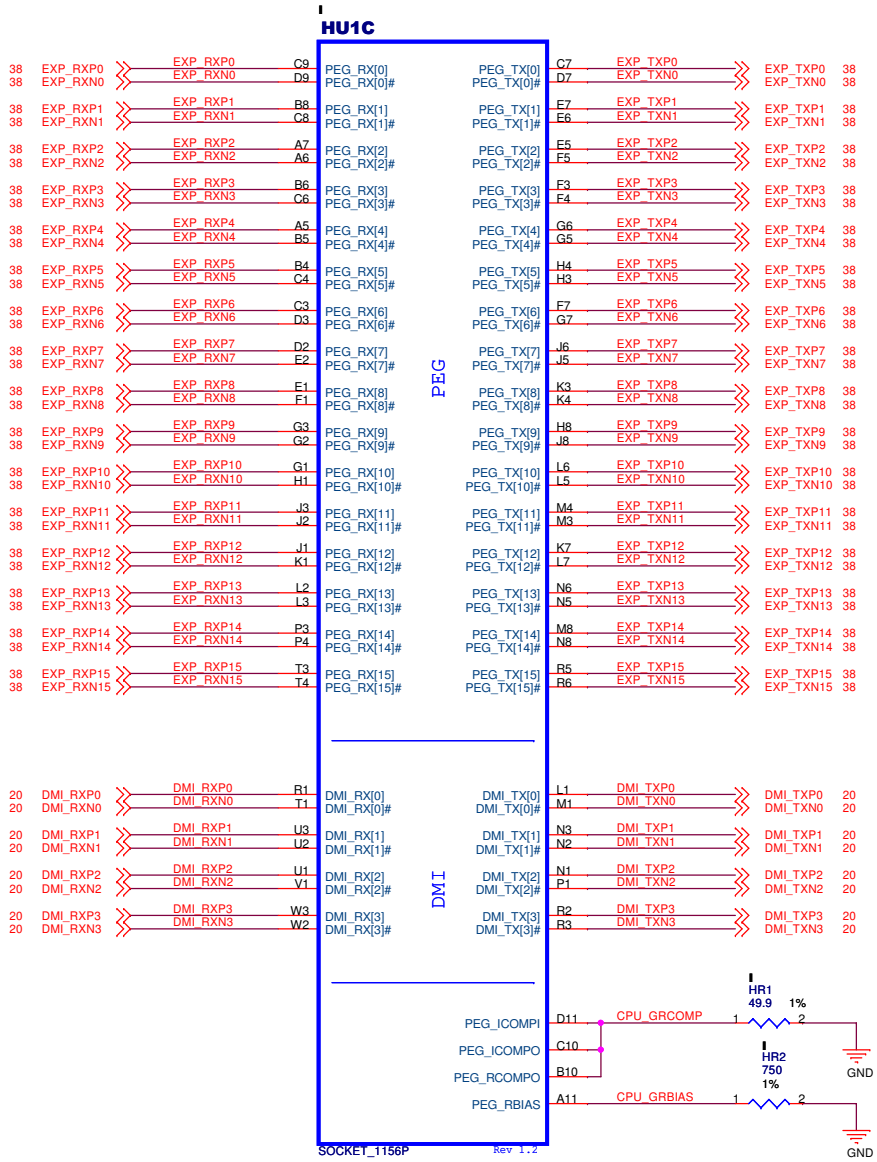
PEGATRON DT-MB RESTRICTED SECRET

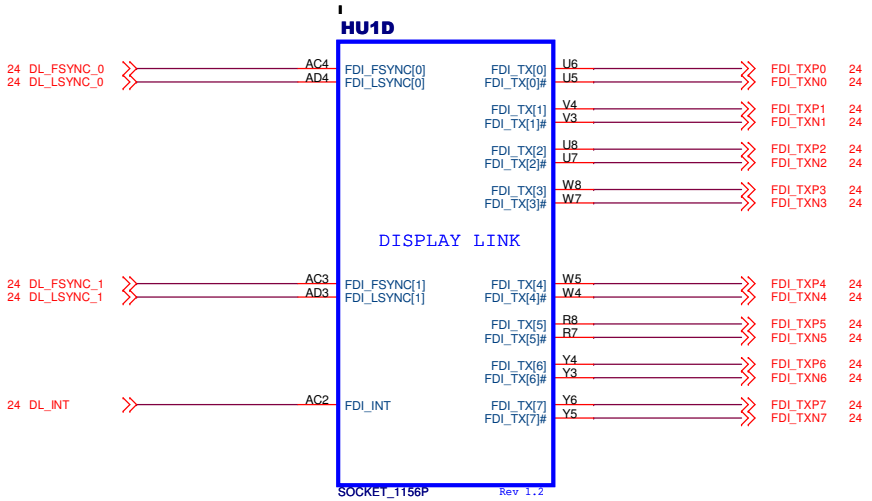
PEGATRON Title : CPU 1160 + MEMORY - 2

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 11 of 68





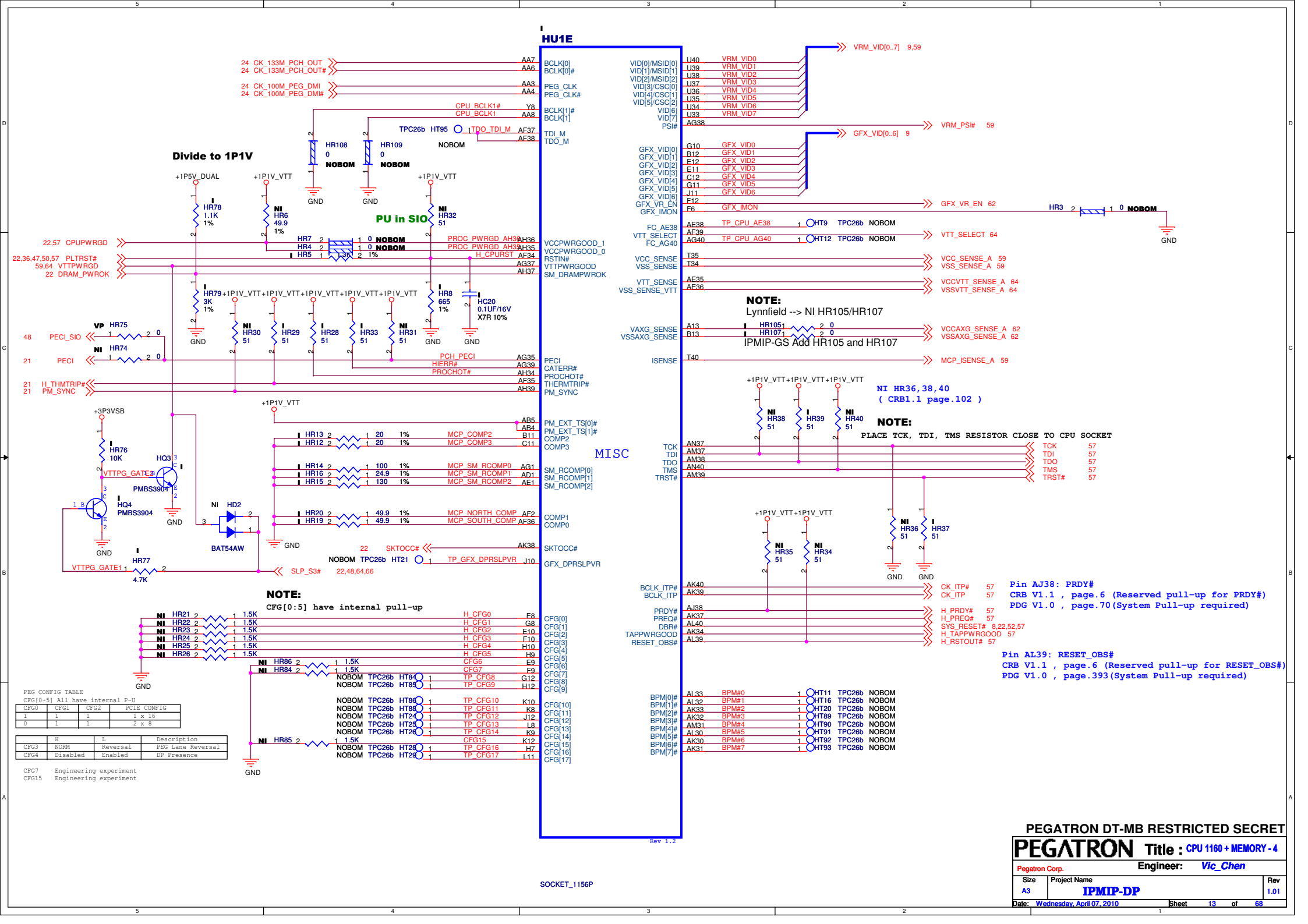
PEGATRON DT-MB RESTRICTED SECRET

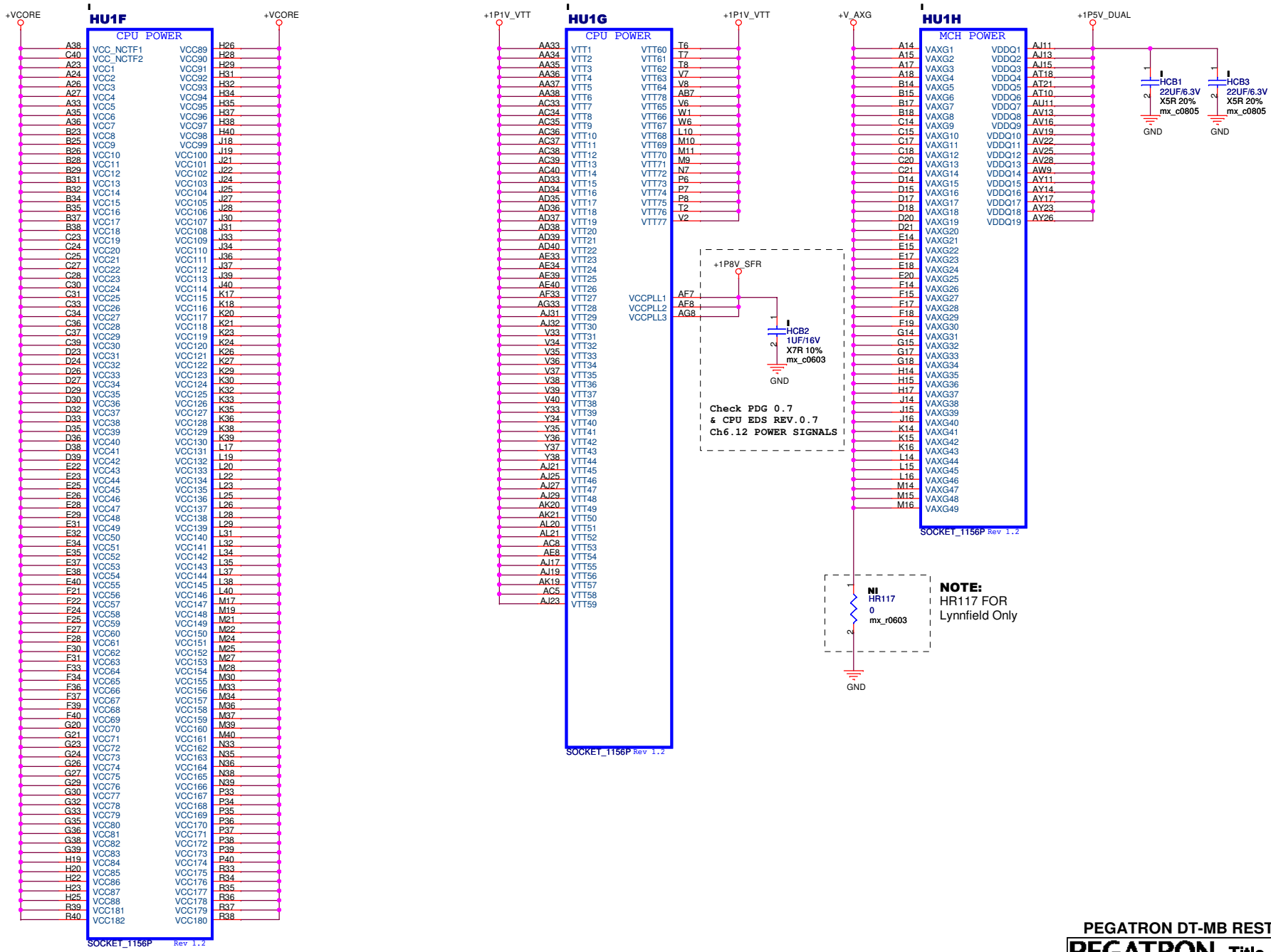
PEGATRON Title : CPU 1160 + MEMORY - 3

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 12 of 68


HU1E
Divide to 1P1V
PU in SIO
MISC
NOTE:
Lynnfield --> NI HR105/HR107
IPMIP-GS Add HR105 and HR107
NI HR36,38,40
(CRB1.1 page.102)
NOTE:
PLACE TCK, TDI, TMS RESISTOR CLOSE TO CPU SOCKET
NOTE:
CFG[0:5] have internal pull-up
Pin AJ38: PRDY#
CRB V1.1 , page.6 (Reserved pull-up for PRDY#)
PDG V1.0 , page.70(System Pull-up required)
Pin AL39: RESET_OBS#
CRB V1.1 , page.6 (Reserved pull-up for RESET_OBS#)
PDG V1.0 , page.393(System Pull-up required)
PEG CONFIG TABLE
CFG[0-5] All have internal P-U
CFG0 CFG1 CFG2 PCIE CONFIG
1 1 1 1 x 16
0 1 1 2 x 8
H L Description
CFG3 NORM Reversal PEG Lane Reversal
CFG4 Disabled Enabled DP Presence
CFG7 Engineering experiment
CFG15 Engineering experiment
SOCKET_1156P
Rev 1.2
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : CPU 1160 + MEMORY - 4
Pegatron Corp.
Engineer: Vic_Chen
Size A3
Project Name IPMIP-DP
Rev 1.01
Date: Wednesday, April 07, 2010
Sheet 13 of 68



PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : CPU 1160 + MEMORY - 5

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Tuesday, March 23, 2010 Sheet 14 of 68

HU1I

A16	VSS1	VSS91	AP33
A25	VSS2	VSS92	AP38
A28	VSS3	VSS281	AU7
A34	VSS4	VSS94	AP7
A37	VSS5	VSS95	AP9
AA5	VSS6	VSS96	AR1
AB3	VSS7	VSS97	AR20
AB33	VSS8	VSS98	AR23
AB34	VSS9	VSS99	AR40
AB35	VSS10	VSS100	AT12
AB36	VSS11	VSS101	AT14
AB37	VSS12	VSS102	AT16
AB38	VSS13	VSS103	AT2
AB39	VSS14	VSS104	AT24
AB40	VSS15	VSS105	AT27
AB6	VSS16	VSS106	AT30
AB8	VSS17	VSS284	AH5
AC1	VSS18	VSS287	AM9
AD5	VSS19	VSS288	AT37
AD8	VSS20	VSS110	AT5
AE3	VSS21	VSS111	AU32
AE37	VSS22	VSS289	AP35
AE7	VSS23	VSS113	AV3
AF1	VSS24	VSS114	AV31
AF40	VSS25	VSS115	AV34
AF6	VSS26	VSS116	AV38
AG34	VSS27	VSS117	AU36
AG36	VSS28	VSS118	AY33
AN9	VSS276	VSS119	AY36
AG7	VSS30	VSS120	AY4
AH3	VSS31	VSS121	AY7
AH33	VSS32	VSS122	B16
AH38	VSS33	VSS123	B24
AJ1	VSS34	VSS124	B27
AJ12	VSS35	VSS125	B30
AJ14	VSS36	VSS126	B33
AJ16	VSS37	VSS127	B36
AJ18	VSS38	VSS128	B7
AJ20	VSS39	VSS129	B9
AJ22	VSS40	VSS130	C13
AJ24	VSS41	VSS131	C16
AJ26	VSS42	VSS132	C19
AJ28	VSS43	VSS133	C22
AJ30	VSS44	VSS134	C26
AJ33	VSS45	VSS135	C29
AJ34	VSS46	VSS136	C32
AJ40	VSS47	VSS137	C35
AJ6	VSS48	VSS138	C38
AJ9	VSS49	VSS139	C5
AK10	VSS50	VSS140	D10
AK17	VSS51	VSS141	D12
AK36	VSS52	VSS142	D13
AK5	VSS53	VSS143	D16
AK8	VSS54	VSS144	D19
AL11	VSS55	VSS145	D22
AL13	VSS56	VSS146	D25
AL16	VSS57	VSS147	D28
AL19	VSS58	VSS148	D31
AL22	VSS59	VSS149	D34
AL25	VSS60	VSS150	D37
AL28	VSS61	VSS151	D4
AL3	VSS62	VSS152	D40
AL31	VSS63	VSS153	D5
AL34	VSS64	VSS154	D6
AL38	VSS65	VSS155	D8
AL7	VSS66	VSS156	E13
AM1	VSS67	VSS157	E16
AM40	VSS68	VSS158	E19
AK4	VSS277	VSS159	E21
AN13	VSS70	VSS160	E24
AN20	VSS71	VSS161	E27
AN22	VSS72	VSS162	E3
AN25	VSS73	VSS163	E30
AN28	VSS74	VSS164	E33
AN31	VSS75	VSS165	E36
AN4	VSS278	VSS166	E39
AN36	VSS77	VSS167	E4
AP4	VSS279	VSS168	F11
AT8	VSS280	VSS169	F13
AP12	VSS80	VSS170	F16
AP15	VSS81	VSS171	F2
AP16	VSS82	VSS172	F20
AP17	VSS83	VSS173	F23
AP20	VSS84	VSS174	F26
AP24	VSS85	VSS175	F29
AP26	VSS86	VSS176	F32
AP27	VSS87	VSS177	F35
AP29	VSS88	VSS178	F38
AR30	VSS282	VSS179	F8
AT34	VSS283	VSS180	G13
AU6	VSS286	VSS285	AM5

GND

SOCKET_1156P Rev 1.2

GND GND

HU1J

G16	VSS181	VSS271	W35			
G19	VSS182	VSS272	W36			
G22	VSS183	VSS273	W37			
G25	VSS184	VSS274	W38			
G28	VSS185	VSS275	Y7			
G31	VSS186	CGC_TP_NCTF	B39	TP_CPU_B39	1	HT87 TPC26b NOBOM
G34	VSS187					
G37	VSS188	RSVD44	A12			
G4	VSS189					
G40	VSS190					
G9	VSS191	RSVD47	AD2			
H11	VSS192	RSVD48	AE2			
H13	VSS193	SA_DIMM_VR	AF3	CPU_DIMMA_VREF_AF3		
H16	VSS194	SB_DIMM_VR	AG3	CPU_DIMMB_VREF_AG3		
H18	VSS195					
H2	VSS196	RSVD52	AH40			
H21	VSS197	RSVD53	AJ39			
H24	VSS198					
H27	VSS199					
H30	VSS200					
H33	VSS201	RSVD1	AM14			
H36	VSS202	RSVD2	AM13			
H39	VSS203	RSVD3	AK15			
H5	VSS204	RSVD4	AK16			
H6	VSS205					
J13	VSS206	RSVD30	AM25			
J17	VSS207	RSVD31	AL29			
J20	VSS208	RSVD32	AM30			
J23	VSS209	RSVD33	AK29			
J26	VSS210	RSVD34	AK28			
J29	VSS211	RSVD35	AM29			
J32	VSS212	RSVD36	AM28			
J35	VSS213	RSVD37	AL27			
J38	VSS214	RSVD38	AK27			
J4	VSS215	RSVD39	AM26			
J7	VSS216	RSVD40	AM27			
J9	VSS217	RSVD41	AL26			
K11	VSS218	RSVD42	AK26			
K13	VSS219					
K19	VSS220	RSVD43	AK25			
K2	VSS221					
K22	VSS222					
K25	VSS223	RSVD25	L12			
K28	VSS224	RSVD24	M12			
K31	VSS225					
K34	VSS226	RSVD11	AM21			
K37	VSS227	RSVD10	AM20			
K40	VSS228	RSVD13	AM19			
K5	VSS229	RSVD12	AM18			
K6	VSS230	VSS	T39			
L13	VSS231					
L18	VSS232	RSVD21	AL18			
L21	VSS233	RSVD22	AK18			
L24	VSS234					
L27	VSS235	RSVD7	AM15			
L30	VSS236	RSVD8	AM16			
L33	VSS237	RSVD26	AL15			
L36	VSS238	RSVD27	AL14			
L39	VSS239					
L4	VSS240					
L9	VSS241	RSVD28	AL17			
M13	VSS242	RSVD29	AM17			
M18	VSS243	RSVD5	AK14			
M2	VSS244	RSVD6	AK13			
M20	VSS245	RSVD14	AL12			
M23	VSS246	RSVD15	AK12			
M26	VSS247	RSVD_TP	AN11			
M29	VSS248					
M32	VSS249	RSVD_NCTF11	AY3	TP_CPU_AY3	1	HT13 TPC26b NOBOM
M35	VSS250					
M38	VSS251	RSVD_NCTF7	C2	TP_CPU_C2	1	HT14 TPC26b NOBOM
M5	VSS252	RSVD_NCTF8	D1	TP_CPU_D1	1	HT15 TPC26b NOBOM
M6	VSS253	RSVD_NCTF3	AY37	TP_CPU_AY37	1	HT17 TPC26b NOBOM
M7	VSS254	RSVD_NCTF4	AW38	TP_CPU_AW38	1	HT18 TPC26b NOBOM
N34	VSS255	RSVD_NCTF9	AV1	TP_CPU_AV1	1	HT19 TPC26b NOBOM
N37	VSS256	RSVD_NCTF10	AW2	TP_CPU_AW2	1	HT22 TPC26b NOBOM
N4	VSS257	RSVD_NCTF5	AV39	TP_CPU_AV39	1	HT23 TPC26b NOBOM
N40	VSS258	RSVD_NCTF6	AU40	TP_CPU_AU40	1	HT27 TPC26b NOBOM
P2	VSS259					
P5	VSS260					
R4	VSS261	RSVD_NCTF1	A4	TP_CPU_A4	1	HT30 TPC26b NOBOM
T33	VSS262	RSVD_NCTF2	B3	TP_CPU_B3	1	HT31 TPC26b NOBOM
T36	VSS263					
T37	VSS264					
T38	VSS265					
T5	VSS266	NP_NC1	1			
U4	VSS267	NP_NC2	2			
V5	VSS268	NP_NC3	3			
W33	VSS269					
W34	VSS270	NP_NC4	4			
		NP_NC5	5			
		NP_NC6	6			
		NP_NC7	7			

GND

SOCKET_1156P Rev 1.2

GND

DIMM_VREF_A 16,18
DIMM_VREF_B 17,18

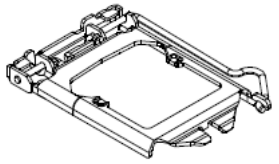
HR27 HR80

IHR27 HR80 Change to I for QS CPU

NOTE:

Lynnfield	ES2	QS	Production
HR27	NI	I	I
HR80	NI	I	I

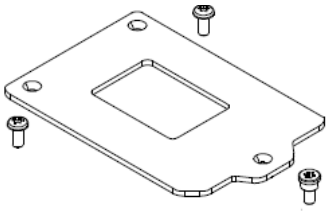
ILM1



INTEL LGA1156 SOCKET ILM

SOCKET1156_ILM

BACKPLATE1



INTEL LGA 1156P BACK PLATE,3 SCREW

PT44P11-6401

PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : CPU 1160 + MEMORY - 6

Pegatron Corp. Engineer: Vic_Chen

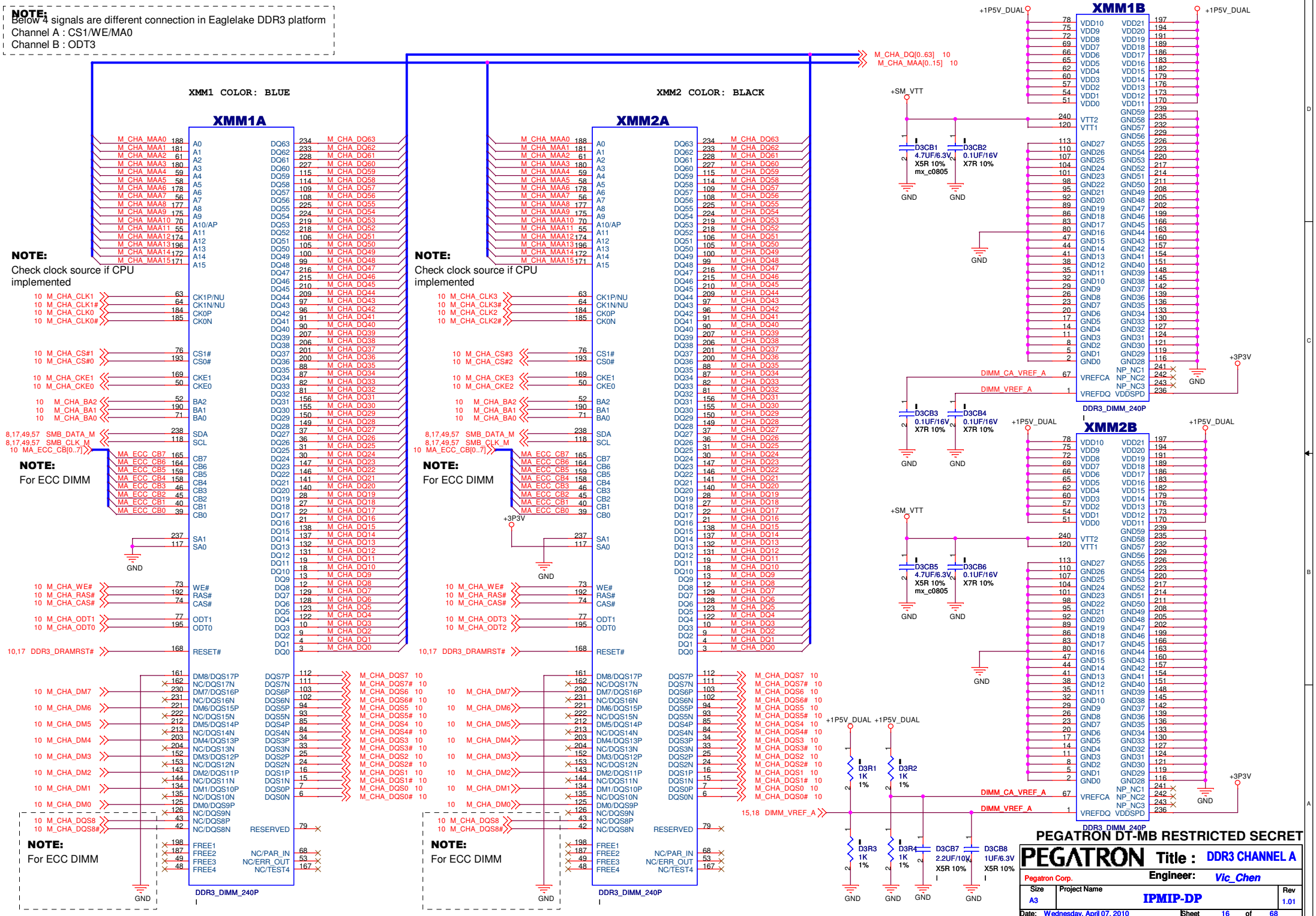
Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 15 of 68

NOTE:
Below 4 signals are different connection in Eaglelake DDR3 platform
Channel A : CS1/WE/MA0
Channel B : ODT3

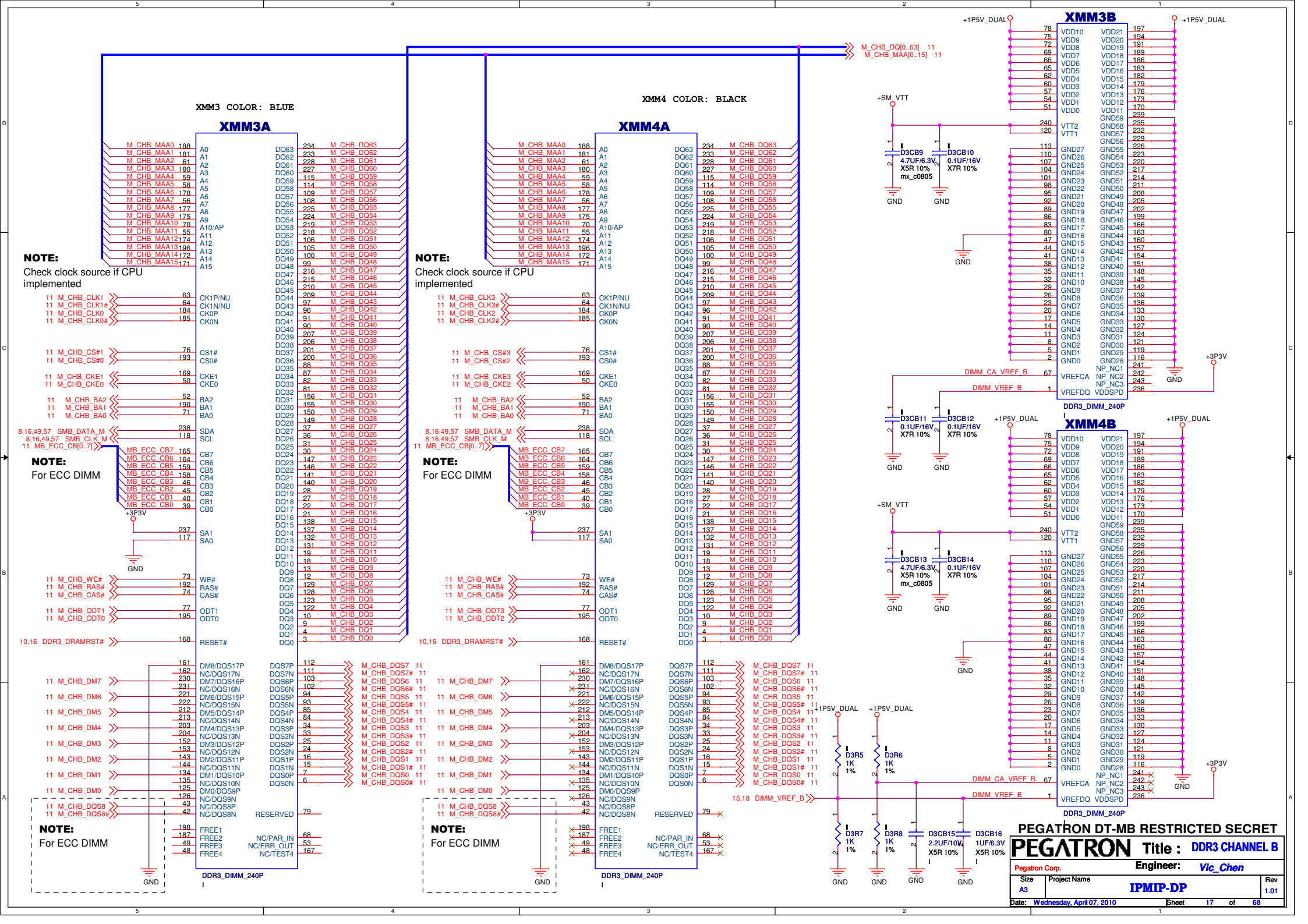
XMM1 COLOR: BLUE

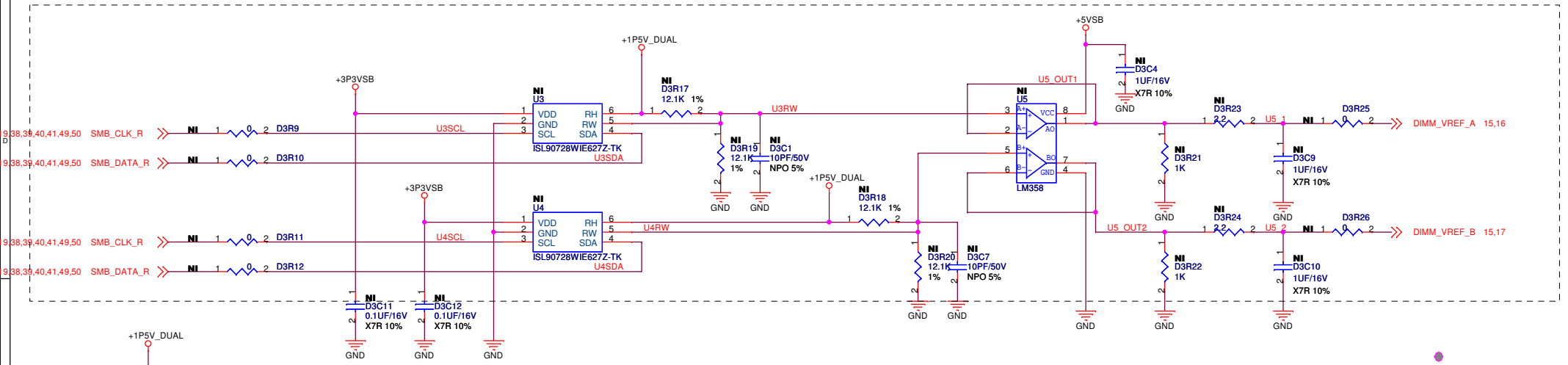
XMM2 COLOR: BLACK

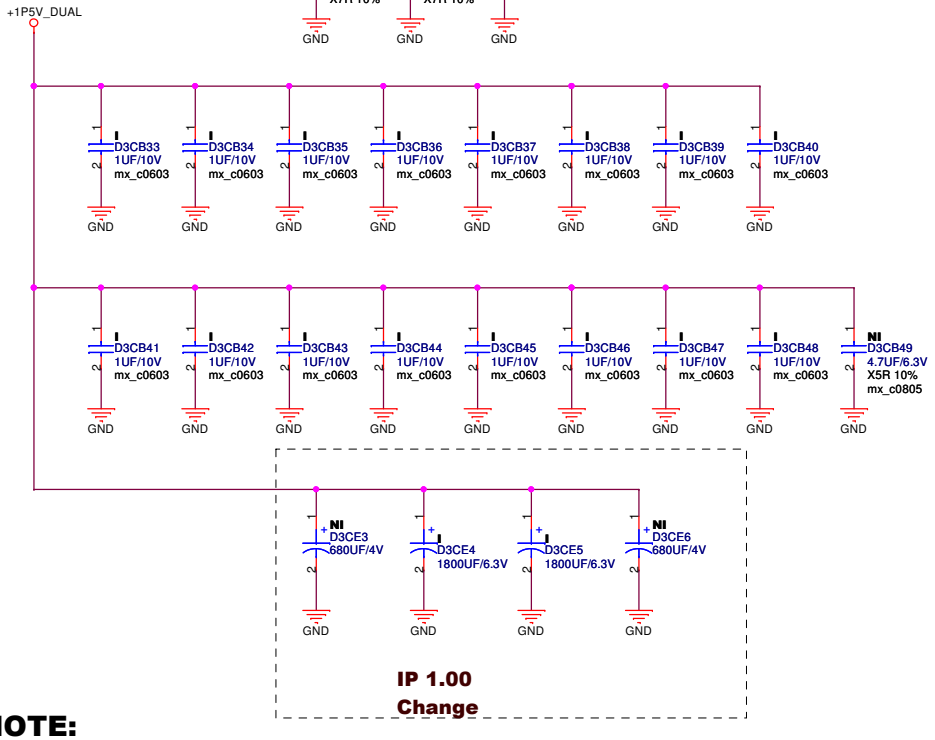


PEGATRON DT-MB RESTRICTED SECRET

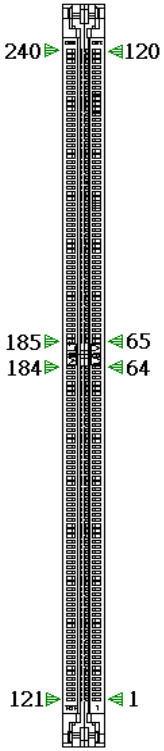
PEGATRON	Title :	DDR3 CHANNEL A
Pegatron Corp.	Engineer:	Vic_Chen
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 16 of 68	


XMM3 COLOR: BLUE
XMM3A
XMM4 COLOR: BLACK
XMM4A
XMM3B
XMM4B
NOTE:
Check clock source if CPU implemented
NOTE:
For ECC DIMM
DDR3_DIMM_240P
M_CHB_DQ[0..63] 11
M_CHB_MAA[0..15] 11
+1P5V_DUAL
+SM_VTT
+3P3V
GND
D3CB9 4.7UF/6.3V X5R 10% mx_c0805
D3CB10 0.1UF/16V X7R 10%
D3CB11 0.1UF/16V X7R 10%
D3CB12 0.1UF/16V X7R 10%
D3CB13 4.7UF/6.3V X5R 10% mx_c0805
D3CB14 0.1UF/16V X7R 10%
D3R5 1K 1%
D3R6 1K 1%
D3R7 1K 1%
D3R8 1K 1%
D3CB15 2.2UF/10V X5R 10%
D3CB16 1UF/6.3V X5R 10%
DIMM_CA_VREF_B
DIMM_VREF_B
15,18 DIMM_VREF_B
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : DDR3 CHANNEL B
Pegatron Corp.
Engineer: Vic_Chen
Size A3
Project Name IPMIP-DP
Rev 1.01
Date: Wednesday, April 07, 2010
Sheet 17 of 68

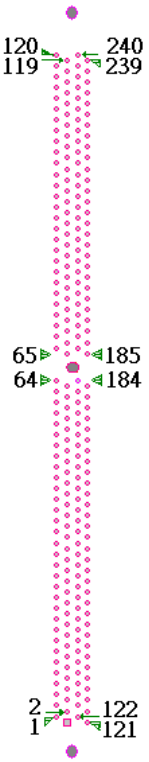




IP 1.00
Change



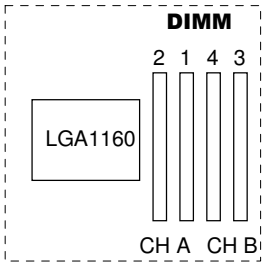
TOP SIDE VIEW

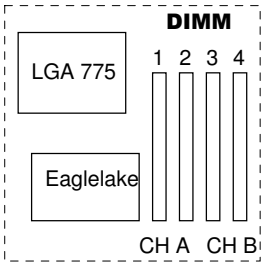


BOTTOM SIDE VIEW

NOTE:

DIMM Placement for different platform





PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : DDR3 DECOUPLING	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 18 of 68	

P55 ES2: 0200-006T000

Strap
(GNT0#~GNT3# have IPU)

GNT3#	0	TOP Block SWAP
	1	Normal(Default)

GNT2#	0	ESI mode (Server Only)
	1	DMI(Default)

GNT1#	GNT0#	BOOT BIOS
1	0	RESERVED
0	1	PCI
1	1	SPI
0	0	LPC

U1A

PCI: PCIRST#, PME#, PAR, DEVSEL#, CLKIN_PCILOOPBACK, IRDY#, SERR#, STOP#, PLOCK#, TRDY#, PERR#, FRAME#, C/BE0#, C/BE1#, C/BE2#, C/BE3#, GNT3#/GPIO55, GNT2#/GPIO53, GNT1#/GPIO51, GNT0#, REQ3#/GPIO54, REQ2#/GPIO52, REQ1#/GPIO50, REQ0#, PIRQA#, PIRQB#, PIRQC#, PIRQD#, PIRQE#/GPIO2, PIRQF#/GPIO3, PIRQG#/GPIO4, PIRQH#/GPIO5, AD0–AD31

SMBUS: SMBCLK, SMBDATA, SMBALERT#/GPIO11, SML0CLK, SML0DATA, SML0ALERT#/GPIO60, SML1ALERT#/GPIO74, SML1CLK/GPIO58, SML1DATA/GPIO75

RTC: RTCRST#, SRTCRST#, RTCX1, RTCX2

SPI: SPI_CS1#, SPI_CS0#, SPI_MOSI, SPI_MISO, SPI_CLK

IBEXPEAK Rev 1.0

SR1 1K, SR2 1K, SR9 1K, SR40 1K (NI) — pull-ups to GND

SR154 2.2K, SR155 2.2K, SR152 2.2K, SR153 2.2K, SR131 2.2K, SR132 2.2K — pull-ups to +3P3VSB

SR3 10K, SR4 10K, SR5 10K — pull-ups to +3P3VSB

SC6, SC7, SC25, SC26, SC4, SC5 150PF/50V NPO 5% — to GND

SR8 1K (NI) — pull-up to +3P3V_ME

SR14 1K (NI) — to GND

SR13 MX_R0603 10MOhm

Y5 32.768Khz

NOBOM SR15

SC1 15PF/50V NPO 5%

SC2 15PF/50V NPO 5%

XY5 Crystal Holder

CRB R1.0 (page.39) suggests that don't change it to 0402 package type

Strap

SPI_MOSI (IPD)	0	Disable ITPM (Default)
	1	Enable ITPM

ST26 TPC26b NOBOM

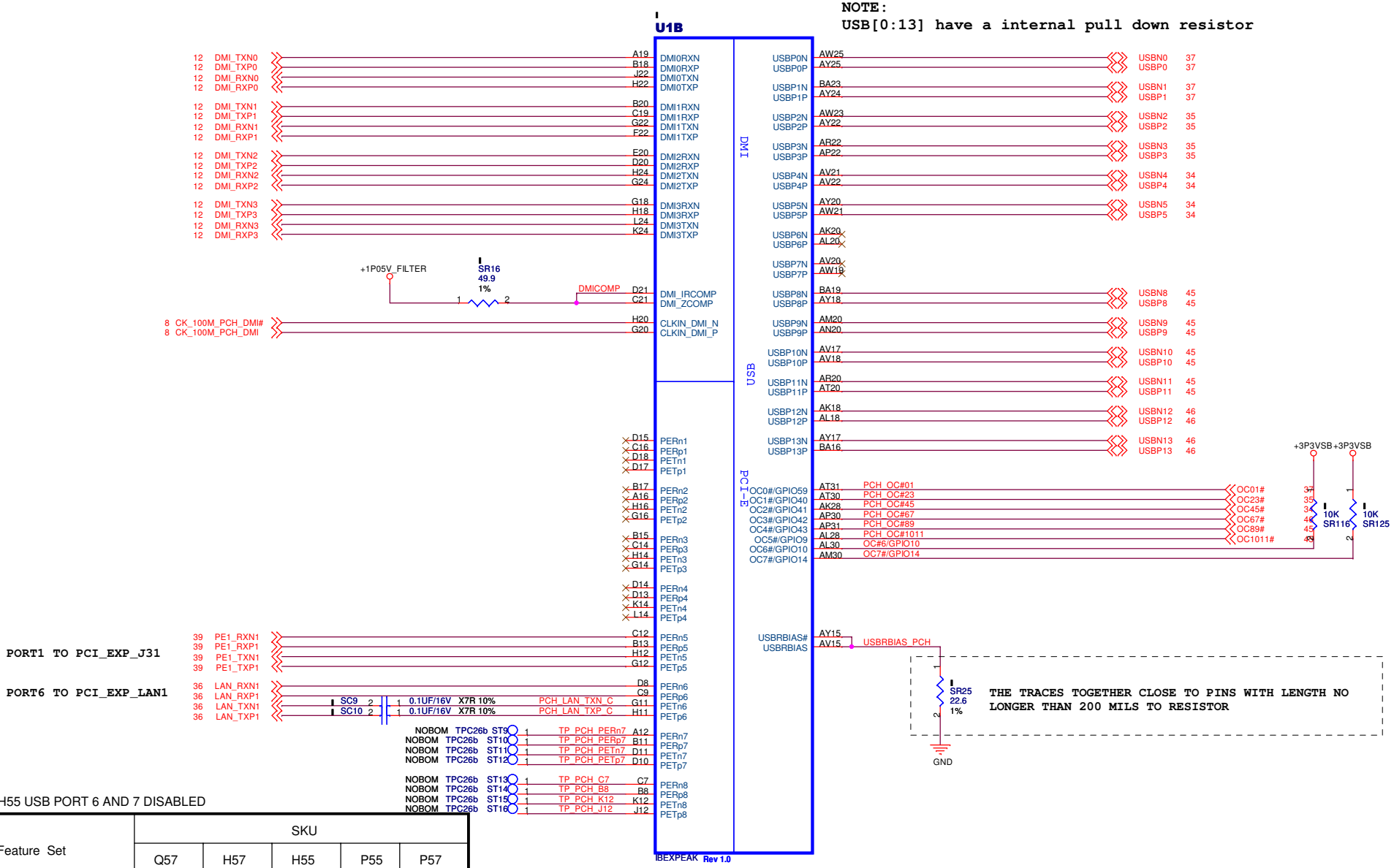
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : INTEL_PCH-1

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Thursday, April 08, 2010 Sheet 19 of 68



NOTE: FOR H55 USB PORT 6 AND 7 DISABLED

Feature Set	SKU				
	Q57	H57	H55	P55	P57
PCI Express 2.0	8	8	6	8	8
USB 2.0	14	14	12	14	14
SATA	6	6	6	6	6
HDMI/DVI/VGA/SDVO/DisplayPort	YES	YES	YES	NO	NO

PEGATRON DT-MB RESTRICTED SECRET

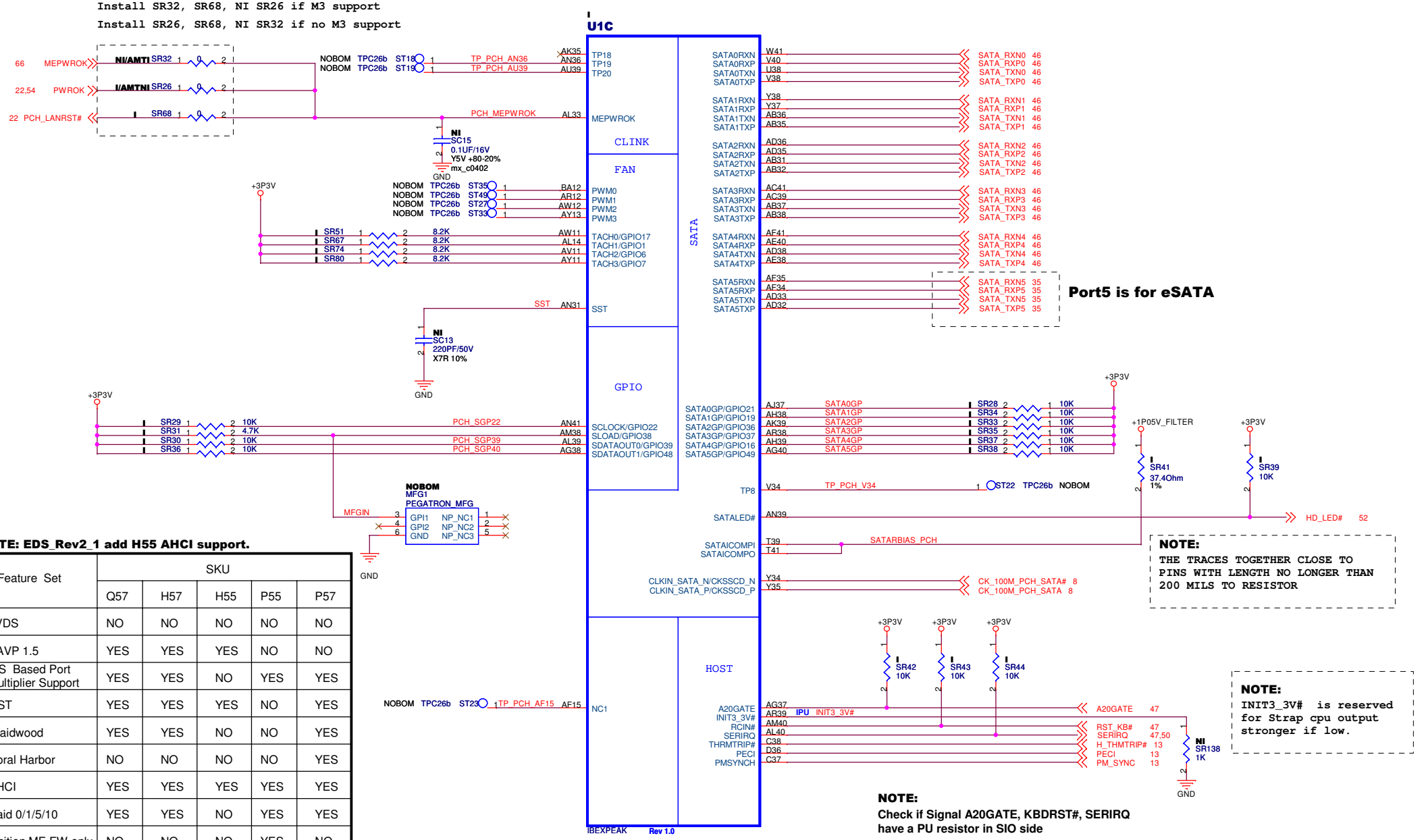
PEGATRON Title : INTEL_PCH - 2

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 20 of 68

NOTE:
Install SR32, SR68, NI SR26 if M3 support
Install SR26, SR68, NI SR32 if no M3 support



NOTE: EDS_Rev2_1 add H55 AHCI support.

Feature Set	SKU				
	Q57	H57	H55	P55	P57
LVDS	NO	NO	NO	NO	NO
PAVP 1.5	YES	YES	YES	NO	NO
FIS Based Port Multiplier Support	YES	YES	NO	YES	YES
QST	YES	YES	YES	NO	YES
Braidwood	YES	YES	NO	NO	YES
Coral Harbor	NO	NO	NO	NO	YES
AHCI	YES	YES	YES	YES	YES
Raid 0/1/5/10	YES	YES	NO	YES	YES
Ignition ME FW only	NO	NO	NO	YES	NO
AT-p	YES	NO	NO	NO	NO
iAMT 6.0	YES	NO	NO	NO	NO
IRPA for Business	YES	NO	NO	NO	NO
IRPA for Consumer	NO	YES	NO	NO	NO
IRWT	NO	YES	YES	NO	NO

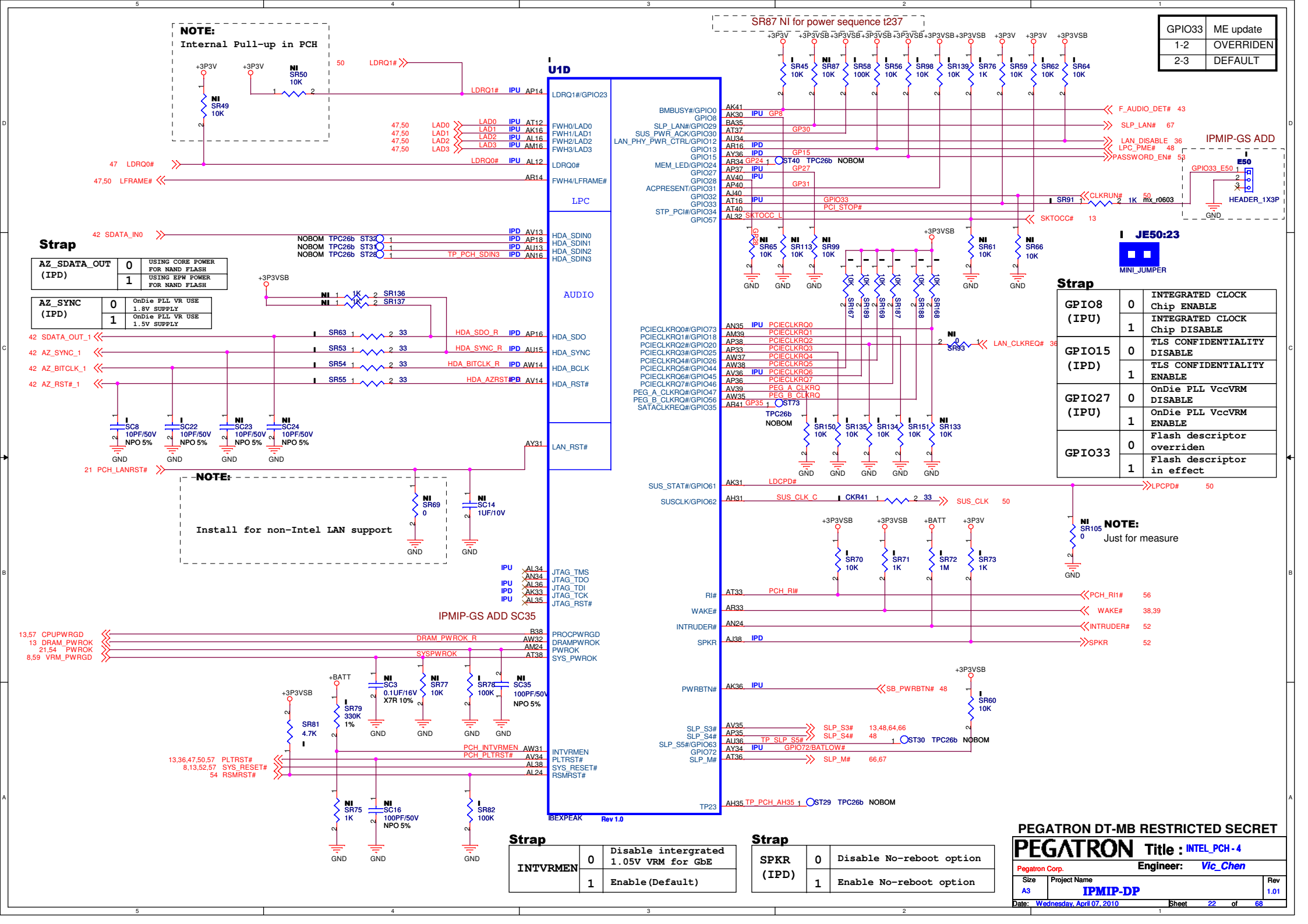
PEGATRON DT-MB RESTRICTED SECRET

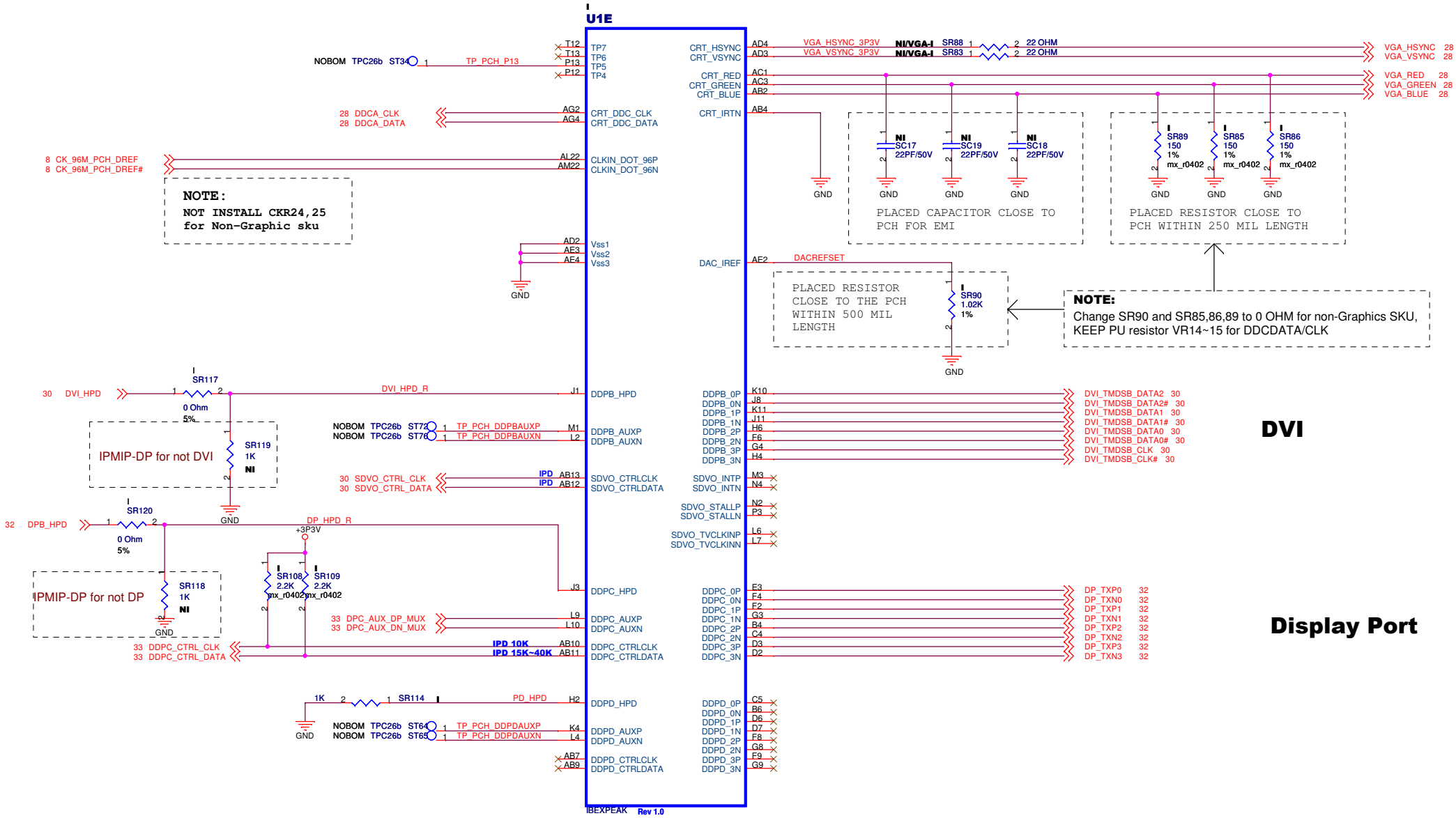
PEGATRON Title : INTEL_PCH - 3

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 21 of 68


NOTE:
Internal Pull-up in PCH
SR87 NI for power sequence t237
GPIO33 | ME update
1-2 | OVERRIDEN
2-3 | DEFAULT
U1D
LDRQ1#/GPIO23
FWH0/LAD0
FWH1/LAD1
FWH2/LAD2
FWH3/LAD3
LDRQ0#
FWH4/LFRAME#
LPC
HDA_SDIN0
HDA_SDIN1
HDA_SDIN2
HDA_SDIN3
AUDIO
HDA_SDO
HDA_SYNC
HDA_BCLK
HDA_RST#
LAN_RST#
JTAG_TMS
JTAG_TDO
JTAG_TDI
JTAG_TCK
JTAG_RST#
PROCPWRGD
DRAMPWROK
PWROK
SYS_PWROK
INTVRMEN
PLTRST#
SYS_RESET#
RSMRST#
IBEXPEAK
Rev 1.0
Strap
AZ_SDATA_OUT (IPD)
0 USING CORE POWER FOR NAND FLASH
1 USING EPW POWER FOR NAND FLASH
AZ_SYNC (IPD)
0 OnDie PLL VR USE 1.8V SUPPLY
1 OnDie PLL VR USE 1.5V SUPPLY
NOTE:
Install for non-Intel LAN support
IPMIP-GS ADD SC35
IPMIP-GS ADD
JE50:23
MINI_JUMPER
Strap
GPIO8 (IPU)
0 INTEGRATED CLOCK Chip ENABLE
1 INTEGRATED CLOCK Chip DISABLE
GPIO15 (IPD)
0 TLS CONFIDENTIALITY DISABLE
1 TLS CONFIDENTIALITY ENABLE
GPIO27 (IPU)
0 OnDie PLL VccVRM DISABLE
1 OnDie PLL VccVRM ENABLE
GPIO33
0 Flash descriptor overriden
1 Flash descriptor in effect
NOTE:
Just for measure
Strap
INTVRMEN
0 Disable intergrated 1.05V VRM for GbE
1 Enable(Default)
Strap
SPKR (IPD)
0 Disable No-reboot option
1 Enable No-reboot option
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : INTEL_PCH - 4
Pegatron Corp.
Engineer: Vic_Chen
Size A3
Project Name IPMIP-DP
Rev 1.01
Date: Wednesday, April 07, 2010
Sheet 22 of 68



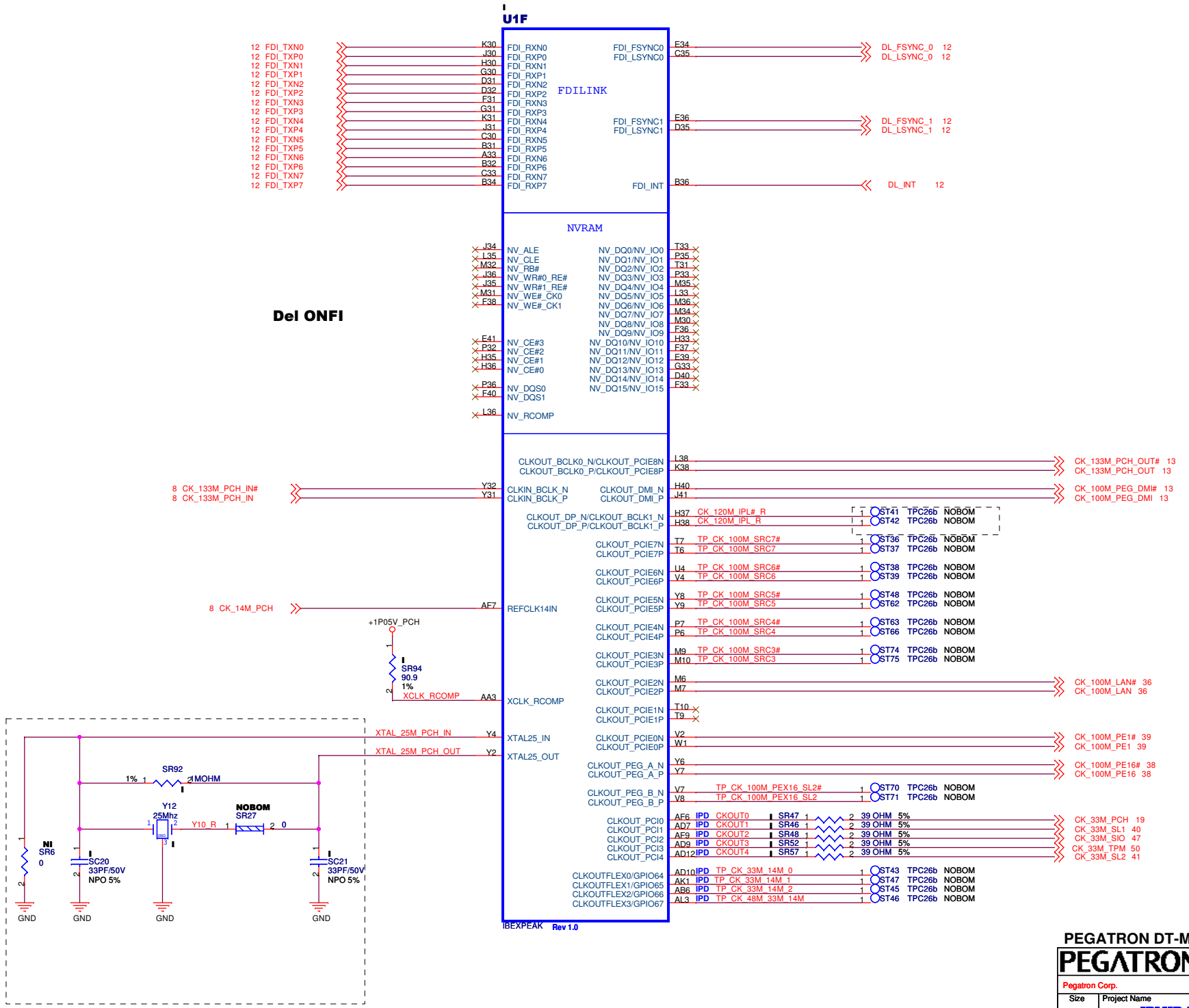
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : INTEL_PCH - 5

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 23 of 68



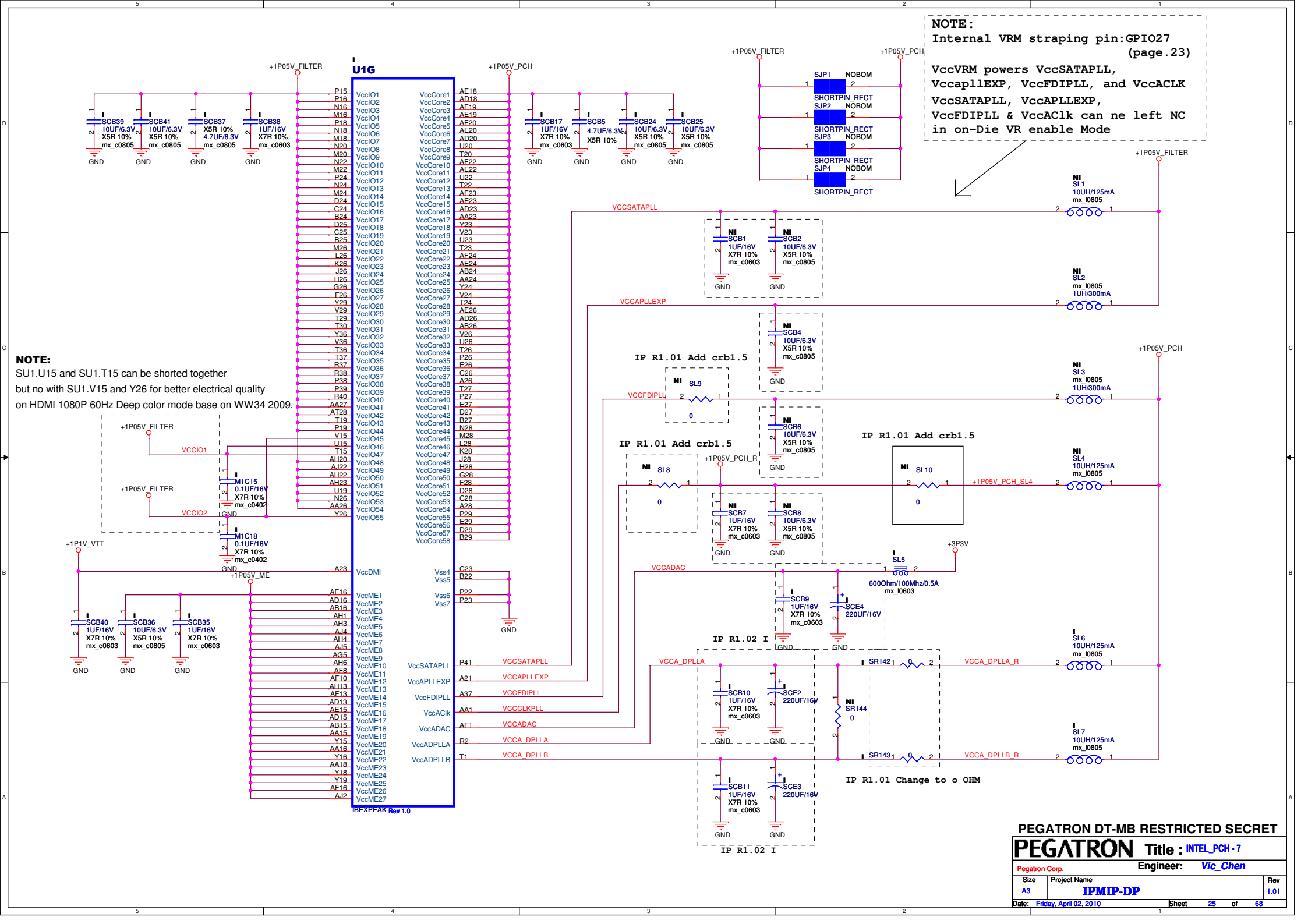
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : INTEL_PCH - 6

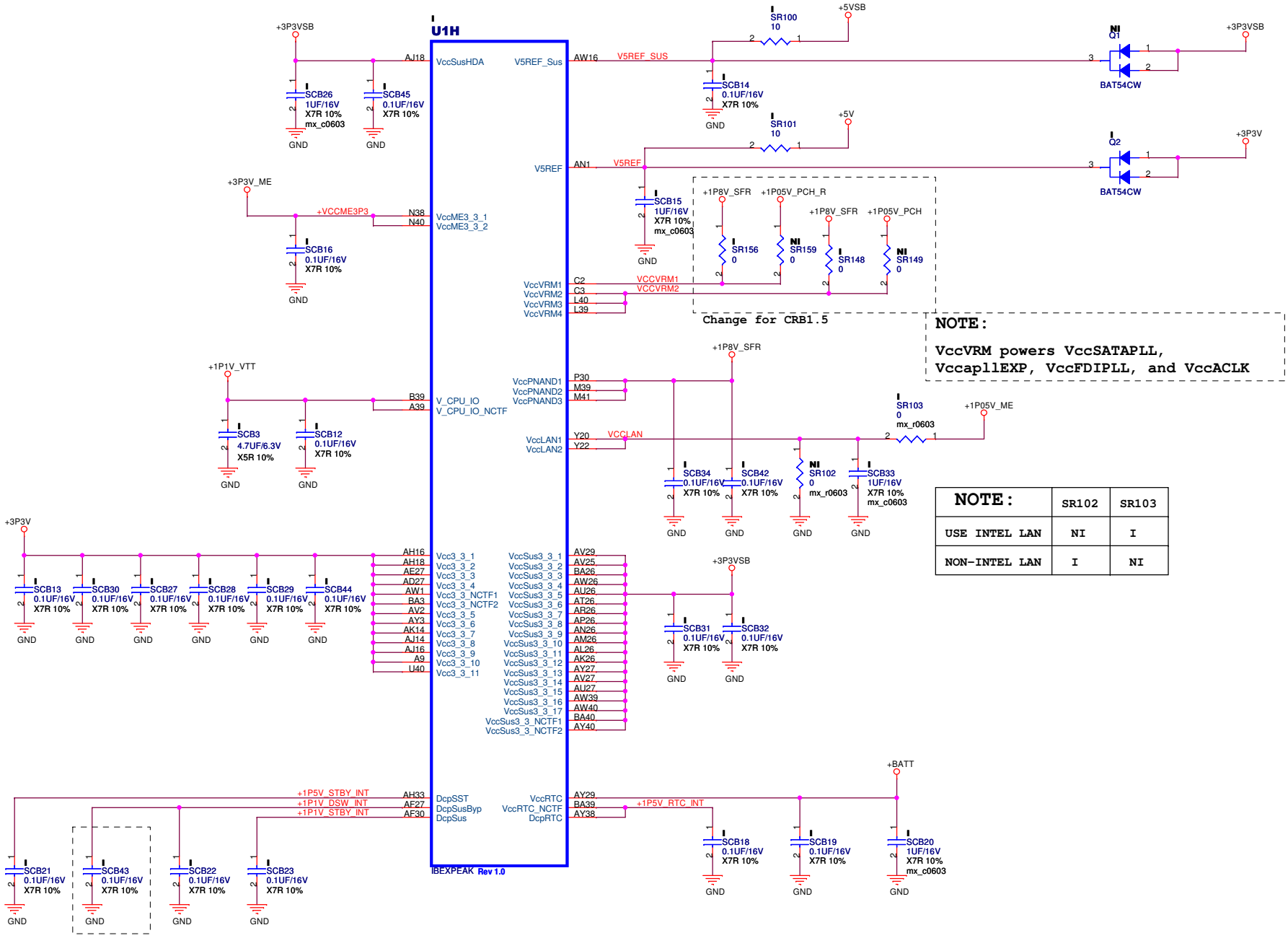
Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 24 of 68


NOTE:
Internal VRM straping pin:GPIO27
(page.23)
VccVRM powers VccSATAPLL,
VccapllEXP, VccFDIPLL, and VccACLK
VccSATAPLL, VccAPLLEXP,
VccFDIPLL & VccAClk can ne left NC
in on-Die VR enable Mode
NOTE:
SU1.U15 and SU1.T15 can be shorted together
but no with SU1.V15 and Y26 for better electrical quality
on HDMI 1080P 60Hz Deep color mode base on WW34 2009.
U1G
IBEXPEAK Rev 1.0
IP R1.01 Add crb1.5
IP R1.01 Add crb1.5
IP R1.01 Add crb1.5
IP R1.02 I
IP R1.02 I
IP R1.01 Change to o OHM
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : INTEL_PCH - 7
Pegatron Corp.
Engineer: Vic_Chen
Size A3
Project Name IPMIP-DP
Rev 1.01
Date: Friday, April 02, 2010
Sheet 25 of 68

Note
Place SCB45 close to
SU1.AJ18 for EMI issue



Change for CRB1.5

NOTE:
VccVRM powers VccSATAPLL, VccapllEXP, VccFDIPLL, and VccACLK

NOTE:	SR102	SR103
USE INTEL LAN	NI	I
NON-INTEL LAN	I	NI

NOTE:
MOW WW08 recommand to reserved SCB43.

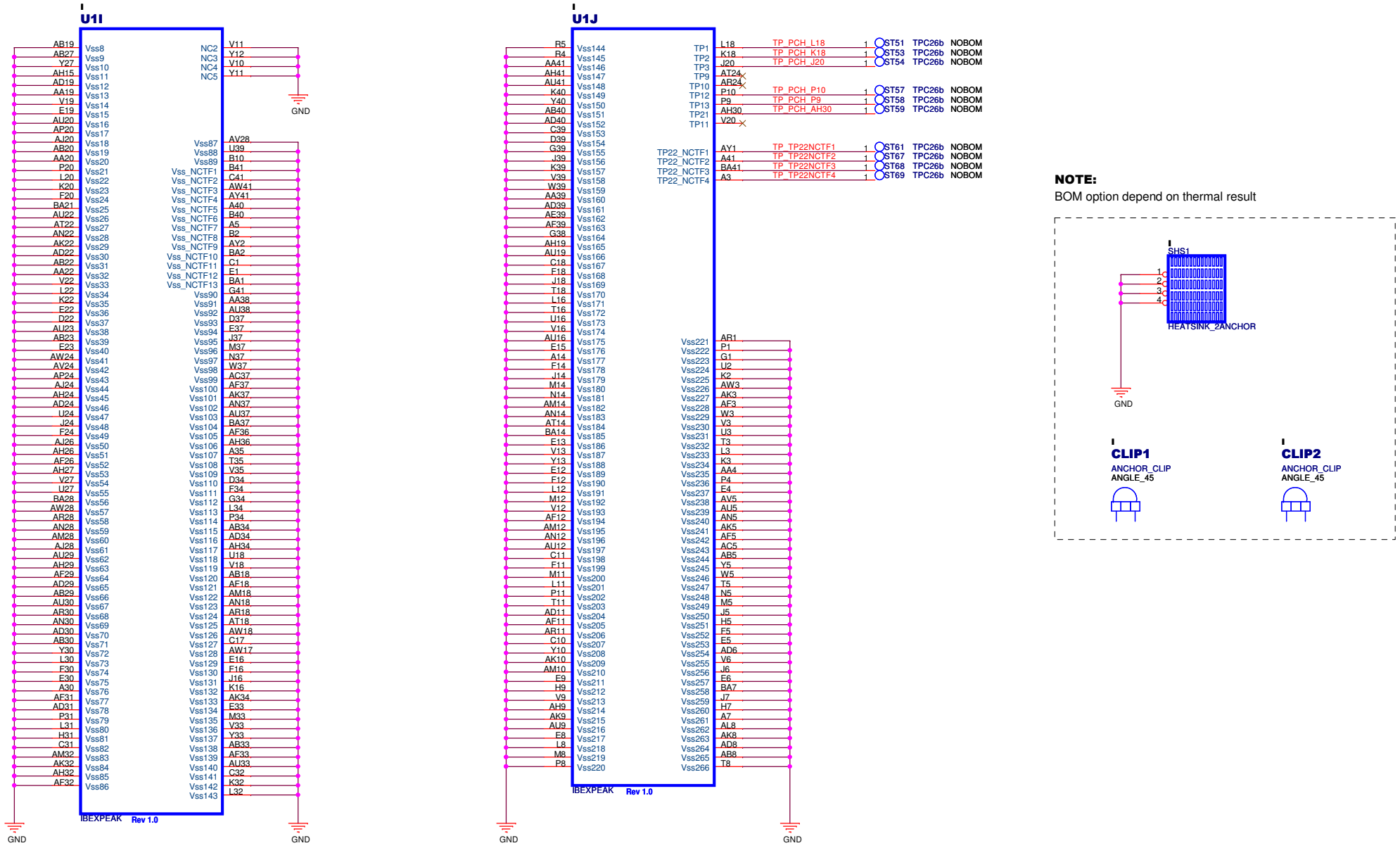
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : INTEL_PCH - 8

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Tuesday, March 23, 2010 Sheet 26 of 68



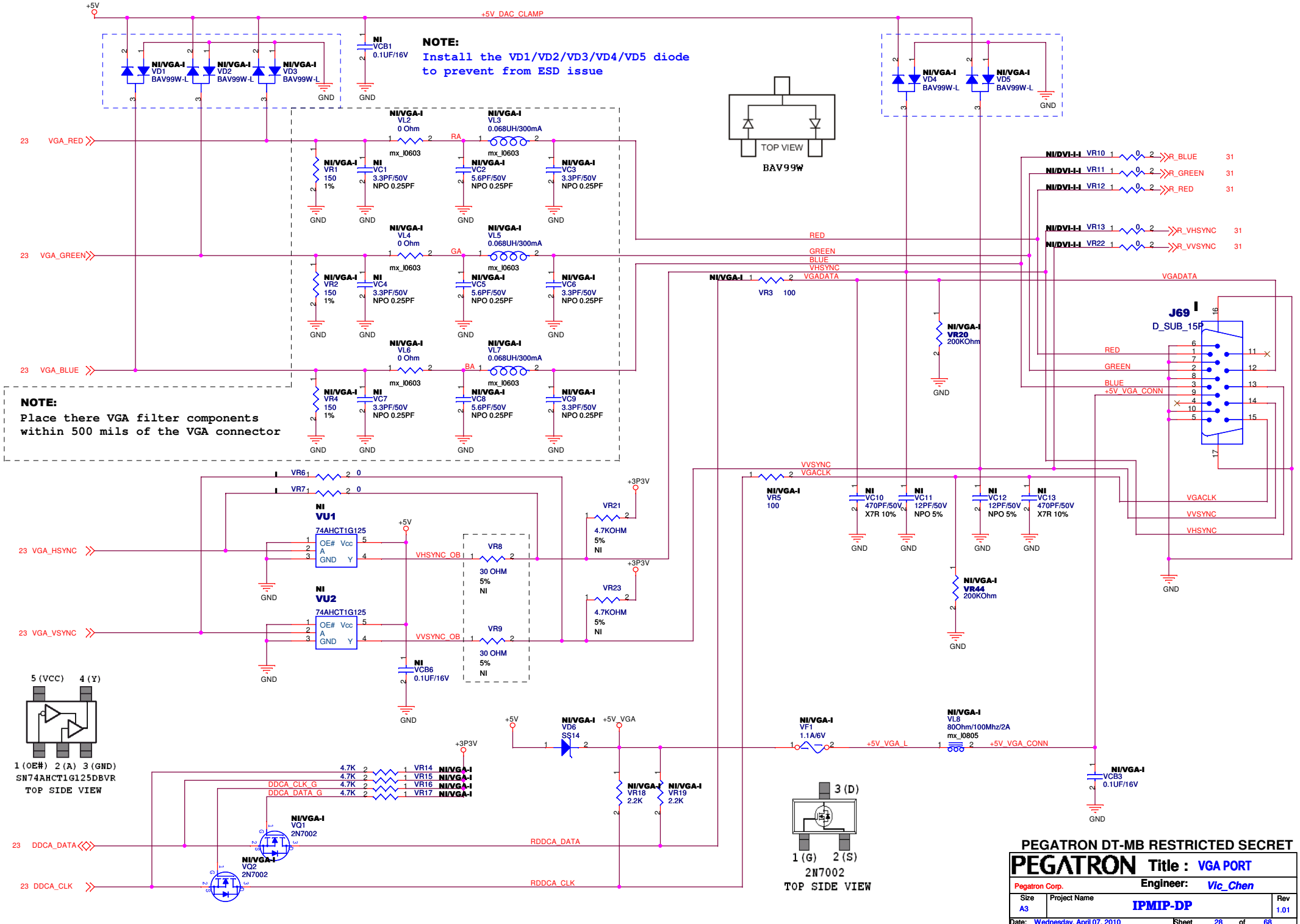
PEGATRON DT-MB RESTRICTED SECRET

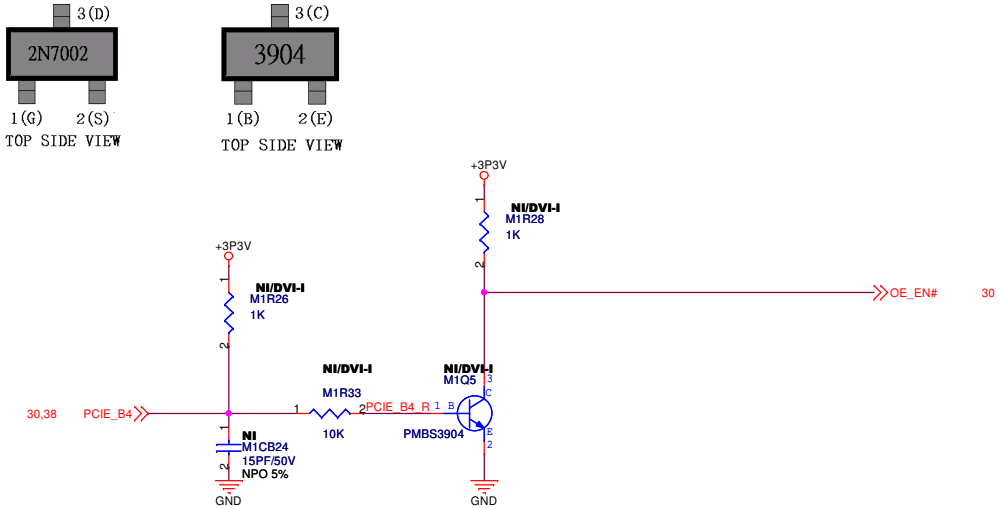
PEGATRON Title : INTEL_PCH - 9

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Tuesday, March 23, 2010 Sheet 27 of 68


+5V
+5V_DAC_CLAMP
NI/VGA-I VD1 BAV99W-L
NI/VGA-I VD2 BAV99W-L
NI/VGA-I VD3 BAV99W-L
NI VCB1 0.1UF/16V
GND
NOTE:
Install the VD1/VD2/VD3/VD4/VD5 diode to prevent from ESD issue
TOP VIEW
BAV99W
NI/VGA-I VD4 BAV99W-L
NI/VGA-I VD5 BAV99W-L
23 VGA_RED
23 VGA_GREEN
23 VGA_BLUE
NI/VGA-I VL2 0 Ohm
NI/VGA-I VL3 0.068UH/300mA
mx_l0603
RA
GA
BA
NI/VGA-I VR1 150 1%
NI VC1 3.3PF/50V NPO 0.25PF
NI/VGA-I VC2 5.6PF/50V NPO 0.25PF
NI/VGA-I VC3 3.3PF/50V NPO 0.25PF
NI/VGA-I VR2 150 1%
NI VC4 3.3PF/50V NPO 0.25PF
NI/VGA-I VC5 5.6PF/50V NPO 0.25PF
NI/VGA-I VC6 3.3PF/50V NPO 0.25PF
NI/VGA-I VR4 150 1%
NI VC7 3.3PF/50V NPO 0.25PF
NI/VGA-I VC8 5.6PF/50V NPO 0.25PF
NI/VGA-I VC9 3.3PF/50V NPO 0.25PF
NOTE:
Place there VGA filter components within 500 mils of the VGA connector
RED
GREEN
BLUE
VHSYNC
VGADATA
NI/VGA-I VR3 100
NI/VGA-I VR20 200KOhm
NI/DVI-I-I VR10 R_BLUE 31
NI/DVI-I-I VR11 R_GREEN 31
NI/DVI-I-I VR12 R_RED 31
NI/DVI-I-I VR13 R_VHSYNC 31
NI/DVI-I-I VR22 R_VVSYNC 31
J69
D_SUB_15P
+5V_VGA_CONN
VR6 0
VR7 0
NI VU1
74AHCT1G125
23 VGA_HSYNC
23 VGA_VSYNC
VHSYNC_OB
VVSYNC_OB
VR8 30 OHM 5% NI
VR9 30 OHM 5% NI
VR21 4.7KOHM 5% NI
VR23 4.7KOHM 5% NI
+3P3V
NI VCB6 0.1UF/16V
VVSYNC
VGACLK
NI/VGA-I VR5 100
NI VC10 470PF/50V X7R 10%
NI VC11 12PF/50V NPO 5%
NI VC12 12PF/50V NPO 5%
NI VC13 470PF/50V X7R 10%
NI/VGA-I VR44 200KOhm
5 (VCC) 4 (Y)
1 (OE#) 2 (A) 3 (GND)
SN74AHCT1G125DBVR
TOP SIDE VIEW
NI/VGA-I VD6 SS14
+5V_VGA
NI/VGA-I VF1 1.1A/6V
+5V_VGA_L
NI/VGA-I VL8 80Ohm/100Mhz/2A mx_l0805
+5V_VGA_CONN
NI/VGA-I VCB3 0.1UF/16V
4.7K VR14 NI/VGA-I
4.7K VR15 NI/VGA-I
DDCA_CLK_G 4.7K VR16 NI/VGA-I
DDCA_DATA_G 4.7K VR17 NI/VGA-I
NI/VGA-I VR18 2.2K
NI/VGA-I VR19 2.2K
NI/VGA-I VQ1 2N7002
NI/VGA-I VQ2 2N7002
23 DDCA_DATA
23 DDCA_CLK
RDDCA_DATA
RDDCA_CLK
3 (D)
1 (G) 2 (S)
2N7002
TOP SIDE VIEW
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : VGA PORT
Pegatron Corp.
Engineer: Vic_Chen
Size A3
Project Name IPMIP-DP
Rev 1.01
Date: Wednesday, April 07, 2010
Sheet 28 of 68



NOTE:

PCIE X16	PCIE_B4	SEL (MUX)	DDC_EN# (Level Shifter)	OE_EN# (Level Shifter)	Function
Plugged	LOW	LOW	LOW	HI	PCIE x16
Unplugged	HI	HI	HI	LOW	DVI , HDMI

PEGATRON DT-MB RESTRICTED SECRET

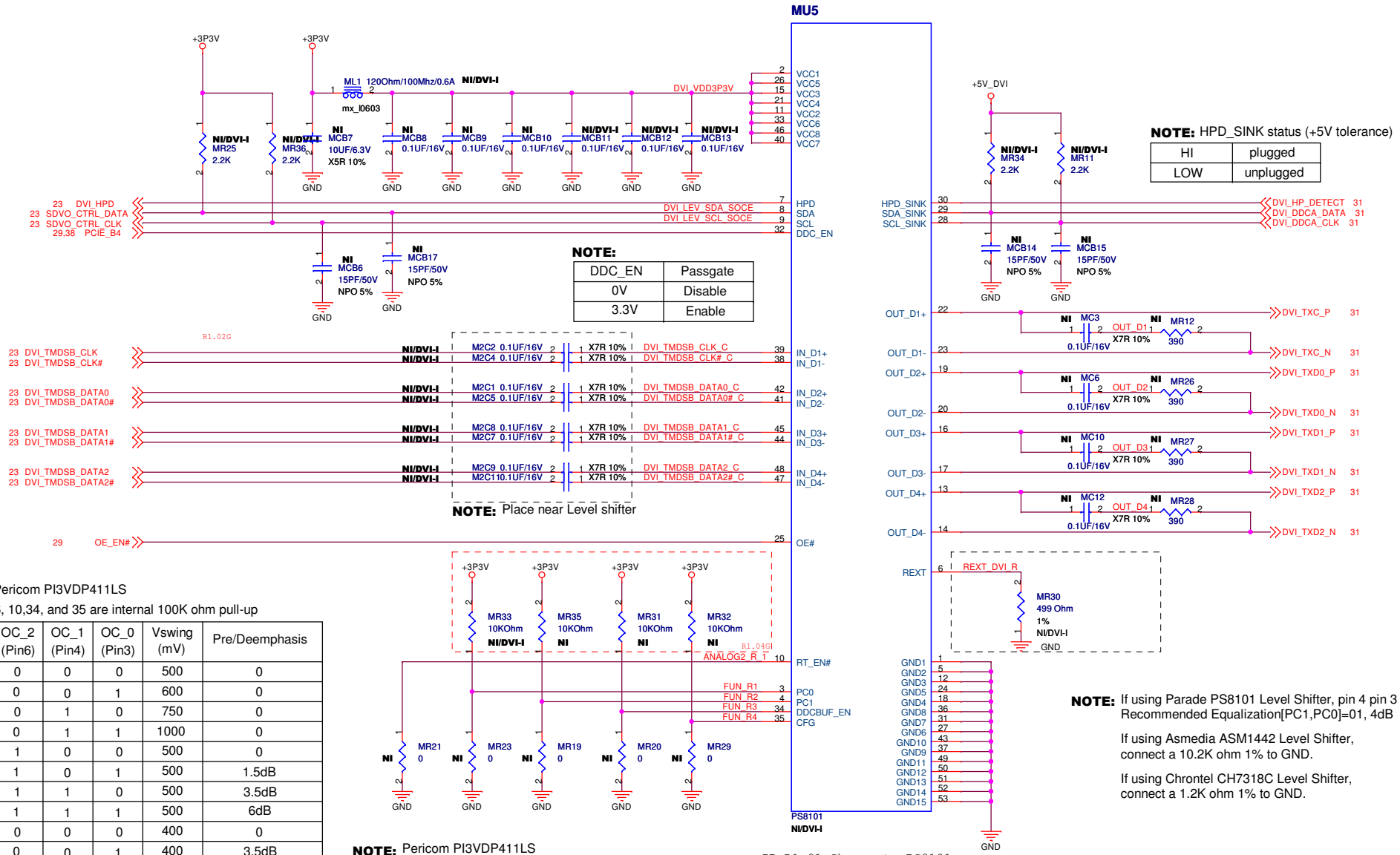
PEGATRON Title : DVI Control

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 29 of 68

CH7318: 02G480001000
ASM1442: 022U-0004000



NOTE: If using Parade PS8101 Level Shifter, pin 4 pin 3 Recommended Equalization[PC1,PC0]=01, 4dB

If using Asmedia ASM1442 Level Shifter, connect a 10.2K ohm 1% to GND.

If using Chrontel CH7318C Level Shifter, connect a 1.2K ohm 1% to GND.

NOTE: Pericom PI3VDP411LS

Pin 3, 4, 6, 10,34, and 35 are internal 100K ohm pull-up

OC_3 (Pin10)	OC_2 (Pin6)	OC_1 (Pin4)	OC_0 (Pin3)	Vswing (mV)	Pre/Deemphasis
0	0	0	0	500	0
0	0	0	1	600	0
0	0	1	0	750	0
0	0	1	1	1000	0
0	1	0	0	500	0
0	1	0	1	500	1.5dB
0	1	1	0	500	3.5dB
0	1	1	1	500	6dB
1	0	0	0	400	0
1	0	0	1	400	3.5dB
1	0	1	0	400	6dB
1	0	1	1	400	9dB
1	1	0	0	1000	0
1	1	0	1	1000	-3.5dB
1	1	1	0	1000	-6dB
1	1	1	1	1000	-9dB

NOTE: Pericom PI3VDP411LS

EQ0 (Pin34)	EQ1 (Pin35)	Equalization (dB)
0	0	3
0	1	7.2
1	0	10
1	1	12

NOTE:

OE*	IN_D Termination	OUT_D Outputs
1	Hi-Z	Hi-Z
0	50ohm	Active

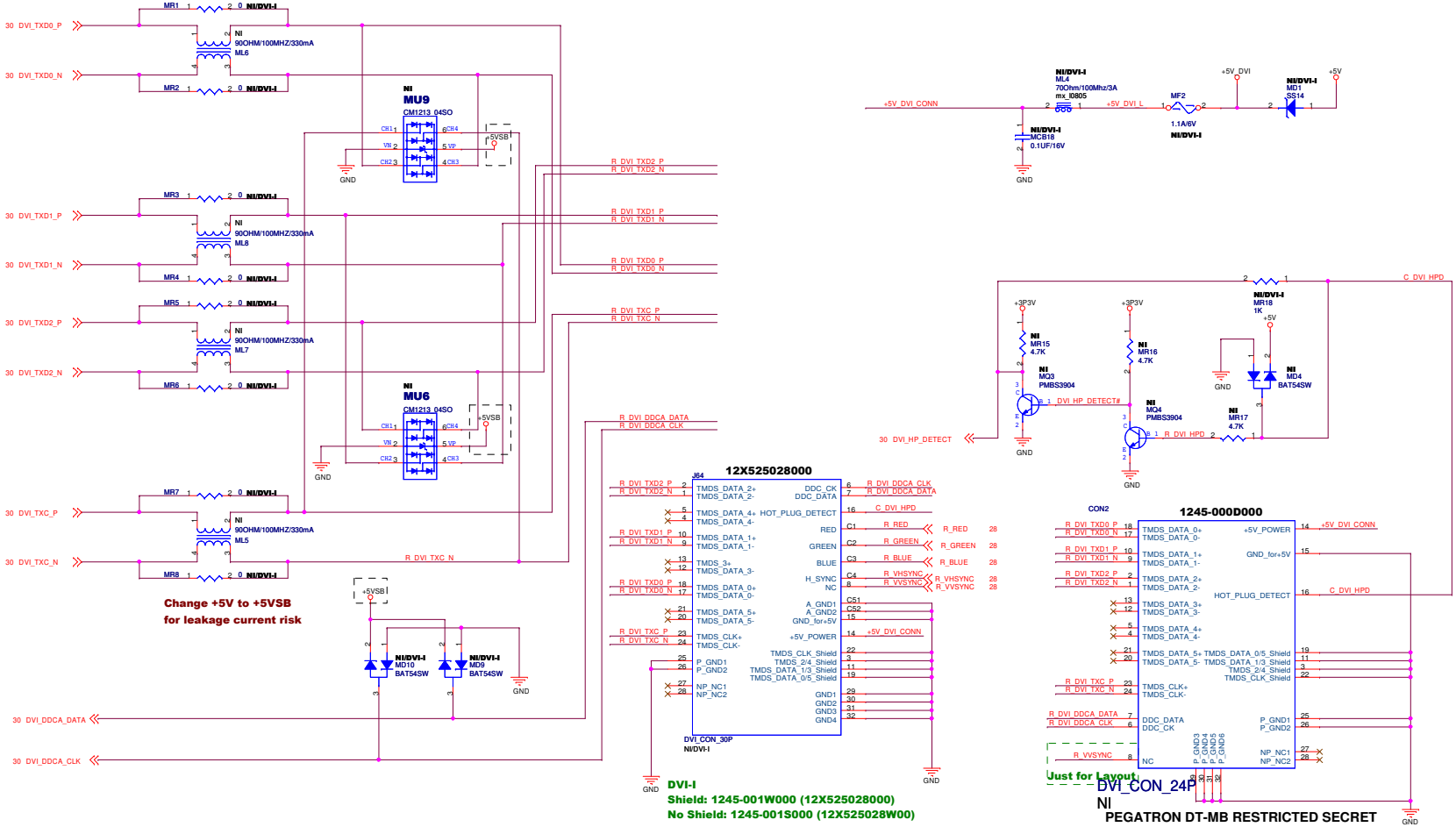
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : DVI Level shifter

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

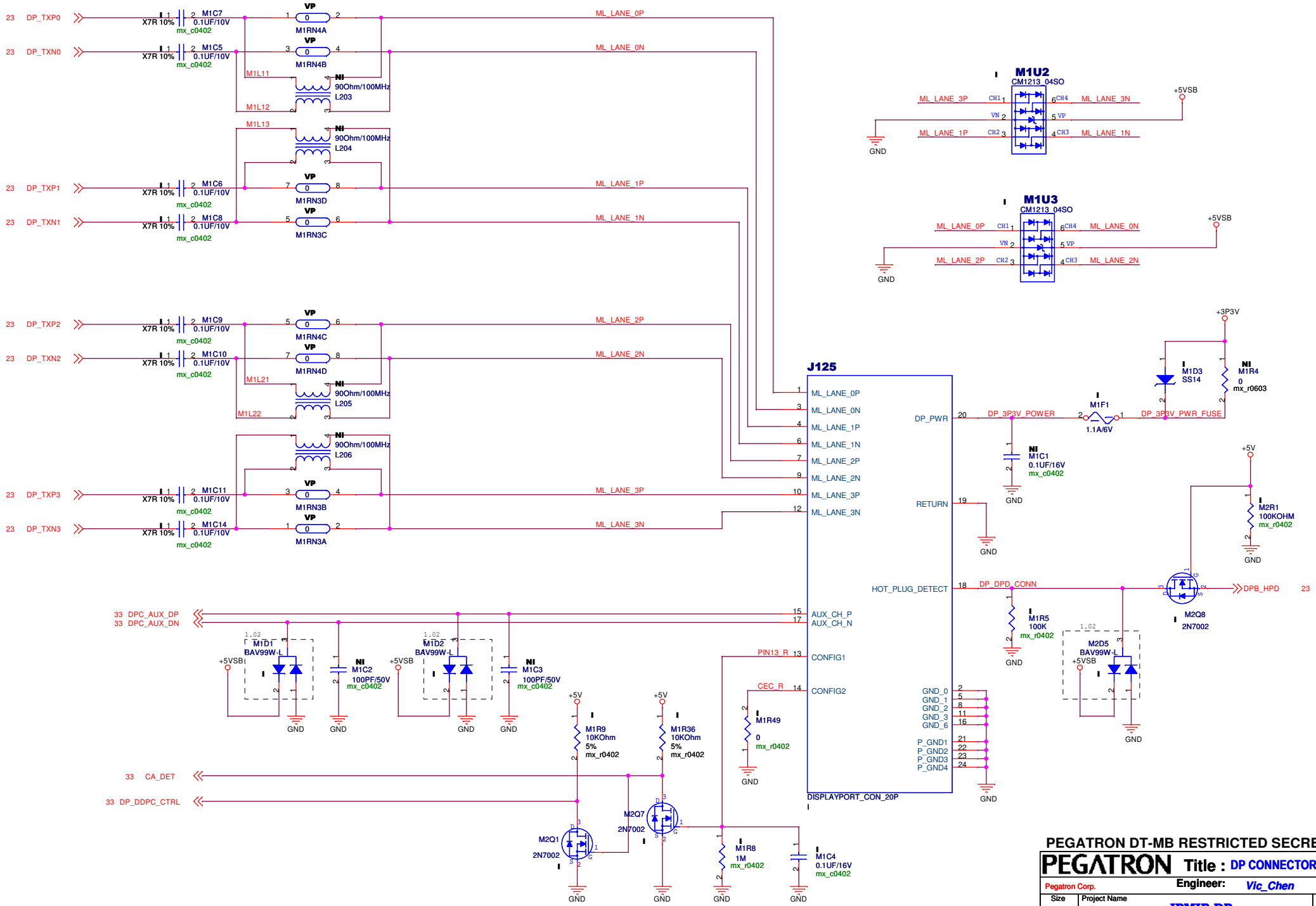
Date: Wednesday, April 07, 2010 Sheet 30 of 68



DVI-I
Shield: 1245-001W000 (12X525028000)
No Shield: 1245-001S000 (12X525028W00)

DVI-D
Shield: 1245-000D000 (12X524283000)
No Shield: 1245-0018000 (12X525024W00)

PEGATRON	Title : DVI-I Connector	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A2	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 31 of 68	



PEGATRON DT-MB RESTRICTED SECRET

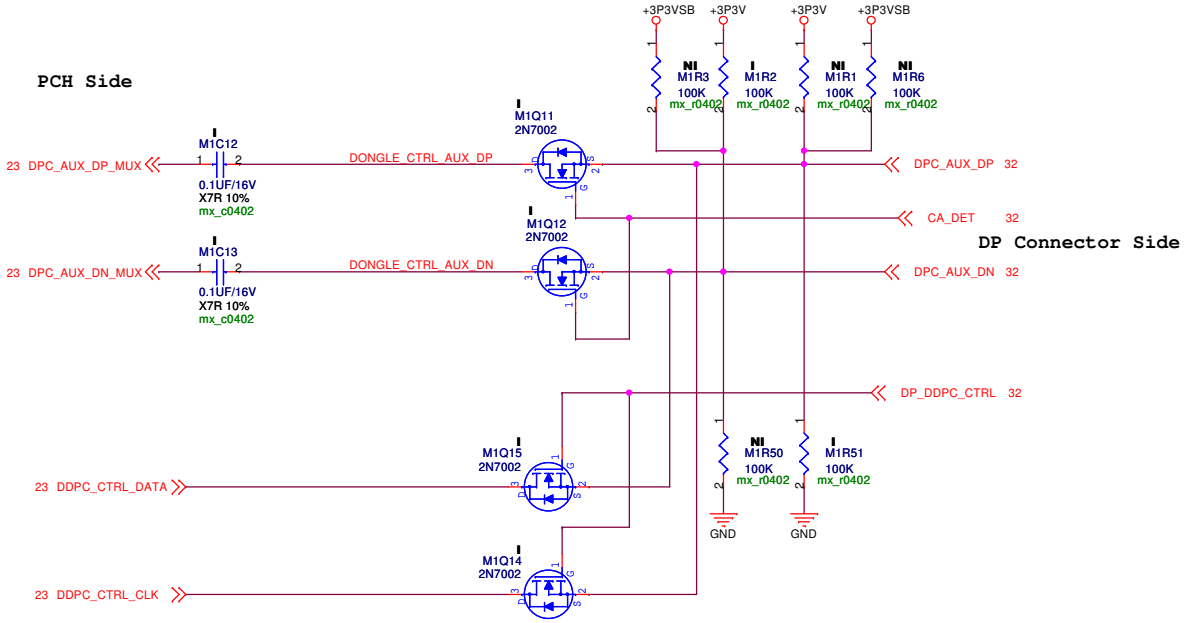
PEGATRON Title : DP CONNECTOR

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

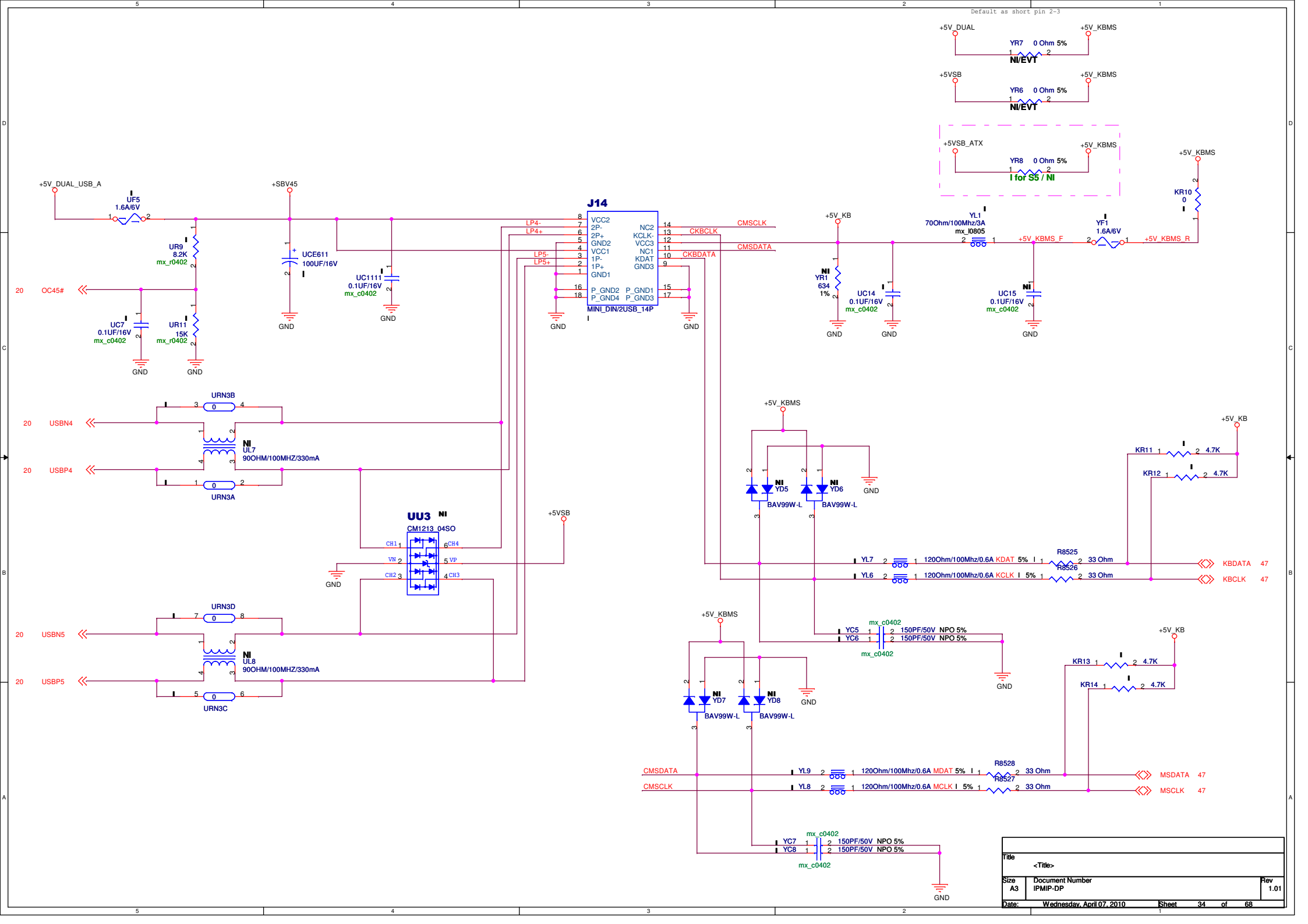
Date: Wednesday, April 07, 2010 Sheet 32 of 68

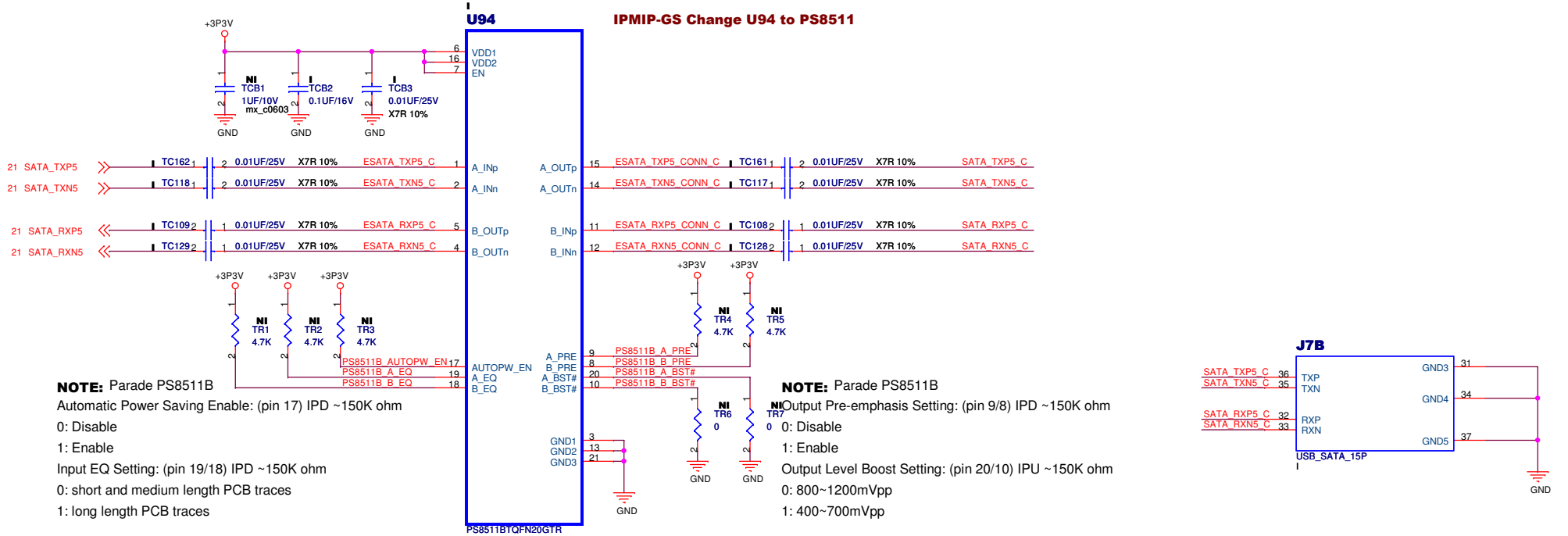
Display Port to HDMI/DVI Dongle control



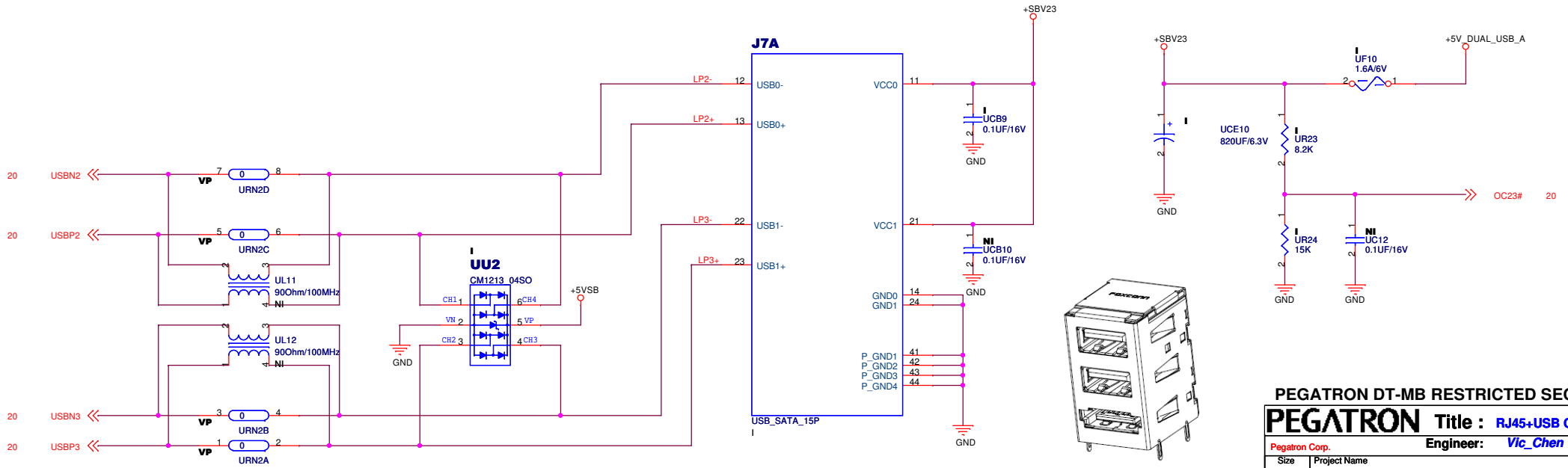
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : DP DONGLE	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 33 of 68	


Default as short pin 2-3
+5V_DUAL
+5V_KBMS
YR7 0 Ohm 5%
NI/EVT
+5VSB
+5V_KBMS
YR6 0 Ohm 5%
NI/EVT
+5VSB_ATX
+5V_KBMS
YR8 0 Ohm 5%
I for S5 / NI
+5V_KBMS
KR10
0
+5V_DUAL_USB_A
UF5
1.6A/6V
+SBV45
UR9
8.2K
mx_r0402
UCE611
100UF/16V
UC1111
0.1UF/16V
mx_c0402
GND
20 OC45#
UC7
0.1UF/16V
mx_c0402
UR11
15K
mx_r0402
J14
VCC2
2P-
2P+
GND2
VCC1
1P-
1P+
GND1
P_GND2
P_GND4
P_GND1
P_GND3
NC2
KCLK-
VCC3
NC1
KDAT
GND3
MINI_DIN/2USB_14P
LP4-
LP4+
LP5-
LP5+
CMSCLK
CKBCLK
CMSDATA
CKBDATA
+5V_KB
NI
YR1
634
1%
UC14
0.1UF/16V
mx_c0402
YL1
70Ohm/100Mhz/3A
mx_l0805
+5V_KBMS_F
YF1
1.6A/6V
+5V_KBMS_R
UC15
0.1UF/16V
mx_c0402
URN3B
20 USBN4
20 USBP4
NI
UL7
90OHM/100MHZ/330mA
URN3A
UU3
NI
CM1213_04SO
CH1
VN
CH2
CH4
VP
CH3
+5VSB
+5V_KBMS
NI
YD5
BAV99W-L
NI
YD6
BAV99W-L
+5V_KB
KR11 4.7K
KR12 4.7K
YL7 120Ohm/100Mhz/0.6A KDAT 5%
YL6 120Ohm/100Mhz/0.6A KCLK 5%
R8525 33 Ohm
R8526 33 Ohm
KBDATA 47
KBCLK 47
URN3D
20 USBN5
20 USBP5
NI
UL8
90OHM/100MHZ/330mA
URN3C
+5V_KBMS
YC5 150PF/50V NPO 5%
YC6 150PF/50V NPO 5%
mx_c0402
NI
YD7
BAV99W-L
NI
YD8
BAV99W-L
+5V_KB
KR13 4.7K
KR14 4.7K
CMSDATA
CMSCLK
YL9 120Ohm/100Mhz/0.6A MDAT 5%
YL8 120Ohm/100Mhz/0.6A MCLK 5%
R8528 33 Ohm
R8527 33 Ohm
MSDATA 47
MSCLK 47
YC7 150PF/50V NPO 5%
YC8 150PF/50V NPO 5%
mx_c0402
Title
<Title>
Size A3
Document Number IPMIP-DP
Rev 1.01
Date: Wednesday, April 07, 2010
Sheet 34 of 68



E-SATA + Dual USB CONNECTOR



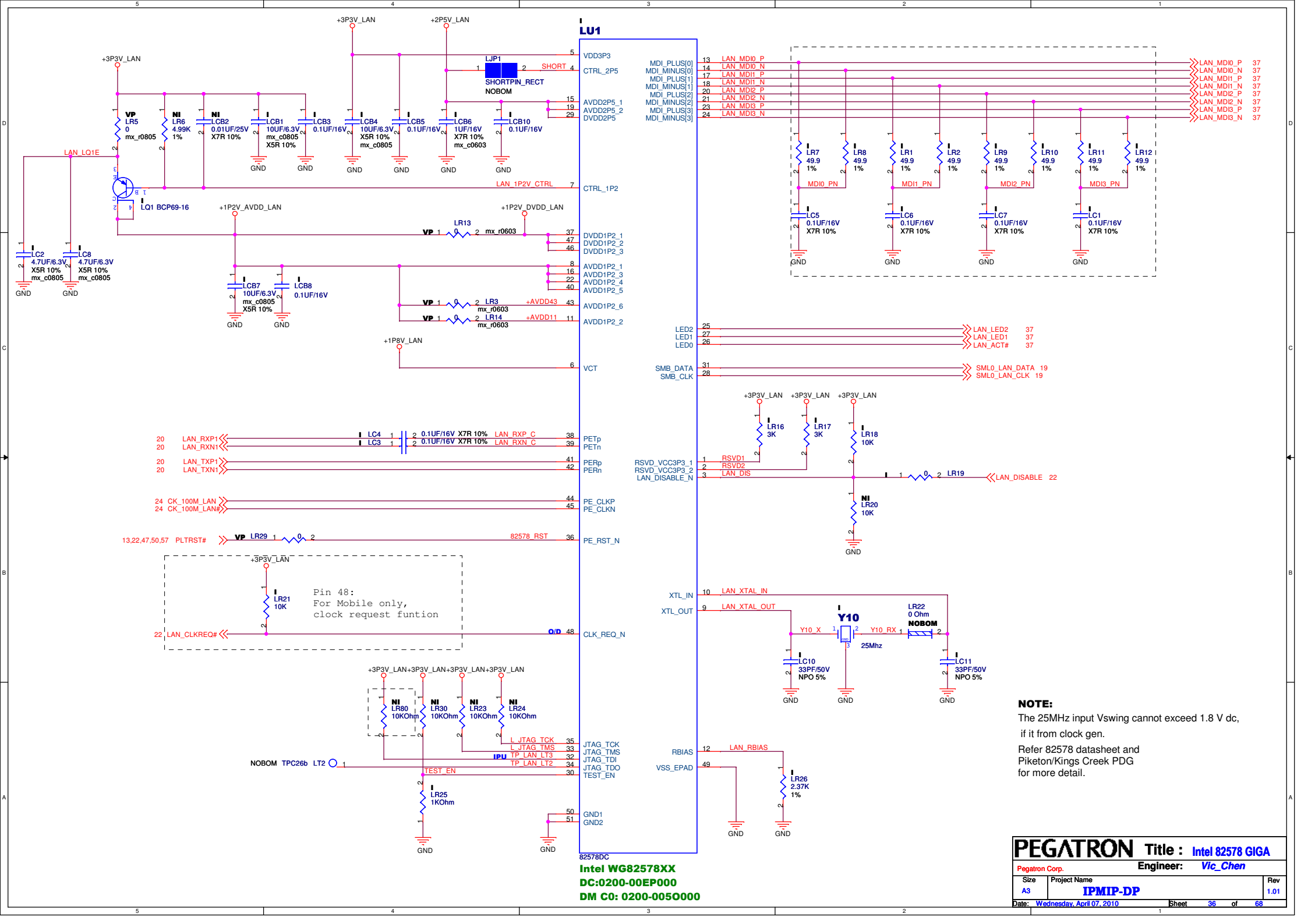
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : RJ45+USB CONN.2

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 35 of 68



NOTE:

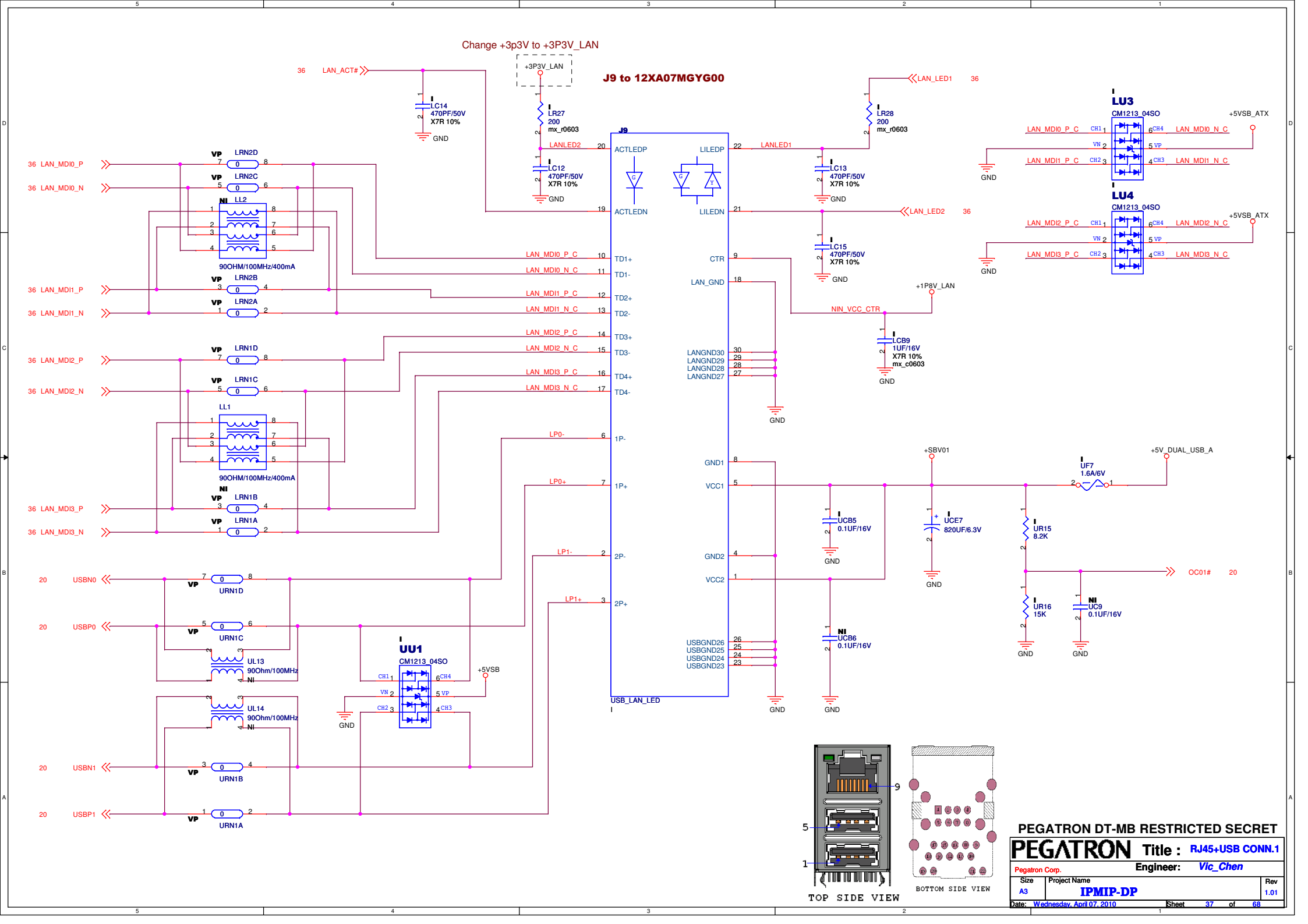
The 25MHz input Vswing cannot exceed 1.8 V dc, if it from clock gen.

Refer 82578 datasheet and Piketon/Kings Creek PDG for more detail.

PEGATRON Corp.	Title : Intel 82578 GIGA	
	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 36 of 68	

Change +3p3V to +3P3V_LAN

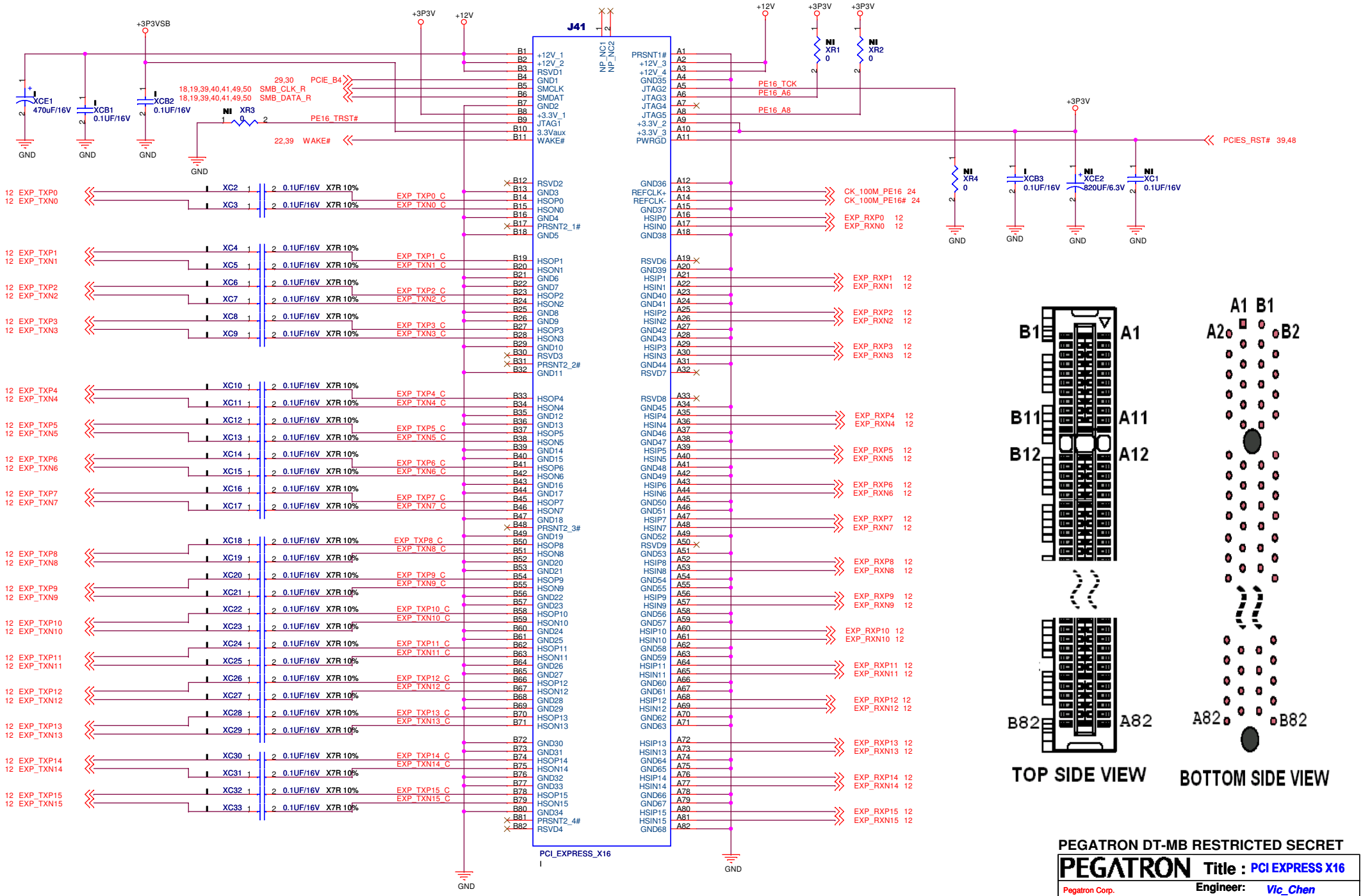
J9 to 12XA07MGYG00



PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : RJ45+USB CONN.1	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 37 of 68	

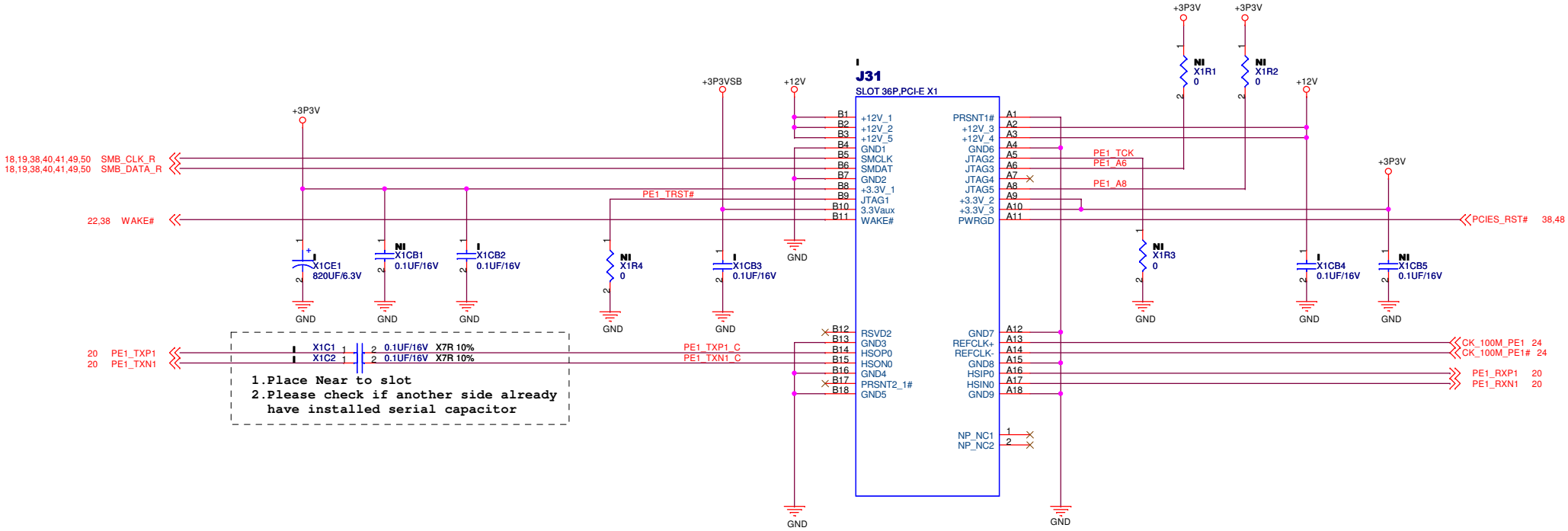
PCI EXPRESS X16 Graphics Card Slot

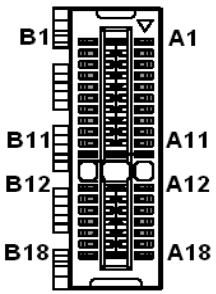


PEGATRON DT-MB RESTRICTED SECRET

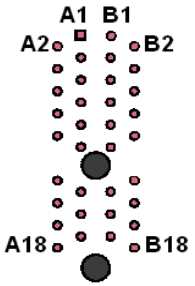
PEGATRON	Title : PCI EXPRESS X16	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 38 of 68	

PCI Express x1 SLOT





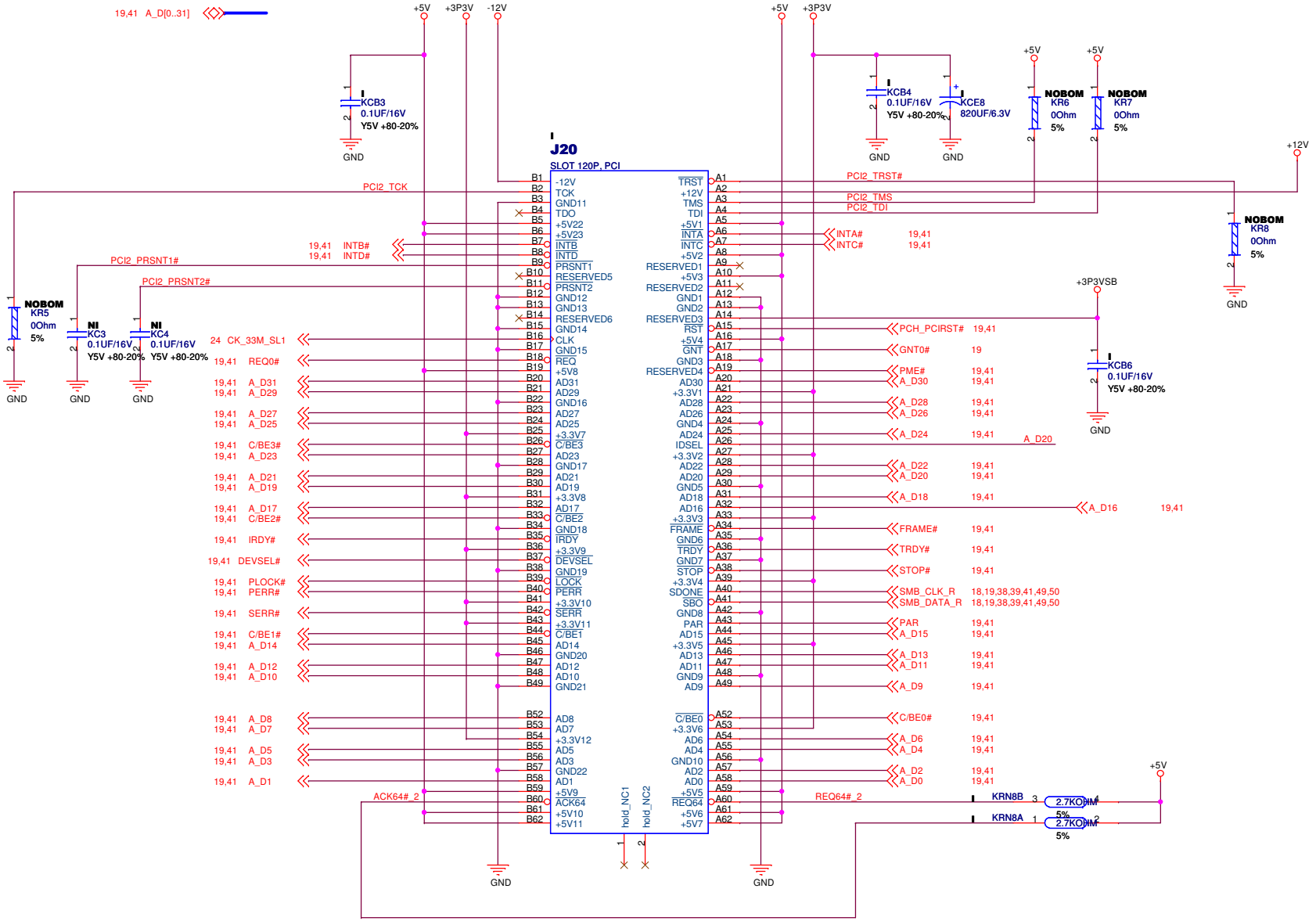
TOP SIDE VIEW



BOTTOM SIDE VIEW

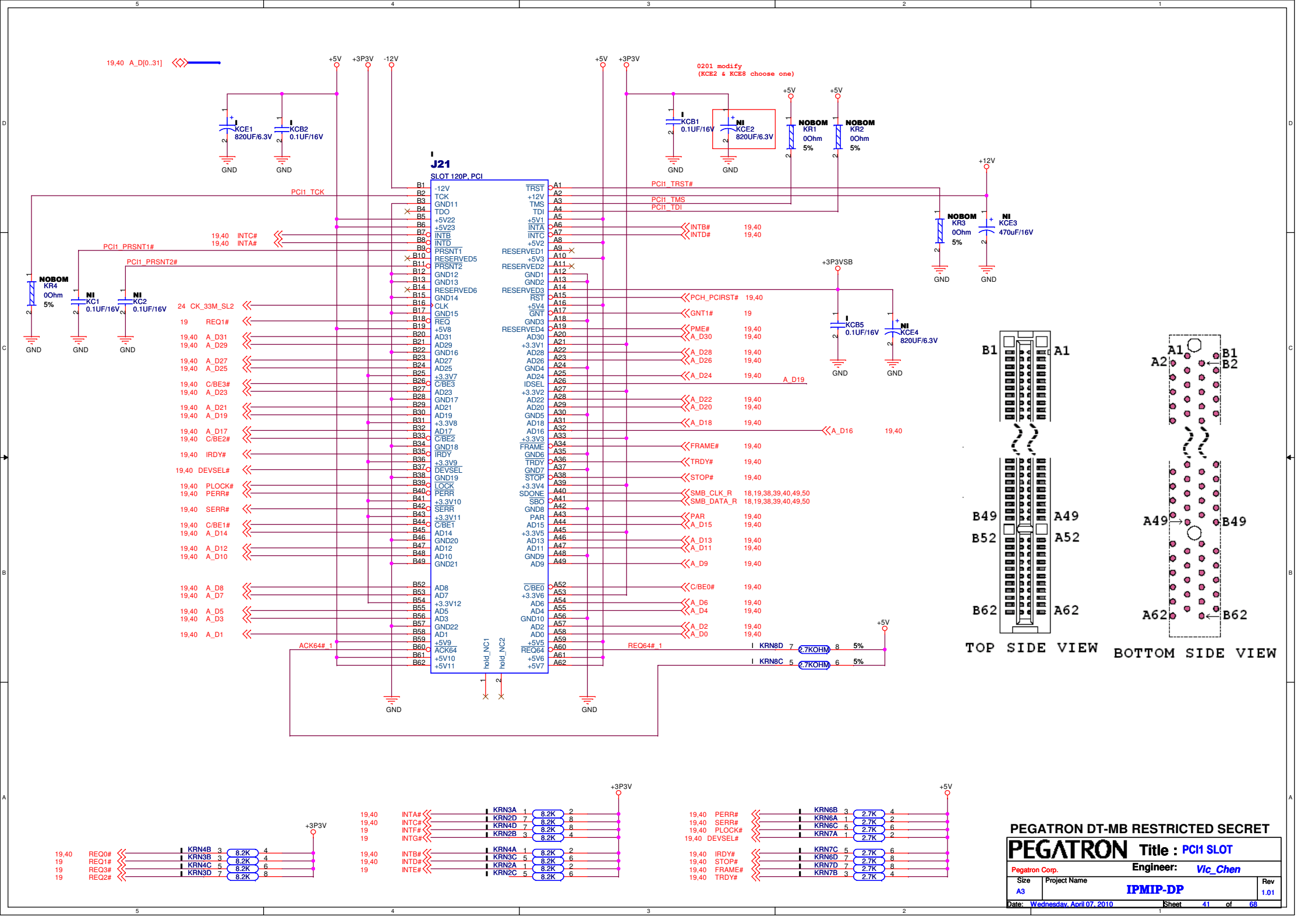
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : PCI EXPRESS X1	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 39 of 68	



PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : PCI EXPRESS X4	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 40 of 68	


19,40 A_D[0..31]
+5V
+3P3V
-12V
KCE1 820UF/6.3V
KCB2 0.1UF/16V
GND
J21
SLOT 120P, PCI
0201 modify
(KCE2 & KCE8 choose one)
KCB1 0.1UF/16V
KCE2 820UF/6.3V
NOBOM KR1 0Ohm 5%
NOBOM KR2 0Ohm 5%
NOBOM KR3 0Ohm 5%
NI KCE3 470uF/16V
+12V
PCI1_TCK
PCI1_TRST#
PCI1_TMS
PCI1_TDI
PCI1_PRSNT1#
PCI1_PRSNT2#
NOBOM KR4 0Ohm 5%
NI KC1 0.1UF/16V
NI KC2 0.1UF/16V
+3P3VSB
KCB5 0.1UF/16V
NI KCE4 820UF/6.3V
INTB# 19,40
INTD# 19,40
PCH_PCIRST# 19,40
GNT1# 19
PME# 19,40
A_D30 19,40
A_D28 19,40
A_D26 19,40
A_D24 19,40
A_D19
A_D22 19,40
A_D20 19,40
A_D18 19,40
A_D16 19,40
FRAME# 19,40
TRDY# 19,40
STOP# 19,40
SMB_CLK_R 18,19,38,39,40,49,50
SMB_DATA_R 18,19,38,39,40,49,50
PAR 19,40
A_D15 19,40
A_D13 19,40
A_D11 19,40
A_D9 19,40
C/BE0# 19,40
A_D6 19,40
A_D4 19,40
A_D2 19,40
A_D0 19,40
REQ64#_1
ACK64#_1
KRN8D 7 2.7KOHM 8 5%
KRN8C 5 2.7KOHM 6 5%
24 CK_33M_SL2
19 REQ1#
19,40 DEVSEL#
19,40 PLOCK#
19,40 PERR#
19,40 SERR#
19,40 IRDY#
19,40 INTC#
19,40 INTA#
19,40 A_D31
19,40 A_D29
19,40 A_D27
19,40 A_D25
19,40 C/BE3#
19,40 A_D23
19,40 A_D21
19,40 A_D19
19,40 A_D17
19,40 C/BE2#
19,40 A_D8
19,40 A_D7
19,40 A_D5
19,40 A_D3
19,40 A_D1
hold_NC1
hold_NC2
TOP SIDE VIEW
BOTTOM SIDE VIEW
B1
A1
B49
A49
B52
A52
B62
A62
A2
B2
KRN4B 3 8.2K 4
KRN3B 3 8.2K 4
KRN4C 5 8.2K 6
KRN3D 7 8.2K 8
19,40 REQ0#
19 REQ1#
19 REQ3#
19 REQ2#
KRN3A 1 8.2K 2
KRN2D 7 8.2K 8
KRN4D 7 8.2K 8
KRN2B 3 8.2K 4
19,40 INTA#
19,40 INTC#
19 INTF#
19 INTG#
KRN4A 1 8.2K 2
KRN3C 5 8.2K 6
KRN2A 1 8.2K 2
KRN2C 5 8.2K 6
19,40 INTB#
19,40 INTD#
19 INTE#
KRN6B 3 2.7K 4
KRN6A 1 2.7K 2
KRN6C 5 2.7K 6
KRN7A 1 2.7K 2
19,40 PERR#
19,40 SERR#
19,40 PLOCK#
19,40 DEVSEL#
KRN7C 5 2.7K 6
KRN6D 7 2.7K 8
KRN7D 7 2.7K 8
KRN7B 3 2.7K 4
19,40 IRDY#
19,40 STOP#
19,40 FRAME#
19,40 TRDY#
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : PCI1 SLOT
Pegatron Corp.
Engineer: Vic_Chen
Size A3
Project Name IPMIP-DP
Rev 1.01
Date: Wednesday, April 07, 2010
Sheet 41 of 68

Note : (AD48)

For some power supply , +5VSB drop before +12V when AC power out (S0 --> G3) , +12V will current back to +5VSB If your power supply has this sequence issue , please install AD48 instead of AQ1

Please noite: AZ_BITCLK need add a serial res(22 ohm) near SB side

Digital Region

Provision AR23 for ALC888S-VC codec

PLACE NEAR front audio CODEC FOR EMI

ALC888S Rev. A

ALC888S_GR

ALC662 02X611003200

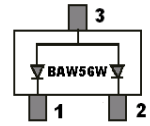
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : AUDIO CODEC

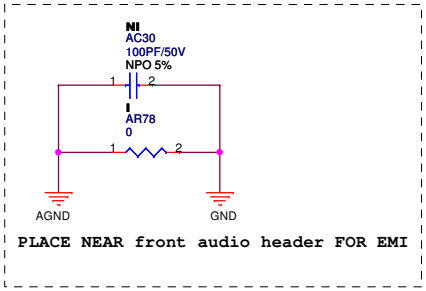
Pegatron Corp. Engineer: Vic_Chen

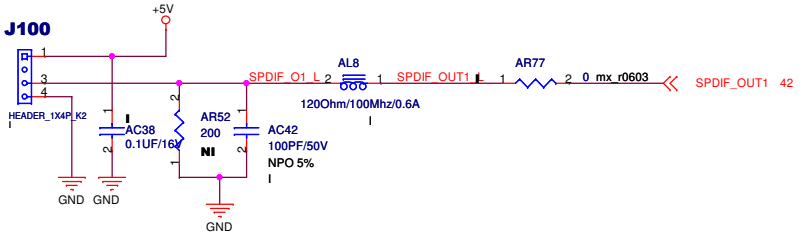
Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 42 of 68



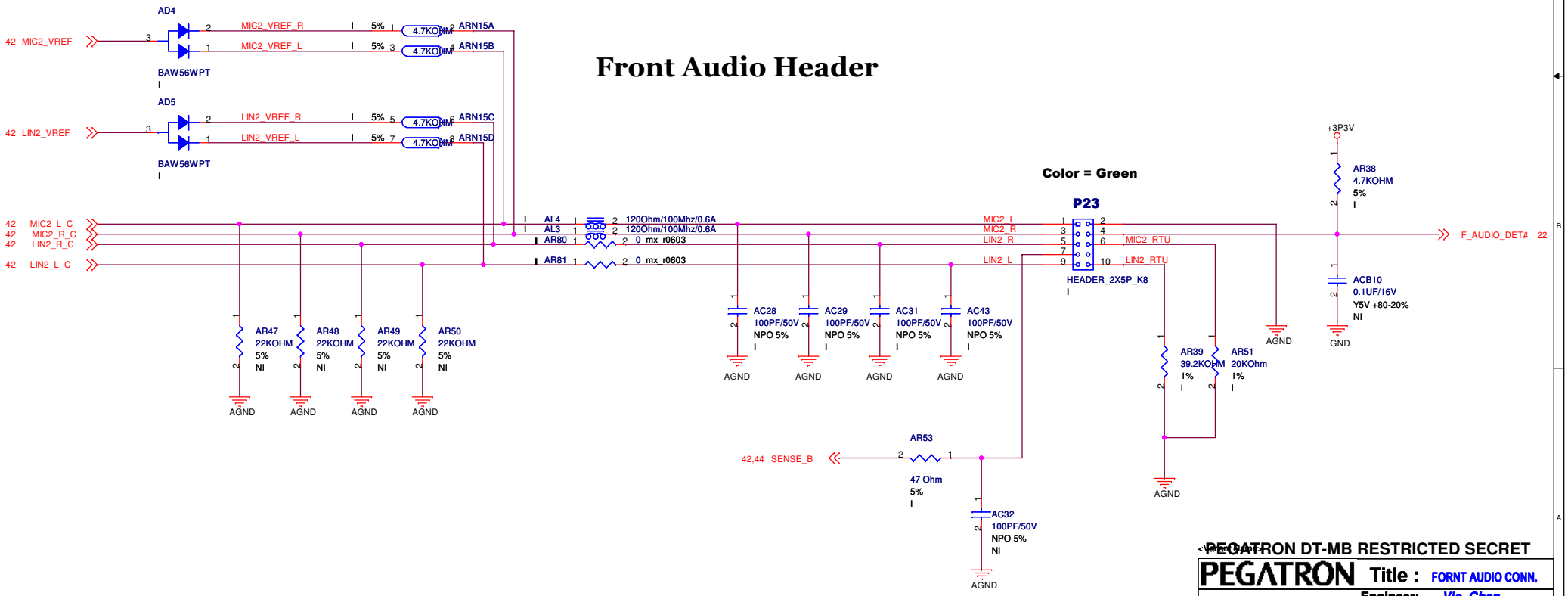
TOP SIDE VIEW





But for other customers (ex, Intel, EPSON, FSC, Dell.....etc), they might don't need 6+3 configuration, just general 6+2 type. If so, please change LINE1 (Pin 23/24) to Rear Line-In port instead of CD-IN, because CD-IN (Pin 18/19/20) port is only dedicated input port and can't retasking

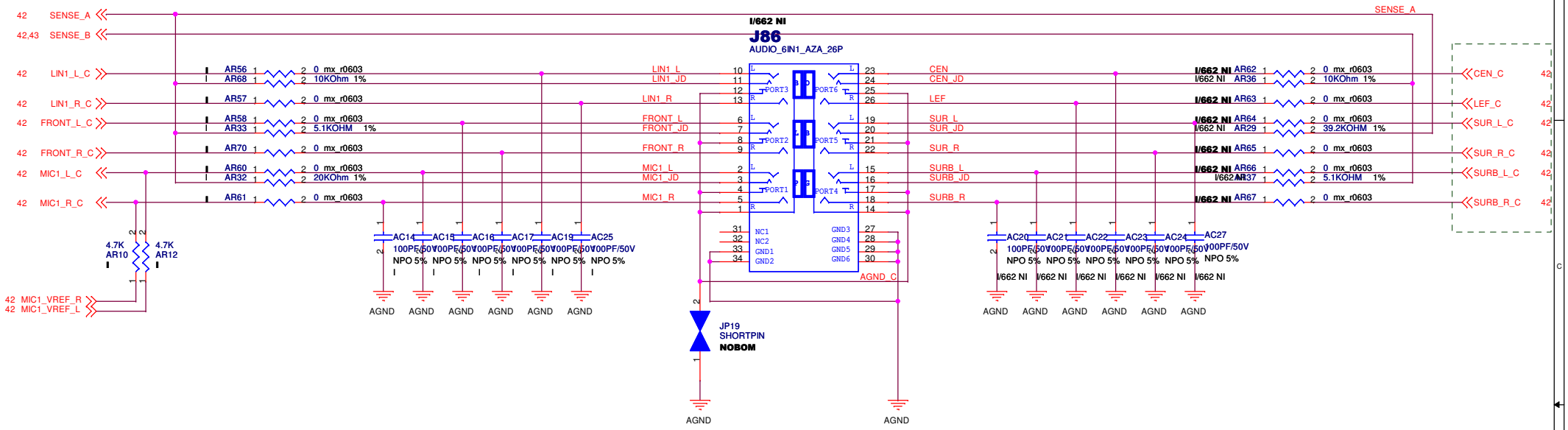
Front Audio Header

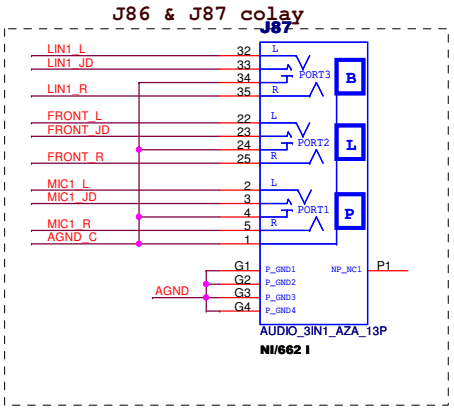


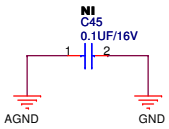
PEGATRON	Title : FORNT AUDIO CONN.	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 43 of 68	

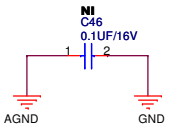
Azalia Rear Audio Connector

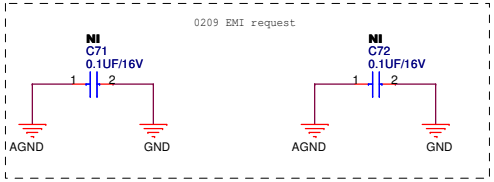
IPMIP-GS R1.01 Change port











PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : REAR AUDIO CONN.

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 44 of 68

NOTE:
Check USB cable internal whether had capacity
NI:BPC
I: CPC

NOTE:
Check USB cable internal whether had capacity
NI: BPC
I: CPC

SRV05 4
TOP SIDE VIEW

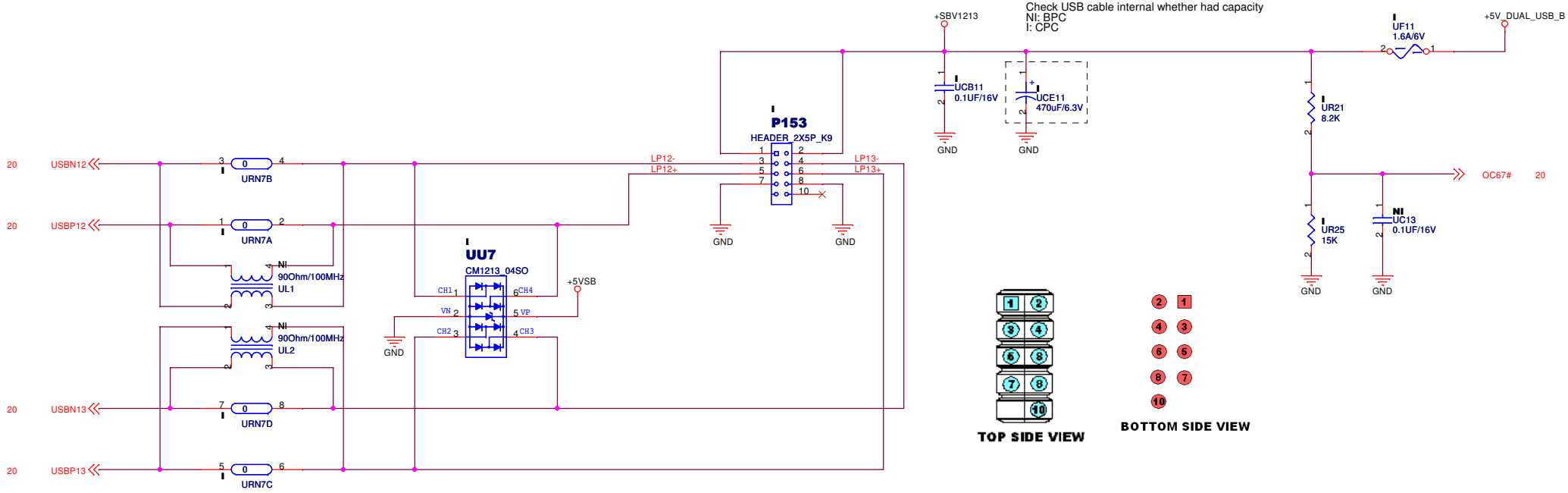
TOP SIDE VIEW

BOTTOM SIDE VIEW

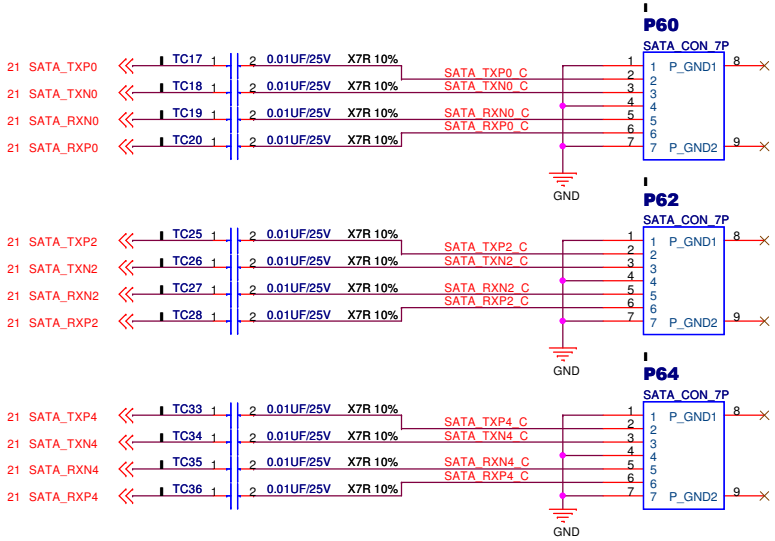
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : USB HEADER CON.	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 45 of 68	

NOTE:
Check USB cable internal whether had capacity
NI: BPC
I: CPC



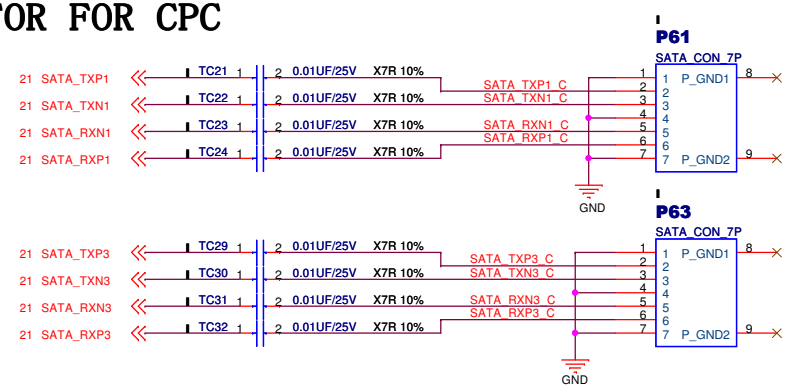
SATA CONNECTOR FOR CPC



SATA CONTROLLER #1
(PRIMARY MASTER)
COLOR = RED

SATA CONTROLLER #1
(PRIMARY MASTER)
COLOR = RED

SATA CONTROLLER #2
(PRIMARY MASTER)
COLOR = RED

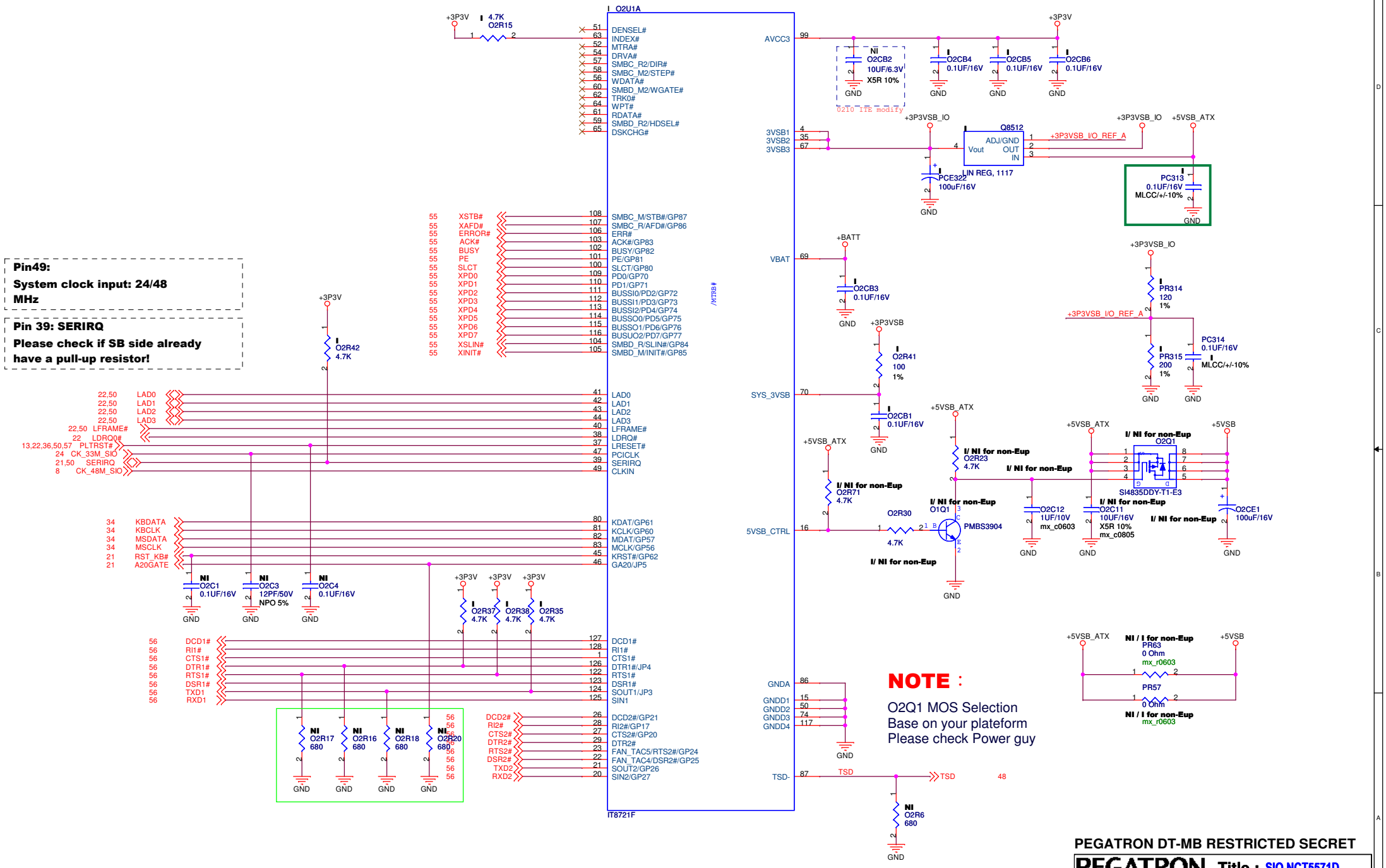


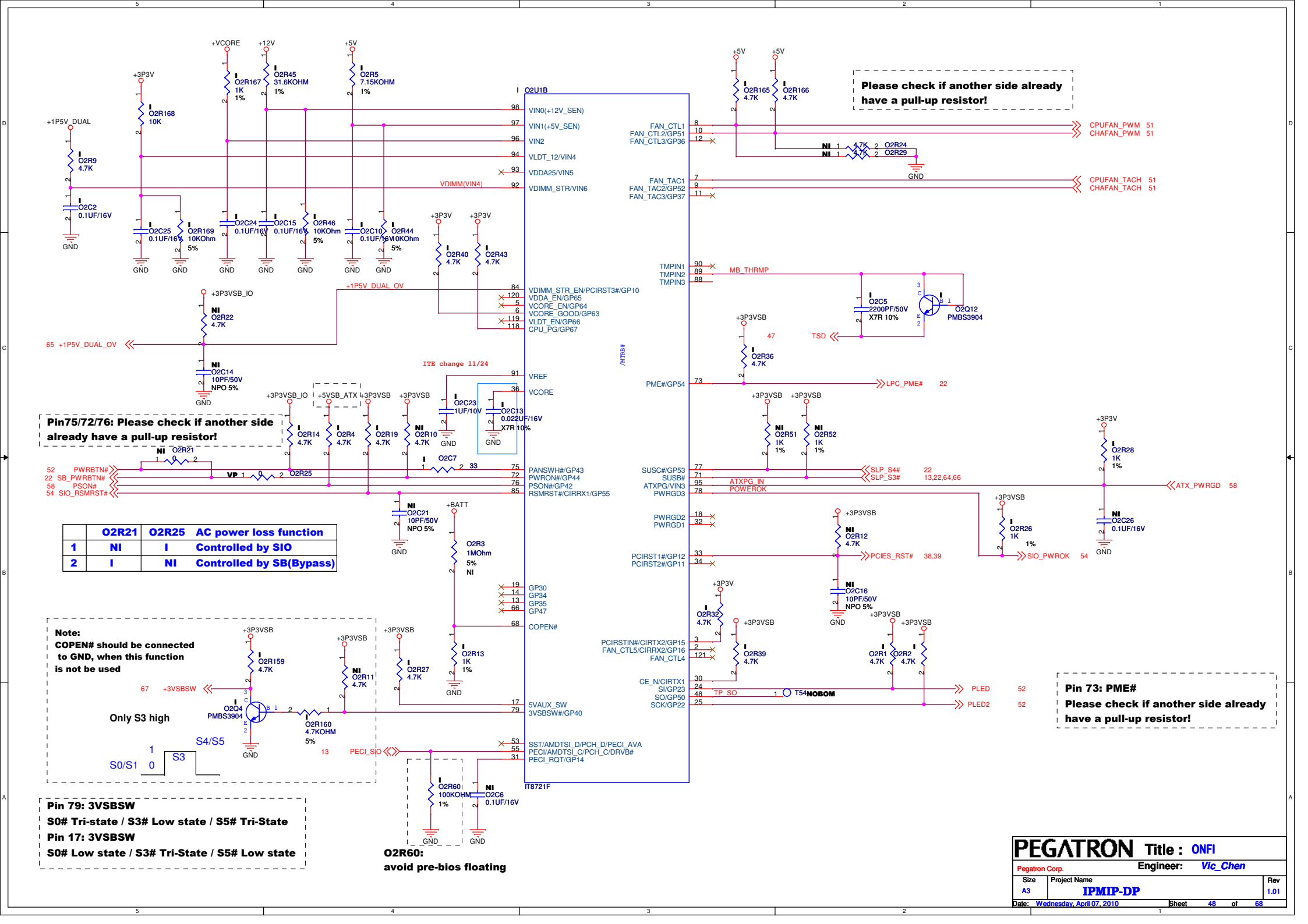
SATA CONTROLLER #1
(SECONDARY MASTER)
COLOR = RED

SATA CONTROLLER #1
(SECONDARY MASTER)
COLOR = RED

PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : USB HEADER CON.	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 46 of 68	


O2U1A
IT8721F
Pin49:
System clock input: 24/48 MHz
Pin 39: SERIRQ
Please check if SB side already have a pull-up resistor!
NOTE :
O2Q1 MOS Selection
Base on your plateform
Please check Power guy
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON Title : SIO NCT5571D
Pegatron Corp. Engineer: Vic_Chen
Size A3
Project Name IPMIP-DP
Rev 1.01
Date: Wednesday, April 07, 2010
Sheet 47 of 68



	O2R21	O2R25	AC power loss function
1	NI	I	Controlled by SIO
2	I	NI	Controlled by SB(Bypass)

SM BUS Control

To PCH, PCI, and PCIE Slot

18,19,38,39,40,41,50 SMB_DATA_R

18,19,38,39,40,41,50 SMB_CLK_R

VP R14 0

VP R39 0

NI Q7 2N7002

NI Q14 2N7002

NI R18 2.7K

NI R19 2.7K

NI R15 8.2K

+3P3V

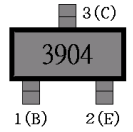
+12V

PWROK_R_Q

To Clock Gen, DIMMs, and ITP Debug Port

SMB_DATA_M 8,16,17,57

SMB_CLK_M 8,16,17,57



TOP SIDE VIEW

SPI BIOS ROM - 64Mbit

19 SPI_CS#

19 SPI_MISO

19 SPI_MOSI

19 SPI_CLK

E16 HEADER_2X4P_K4

NI F3R1 0

F3R5 8.2K

U14 SOCKET_8P NI

SPI_CS# E16

SPI_MISO

FWH_WP#

SPI_HOLD#

F3R6 8.2K

F3CB1 0.1UF/16V

+3P3V_ME

GND

JE16:12

MINI_JUMPER

IPMIP-GS Change SPI to 64Mb

64Mb: 05X00Z2GE330

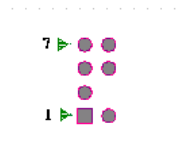
32Mb:05X00Z2FC330

16Mb 05X00Z2EA330

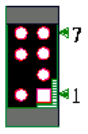
U96 W25Q64BVSSIG

SPI_CLK

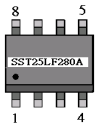
SPI_MOSI



BOTTOM SIDE VIEW



TOP SIDE VIEW



TOP SIDE VIEW

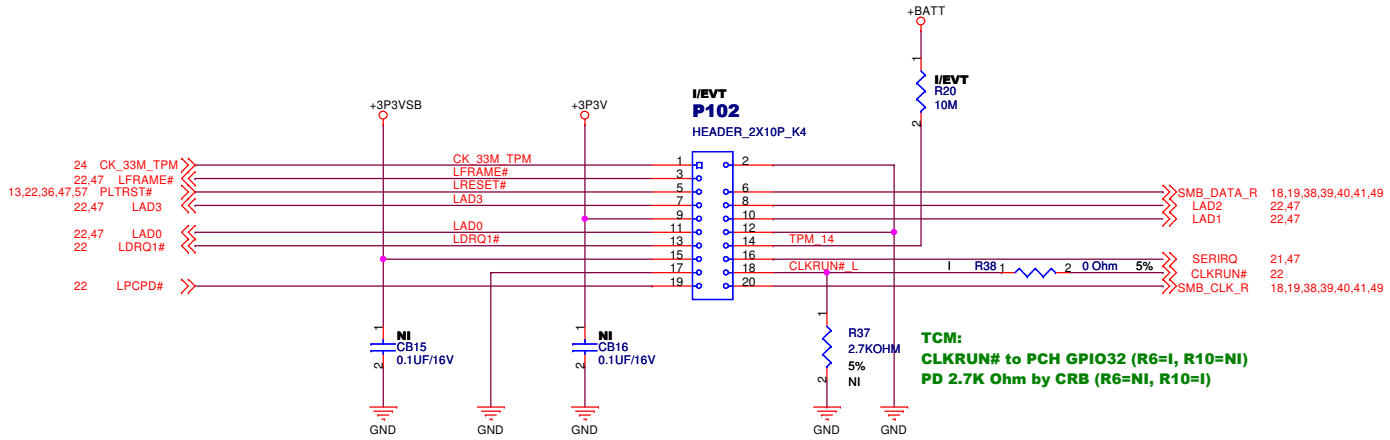
PEGATRON DT-MB RESTRICTED SECRET

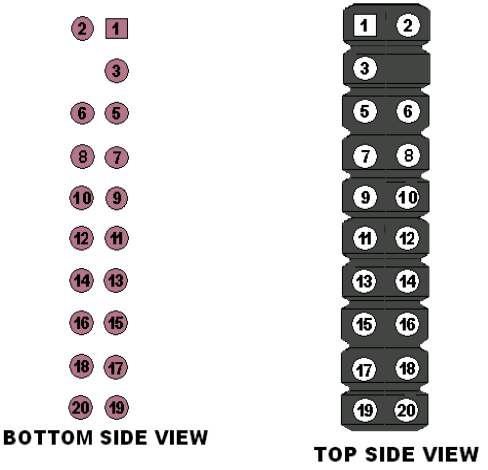
PEGATRON Title : SPI FLASH - 8M

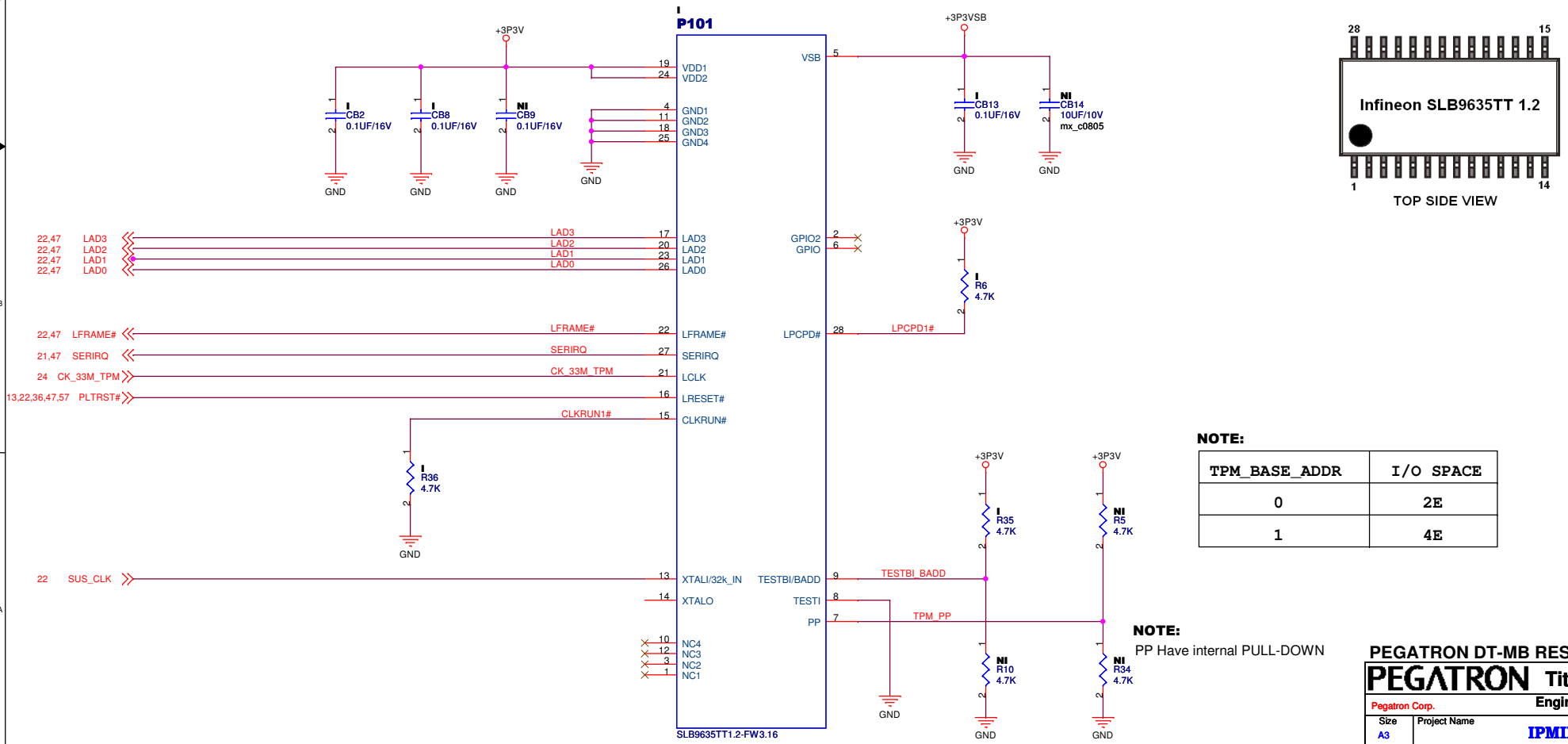
Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 49 of 68







NOTE:

TPM_BASE_ADDR	I/O SPACE
0	2E
1	4E

NOTE:
PP Have internal PULL-DOWN

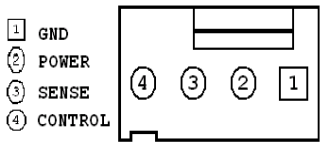
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : SATA2 & TPM/TCM

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 50 of 68



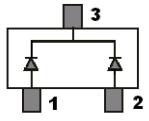
TOP SIDE VIEW

BOTTOM SIDE VIEW

CPU FAN
COLOR: WHITE
W/POST

P70
WAFER_HD_4P
NC

+12V
CE1 100uF/16V
NI CB1 0.01UF/25V X7R 10%
GND
+3P3V
R1 4.7K
+5V
D1 BAT54CW
R2 1K
R3 150 mx_r0805
R4 1.5K
C1 100PF/50V NPO 5%
C2 100PF/50V NPO 5%
CPUFAN_PWM_C
CPUFAN_TACH_C
RCPUFAN_PWM
RCPUFAN_TACH



BAT54CW
TOP SIDE VIEW

RCPUFAN_TACH mx_r0603 OR61 0 Ohm CPUFAN_TACH 48

RCPUFAN_PWM mx_r0603 OR64 /SFSC 0 Ohm CPUFAN_PWM 48

3 & 4 PIN CO-LAYOUT Circuit (Default 3 pin fan)

U6
LM358
FAN_OP_FB
FAN_VB+
FAN_VB-
/4PIN FAN_NI
CB11 0.1UF/16V /4PIN FAN_NI
R25 1K /4PIN FAN_NI
NI R32 1K /4PIN FAN_NI
R29 100K
C56 1000PF/50V X7R 10%
RCHATEM_FANOUT
RSFAN_G
R26 8.2K /4PIN FAN_NI
Q5 APM3095PUC /4PIN FAN_NI
NI R31 0 mx_r1206 /4PIN FAN_I
NI CB10 0.01UF/25V X7R 10%
R27 30K
R28 10K /4PIN FAN_NI
SFAN_PWR
CE6 100uF/16V
NI CB12 0.01UF/25V X7R 10%

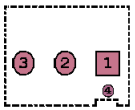
NI P72
WAFER_HD_4P
/4PIN FAN_I

P82
WAFER_HD_3P
/4PIN FAN_NI

3 PIN FAN
COLOR: RED
W/POST

4 PIN FAN
COLOR: WHITE
W/POST

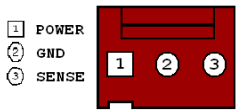
R24 4.7K
NI D6 1N4148WS /4PIN FAN_I
NI R23 1K
NI R30 150 mx_r0805 /4PIN FAN_I
CFAN_PWM_R
CFAN_D
D8 BAW56WPT
RCHATEM_FANOUT
RCHAFANIN



BOTTOM SIDE VIEW

RCHAFANIN OR52 0 Ohm mx_r0603 /NB_FAN/AFSC CHAFAN_TACH 48

RCHATEM_FANOUT OR56 0 Ohm mx_r0603 /NB_FAN/AFSC CHAFAN_PWM 48



TOP SIDE VIEW

3 PIN FAN
COLOR: RED
W/POST

R1.03G

PEGATRON DT-MB RESTRICTED SECRET

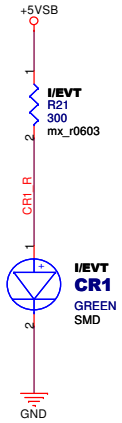
PEGATRON Title : 4-PIN FAN CONN

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Thursday, April 08, 2010 Sheet 51 of 68

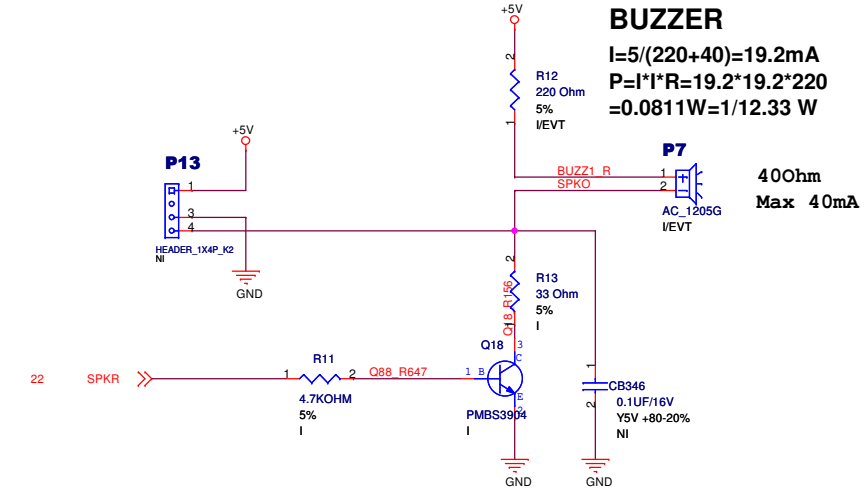
+5VSB : GREEN



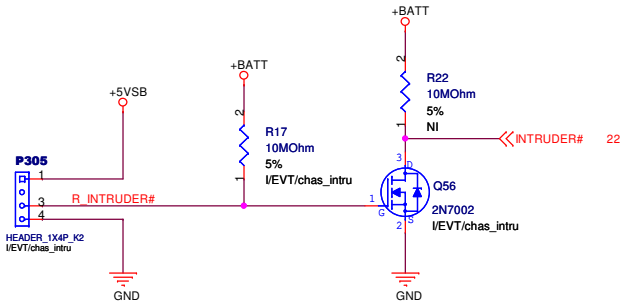
BUZZER

I=5/(220+40)=19.2mA
P=I*I*R=19.2*19.2*220
=0.0811W=1/12.33 W

40Ohm
Max 40mA



INTRUDER

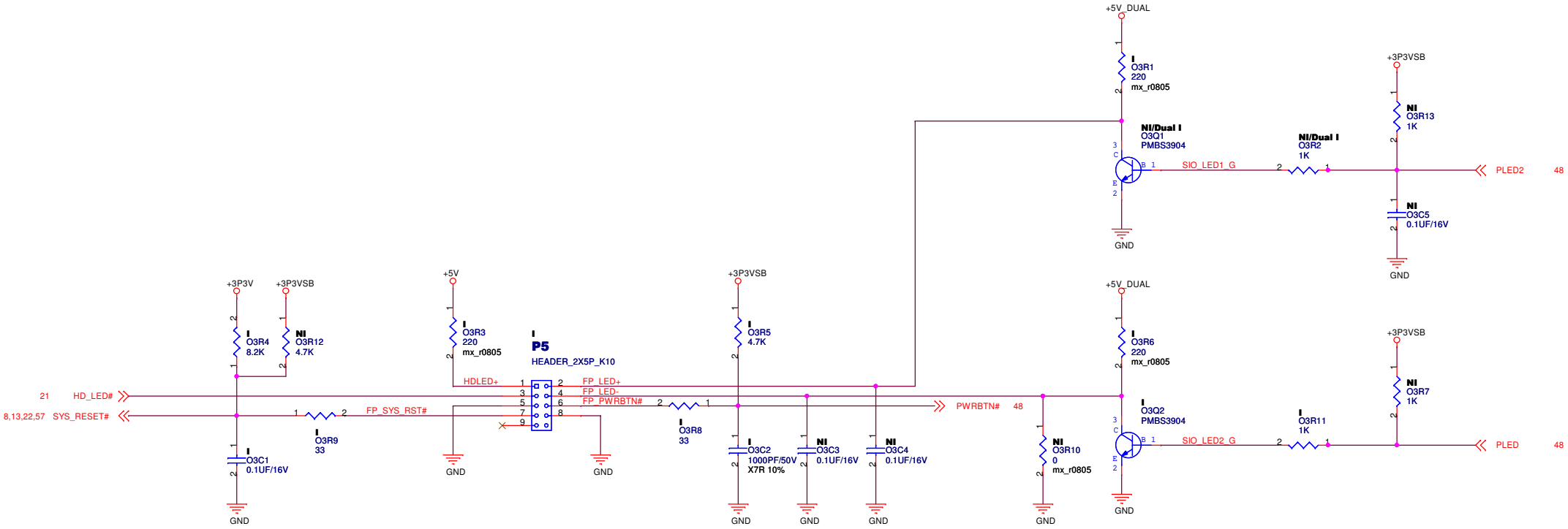


JP305:34

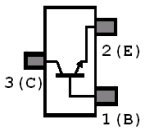
MINI_JUMPER

I/EVT

HPD CONTROL PANEL / LED CIRCUITRY



FRONT POWER LED COLOR SUPPORT	O3Q1	O3R2			
SINGLE COLOR	NI	NI			
DUAL COLOR	I	I			



PMBS3904
TOP SIDE VIEW

PEGATRON DT-MB RESTRICTED SECRET

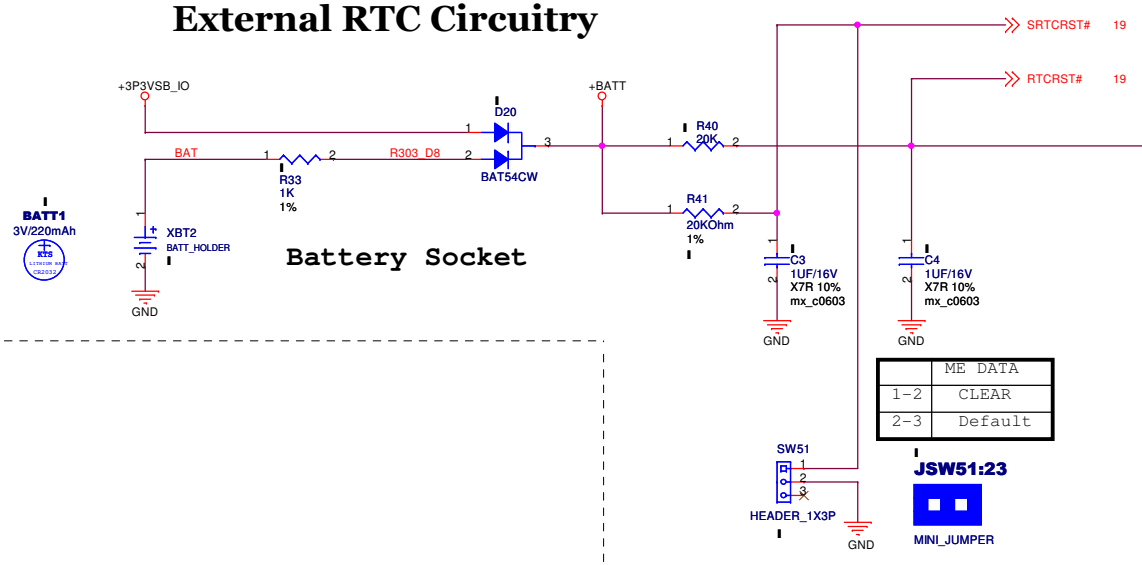
PEGATRON Title : FRONT PANEL

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 52 of 68

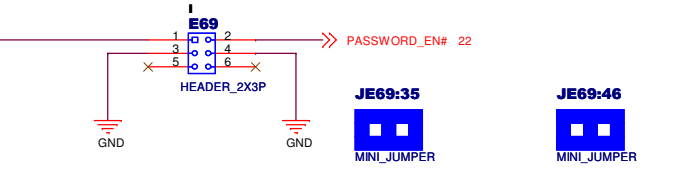
External RTC Circuitry



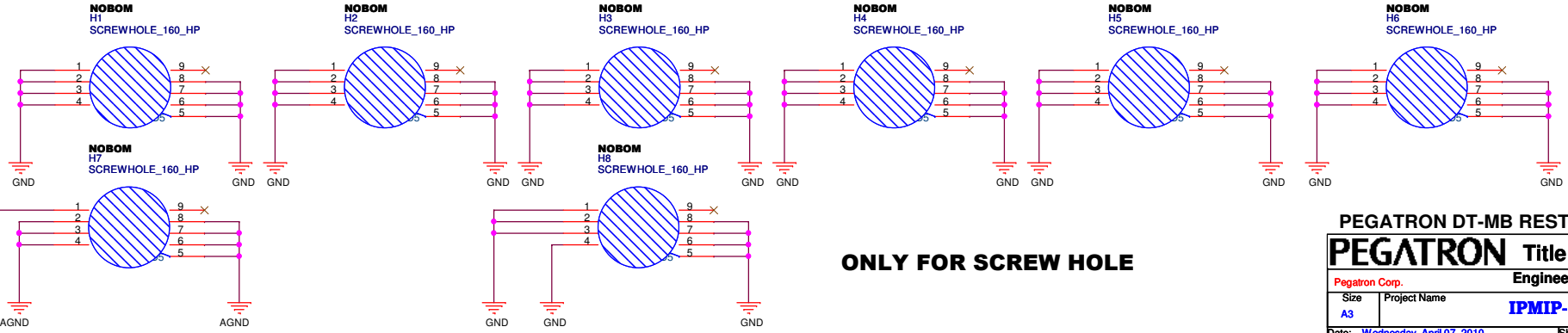
	ME DATA
1-2	CLEAR
2-3	Default

SW51
HEADER_1X3P
JSW51:23
MINI_JUMPER

CLEAR CMOS & PASSWORD



CLEAR PASSWORD & CMOS		
	Clear PW	Clear CMOS
DEFAULT	3 - 5	4 - 6
CLEAR	1 - 3	2 - 4



ONLY FOR SCREW HOLE

PEGATRON DT-MB RESTRICTED SECRET

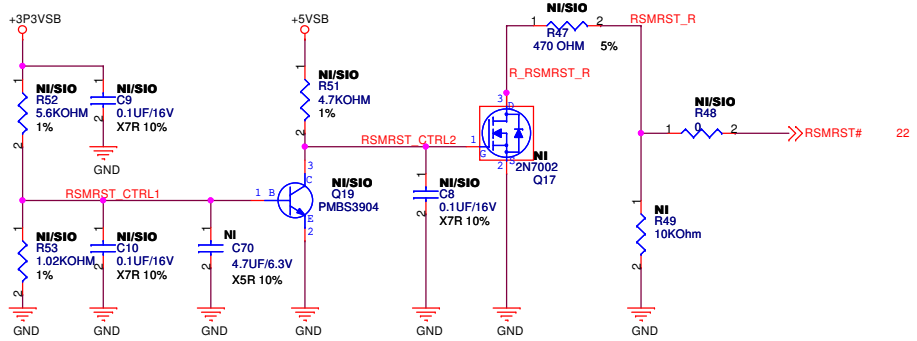
PEGATRON Title : RTC / CMOS / KBMS

Pegatron Corp. Engineer: Vic_Chen

Size	Project Name	Rev
A3	IPMIP-DP	1.01

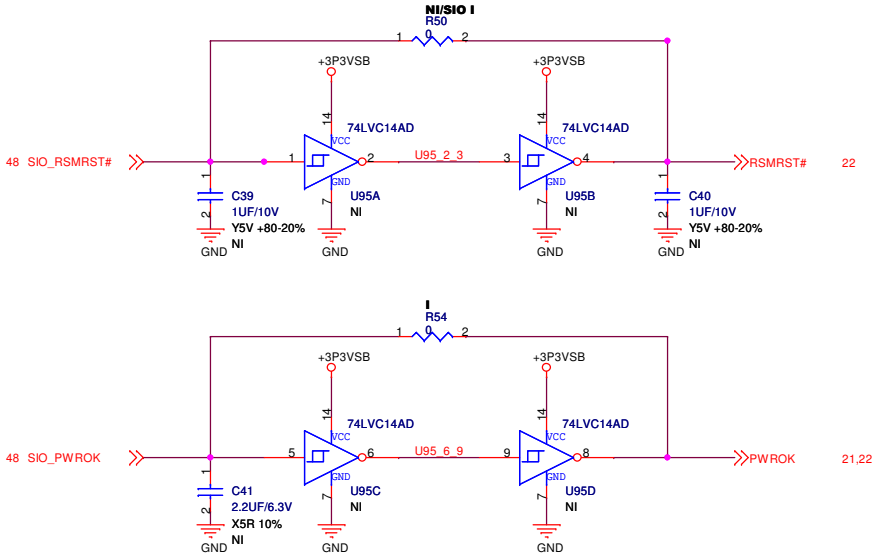
Date: Wednesday, April 07, 2010 Sheet 53 of 68

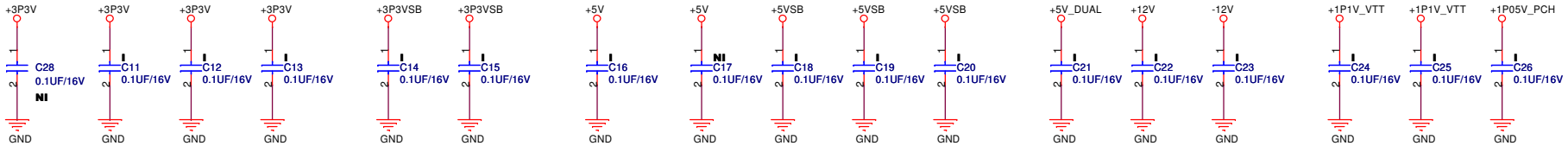
RSMRST CIRCUIT

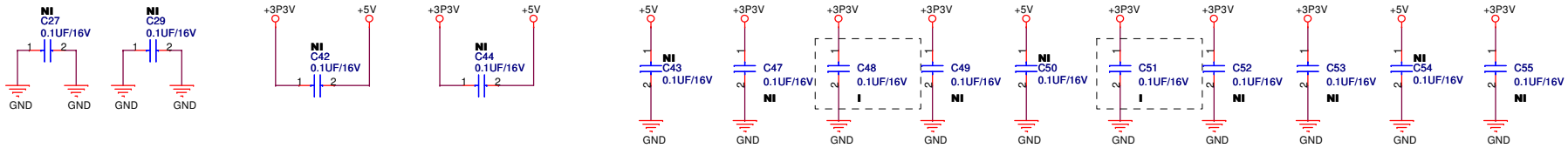


10/02/01 Modify
1.Q17,3904 to 2N7002 (0201change)
2.R52,pull high form +5VSB to +3P3VSB
3.R51,pull high from +3P3VSB to +5VSB
4.Add,C70

Schmitt-trigger for RTC issue

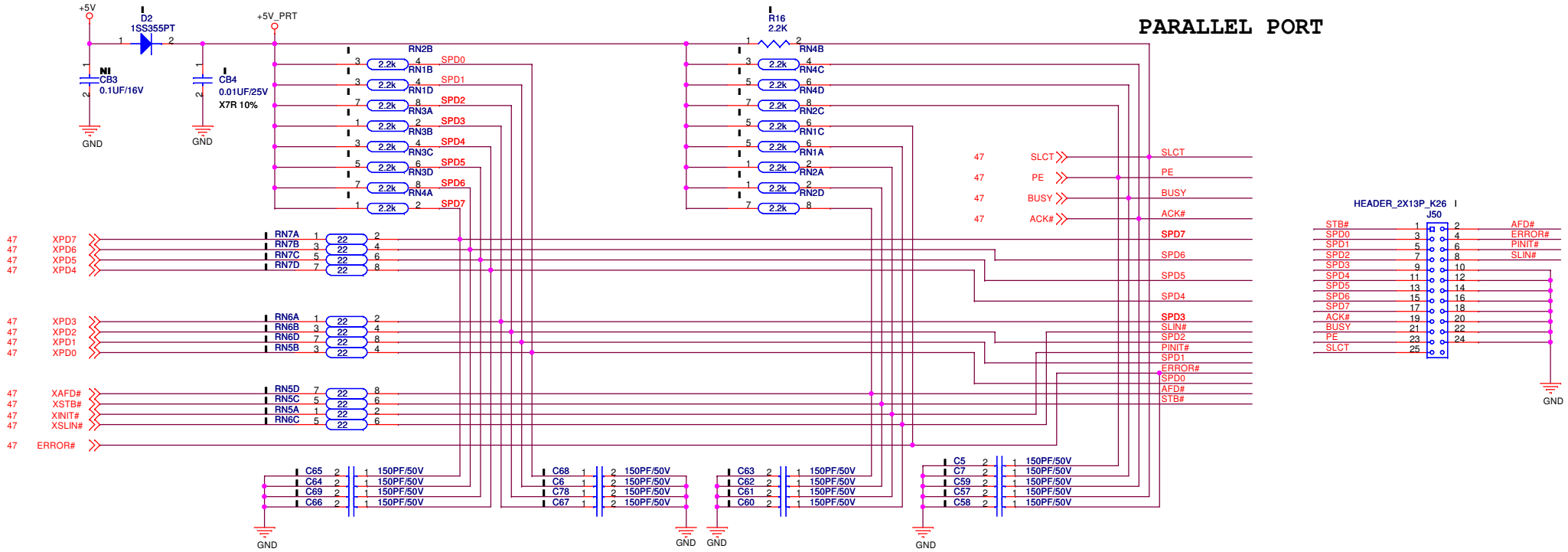






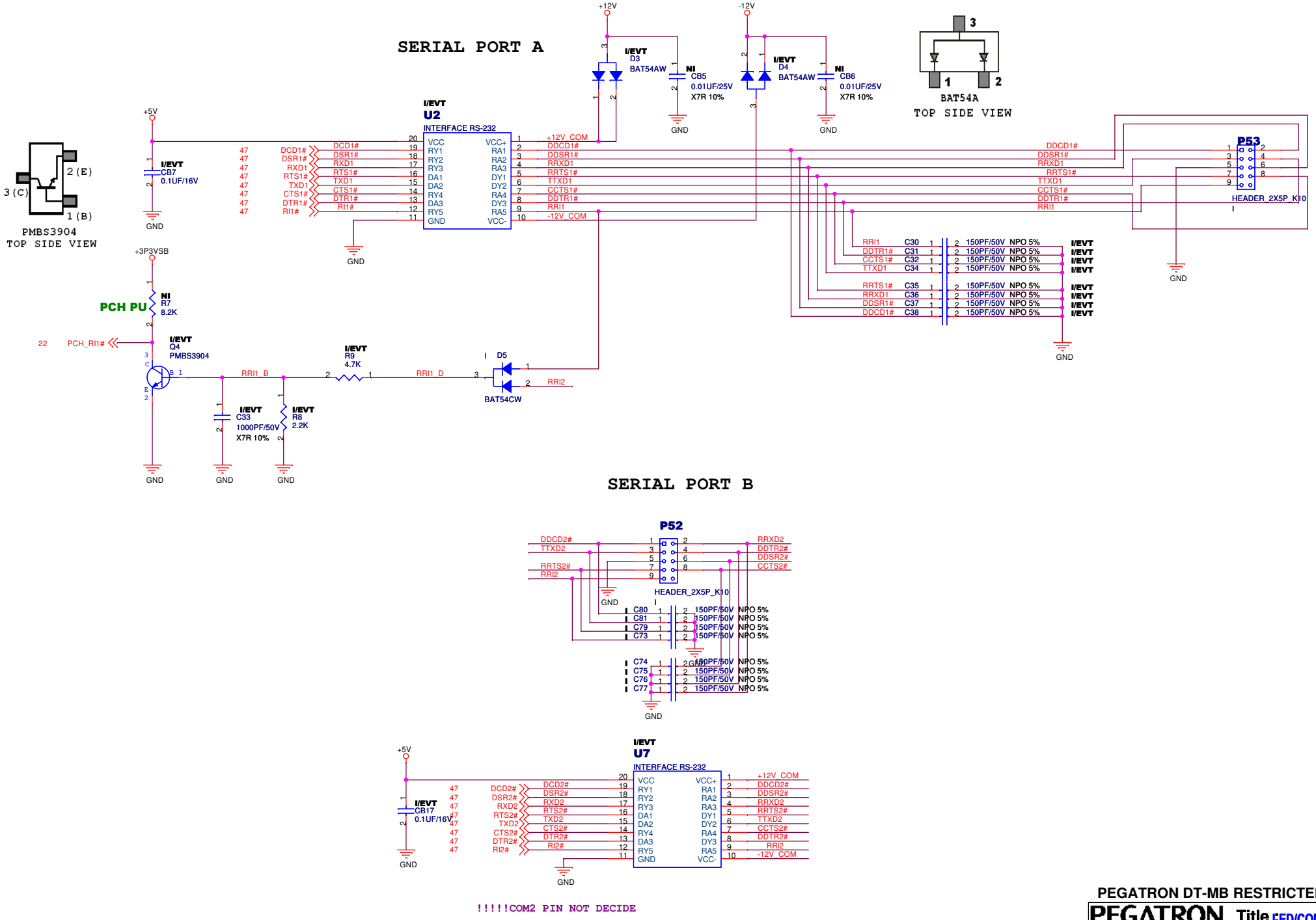
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : RSMRST CIRCUIT	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 54 of 68	

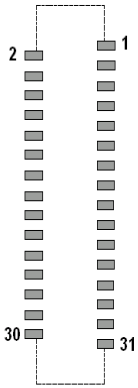


PEGATRON DT-MB RESTRICTED SECRET

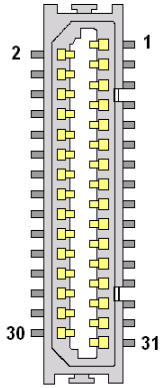
PEGATRON	Title : HDMI Connector	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 55 of 68	


SERIAL PORT A
PMBS3904
TOP SIDE VIEW
BAT54A
TOP SIDE VIEW
U2
INTERFACE RS-232
P53
HEADER_2X5P_K10
PCH PU
Q4
PMBS3904
D5
BAT54CW
SERIAL PORT B
P52
HEADER_2X5P_K10
U7
INTERFACE RS-232
!!!!!COM2 PIN NOT DECIDE
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : LED/COM/SPKR/INTRU
Pegatron Corp.
Engineer: Vic_Chen
Size A3
Project Name IPMIP-DP
Rev 1.01
Date: Wednesday, April 07, 2010
Sheet 56 of 68

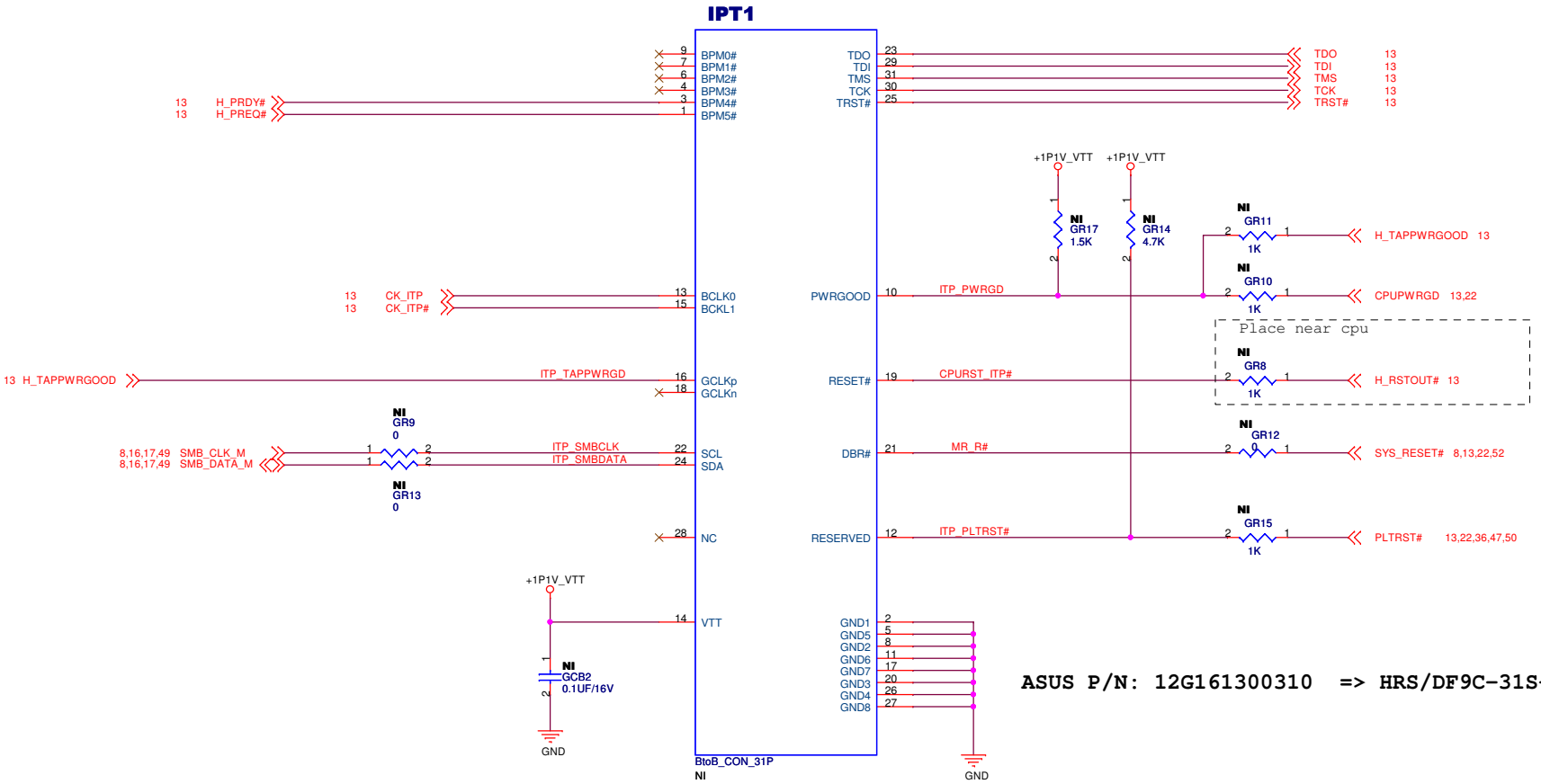
INTEL LGA-775 PROCESSOR ITP DEBUG PORT



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



HRS/DF9C-31S-1V(22)
TOP SIDE VIEW



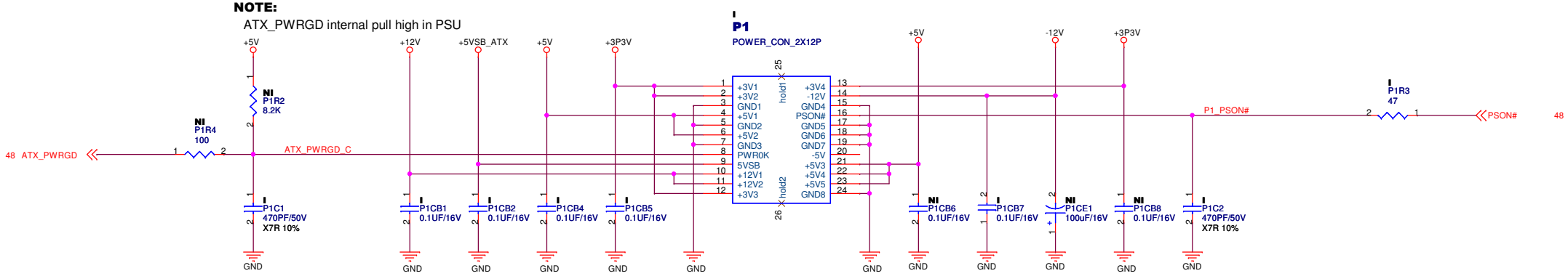
ASUS P/N: 12G161300310 => HRS/DF9C-31S-1V(22)

PEGATRON DT-MB RESTRICTED SECRET

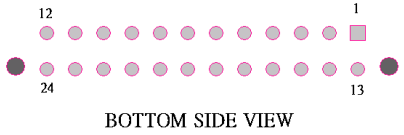
PEGATRON	Title : CPU ITP Debug CONN	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 57 of 68	

ATX POWER_24P SUPPLY CONNECTOR

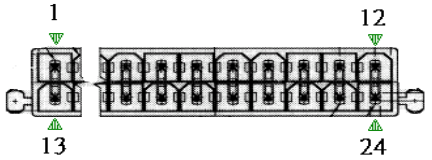
NOTE:
ATX_PWRGD internal pull high in PSU



All of the Caps Around the ATX Power Connector



BOTTOM SIDE VIEW



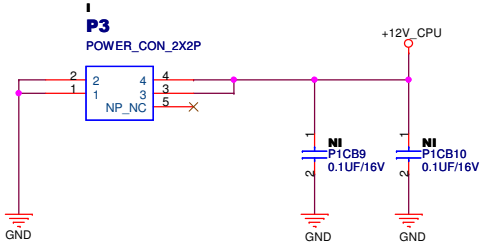
TOP SIDE VIEW

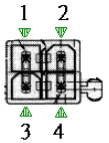
PCB

PCB38

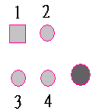
IPMIP-GS R1.00 RED
08M1-0UX0200

VRM POWER_4P SUPPLY CONNECTOR





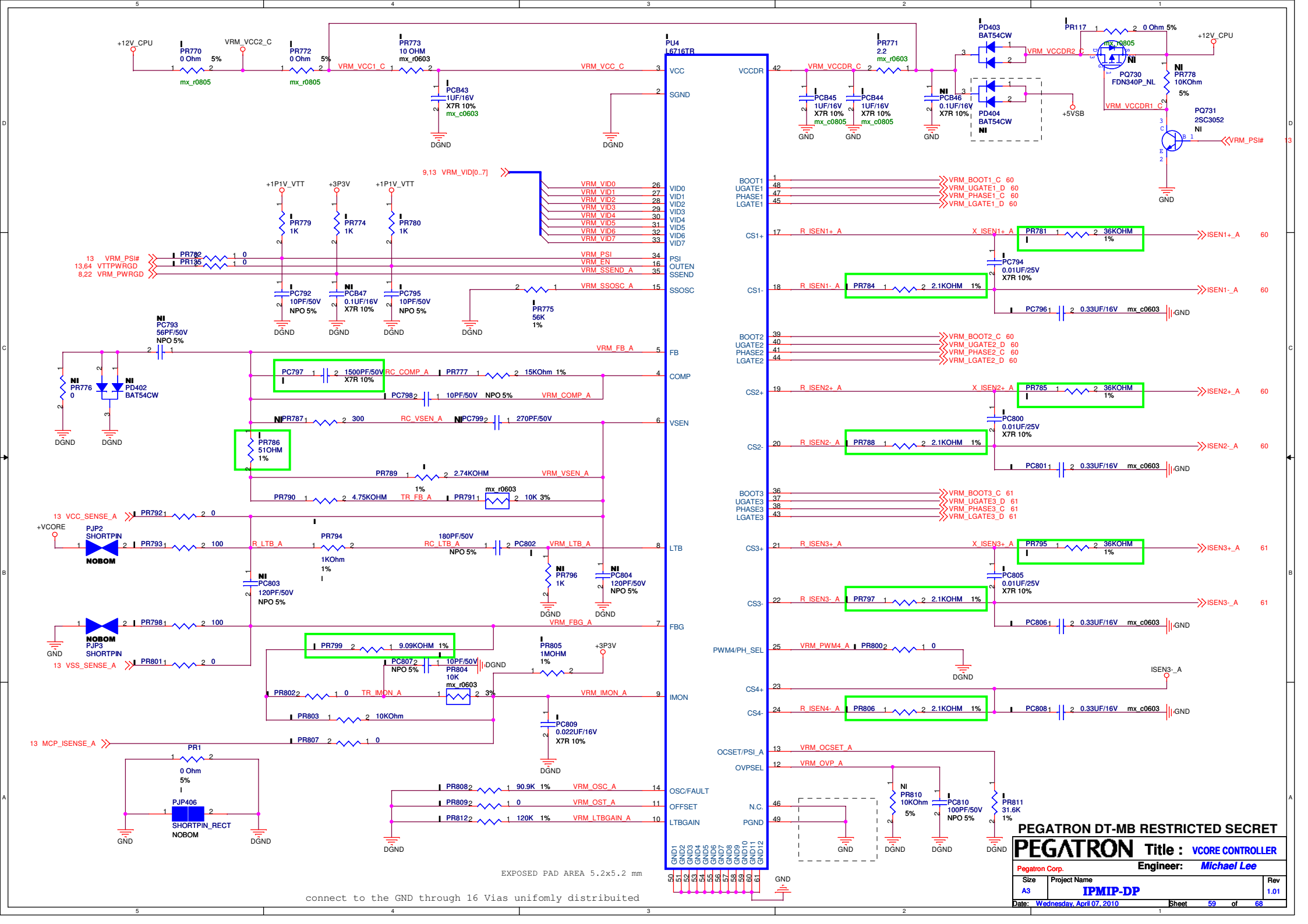
TOP SIDE VIEW

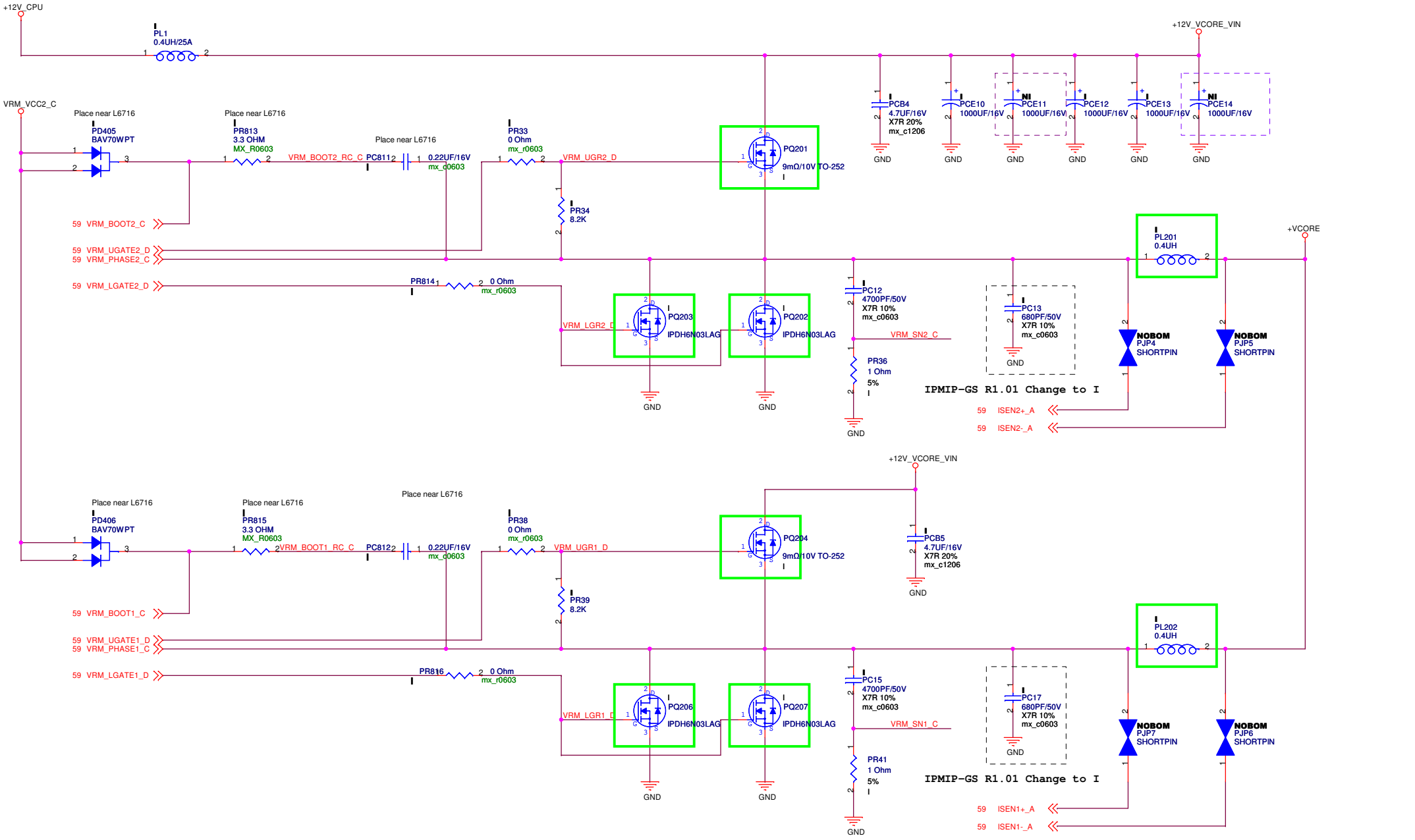


BOTTOM SIDE VIEW

PEGATRON DT-MB RESTRICTED SECRET

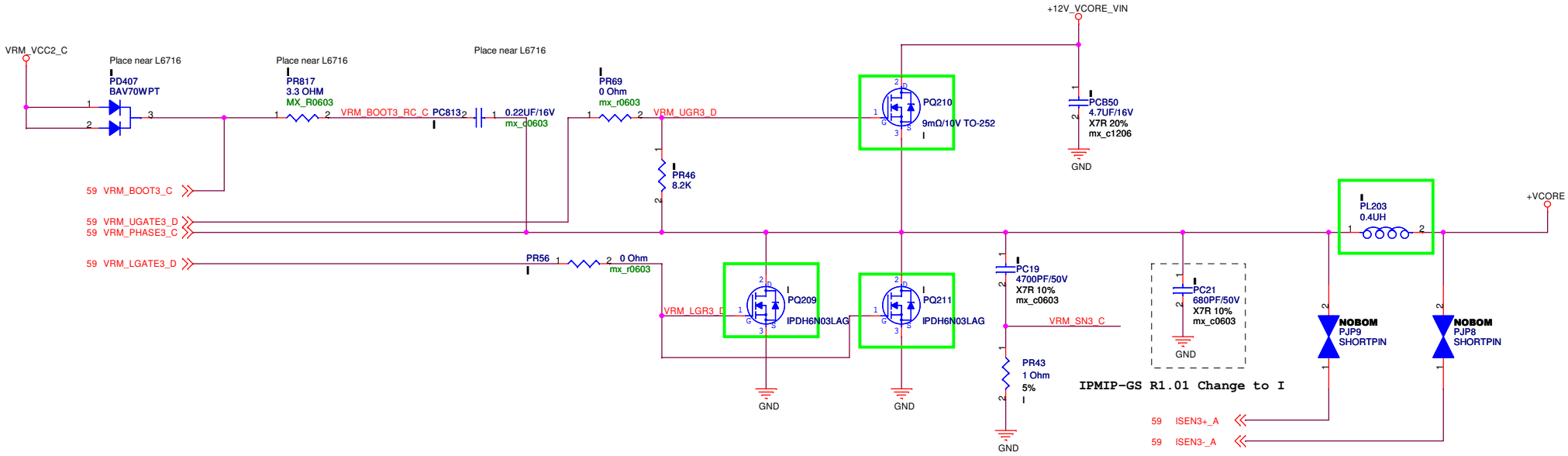
PEGATRON	Title : ATX POWER	
Pegatron Corp.	Engineer: Vic_Chen	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 58 of 68	

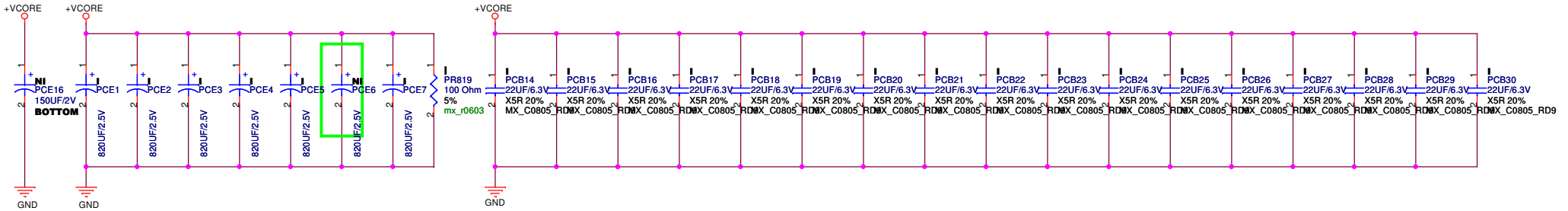

+12V_CPU
PR770 0 Ohm 5% mx_r0805
VRM_VCC2_C
PR772 0 Ohm 5% mx_r0805
VRM_VCC1_C
PR773 10 OHM mx_r0603
VRM_VCC_C
PCB43 1UF/16V X7R 10% mx_c0603
DGND
PU4 L6716TR
VCC
SGND
PR771 2.2 mx_r0603
VRM_VCCDR_C
PD403 BAT54CW
VRM_VCCDR2_C
PR117 0 Ohm 5%
mx_r0805
PQ730 FDN340P_NL
PR778 10KOhm 5%
VRM_VCCDR1_C
PQ731 2SC3052 NI
VRM_PSI#
PCB45 1UF/16V X7R 10% mx_c0805
PCB44 1UF/16V X7R 10% mx_c0805
PCB46 0.1UF/16V X7R 10%
PD404 BAT54CW NI
+5VSB
GND
VCCDR
9,13 VRM_VID[0..7]
VRM_VID0
VRM_VID1
VRM_VID2
VRM_VID3
VRM_VID4
VRM_VID5
VRM_VID6
VRM_VID7
VID0
VID1
VID2
VID3
VID4
VID5
VID6
VID7
+1P1V_VTT
+3P3V
PR779 1K
PR774 1K
PR780 1K
13 VRM_PSI#
13,64 VTTPWRGD
8,22 VRM_PWRGD
PR782 0
PR135 0
VRM_PSI
VRM_EN
VRM_SSEND_A
PSI
OUTEN
SSEND
PC792 10PF/50V NPO 5%
NI PCB47 0.1UF/16V X7R 10%
PC795 10PF/50V NPO 5%
VRM_SSOSC_A
SSOSC
PR775 56K 1%
BOOT1
UGATE1
PHASE1
LGATE1
VRM_BOOT1_C 60
VRM_UGATE1_D 60
VRM_PHASE1_C 60
VRM_LGATE1_D 60
CS1+
R_ISEN1+_A
X_ISEN1+_A
PR781 36KOHM 1%
ISEN1+_A 60
PC794 0.01UF/25V X7R 10%
CS1-
R_ISEN1-_A
PR784 2.1KOHM 1%
ISEN1-_A 60
PC796 0.33UF/16V mx_c0603
NI PC793 56PF/50V NPO 5%
NI PR776 0
NI PD402 BAT54CW
VRM_FB_A
FB
PC797 1500PF/50V X7R 10%
RC_COMP_A
PR777 15KOhm 1%
COMP
PC798 10PF/50V NPO 5%
VRM_COMP_A
NI PR787 300
RC_VSEN_A
NI PC799 270PF/50V
VSEN
PR786 51OHM 1%
PR789 2.74KOHM 1%
VRM_VSEN_A
PR790 4.75KOHM 1%
TR_FB_A
PR791 10K 3%
mx_r0603
BOOT2
UGATE2
PHASE2
LGATE2
VRM_BOOT2_C 60
VRM_UGATE2_D 60
VRM_PHASE2_C 60
VRM_LGATE2_D 60
CS2+
R_ISEN2+_A
X_ISEN2+_A
PR785 36KOHM 1%
ISEN2+_A 60
PC800 0.01UF/25V X7R 10%
CS2-
R_ISEN2-_A
PR788 2.1KOHM 1%
ISEN2-_A 60
PC801 0.33UF/16V mx_c0603
13 VCC_SENSE_A
PR792 0
+VCORE
PJP2 SHORTPIN NOBOM
PR793 100
R_LTB_A
PR794 1KOhm 1%
180PF/50V NPO 5%
RC_LTB_A
PC802
VRM_LTB_A
LTB
NI PC803 120PF/50V NPO 5%
NI PR796 1K
NI PC804 120PF/50V NPO 5%
BOOT3
UGATE3
PHASE3
LGATE3
VRM_BOOT3_C 61
VRM_UGATE3_D 61
VRM_PHASE3_C 61
VRM_LGATE3_D 61
CS3+
R_ISEN3+_A
X_ISEN3+_A
PR795 36KOHM 1%
ISEN3+_A 61
PC805 0.01UF/25V X7R 10%
CS3-
R_ISEN3-_A
PR797 2.1KOHM 1%
ISEN3-_A 61
PC806 0.33UF/16V mx_c0603
NOBOM PJP3 SHORTPIN
PR798 100
13 VSS_SENSE_A
PR801 0
VRM_FBG_A
FBG
PR799 9.09KOHM 1%
PC807 10PF/50V NPO 5%
PR804 10K mx_r0603
PR805 1MOHM 1%
+3P3V
PWM4/PH_SEL
VRM_PWM4_A
PR800 0
ISEN3-_A
CS4+
CS4-
R_ISEN4-_A
PR806 2.1KOHM 1%
PC808 0.33UF/16V mx_c0603
PR802 0
TR_IMON_A
VRM_IMON_A
IMON
PR803 10KOhm
PC809 0.022UF/16V X7R 10%
13 MCP_ISENSE_A
PR1 0 Ohm 5%
PJP406 SHORTPIN_RECT NOBOM
OCSET/PSI_A
VRM_OCSET_A
OVPSEL
VRM_OVP_A
NI PR810 10KOhm 5%
PC810 100PF/50V NPO 5%
PR811 31.6K 1%
PR808 90.9K 1%
VRM_OSC_A
PR809 0
VRM_OST_A
PR812 120K 1%
VRM_LTBGAIN_A
OSC/FAULT
OFFSET
LTBGAIN
N.C.
PGND
GND1
GND2
GND3
GND4
GND5
GND6
GND7
GND8
GND9
GND10
GND11
GND12
EXPOSED PAD AREA 5.2x5.2 mm
connect to the GND through 16 Vias unifomly distribuited
PEGATRON DT-MB RESTRICTED SECRET
PEGATRON
Title : VCORE CONTROLLER
Pegatron Corp.
Engineer: Michael Lee
Size A3
Project Name IPMIP-DP
Rev 1.01
Date: Wednesday, April 07, 2010
Sheet 59 of 68



PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : VCORE DRIVER-1	
Pegatron Corp.	Engineer: Michael Lee	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 60 of 68	





+CPU VCORE OUTPUT CAPs

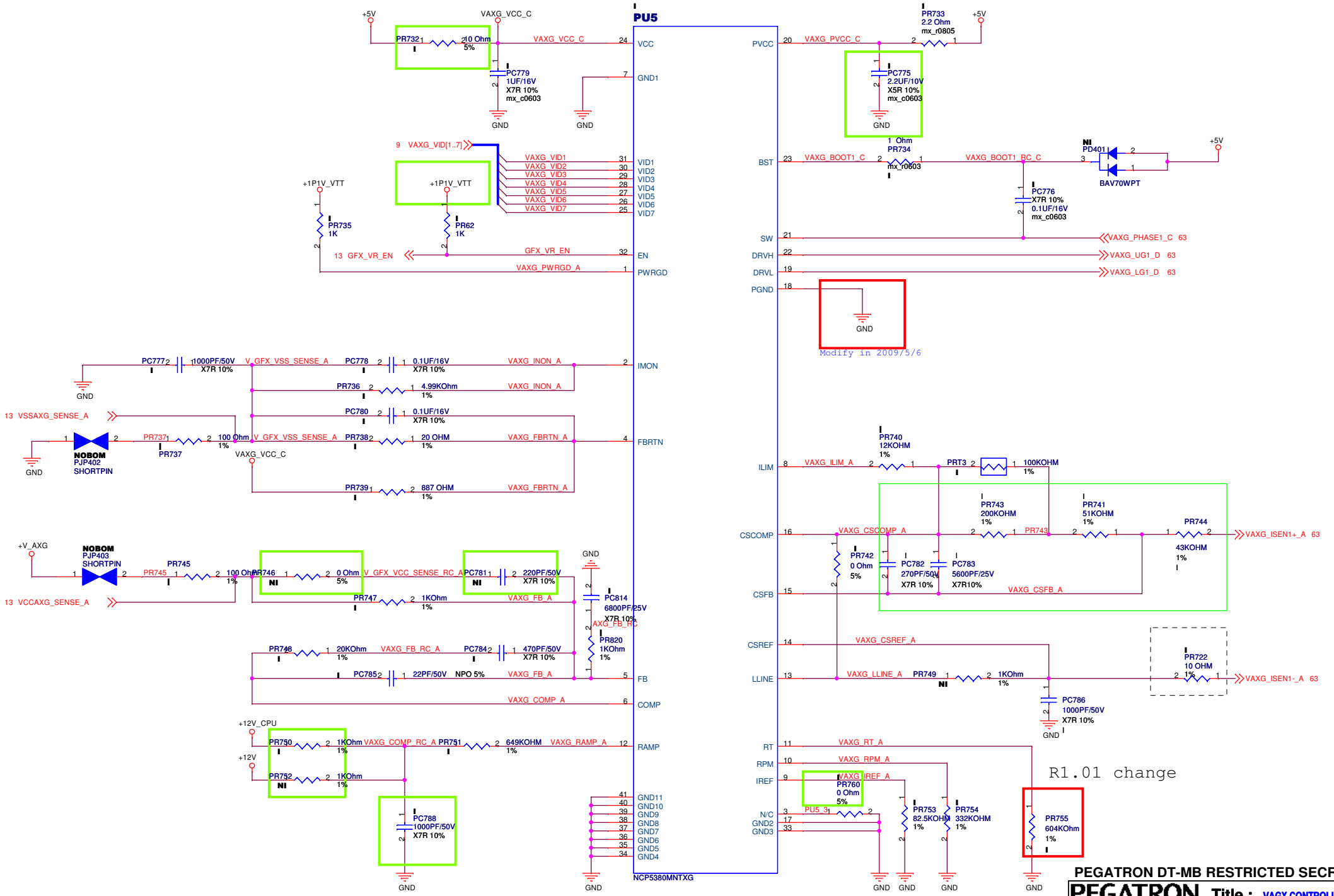
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : VCORE DRIVER-2

Pegatron Corp. Engineer: Michael Lee

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 61 of 68



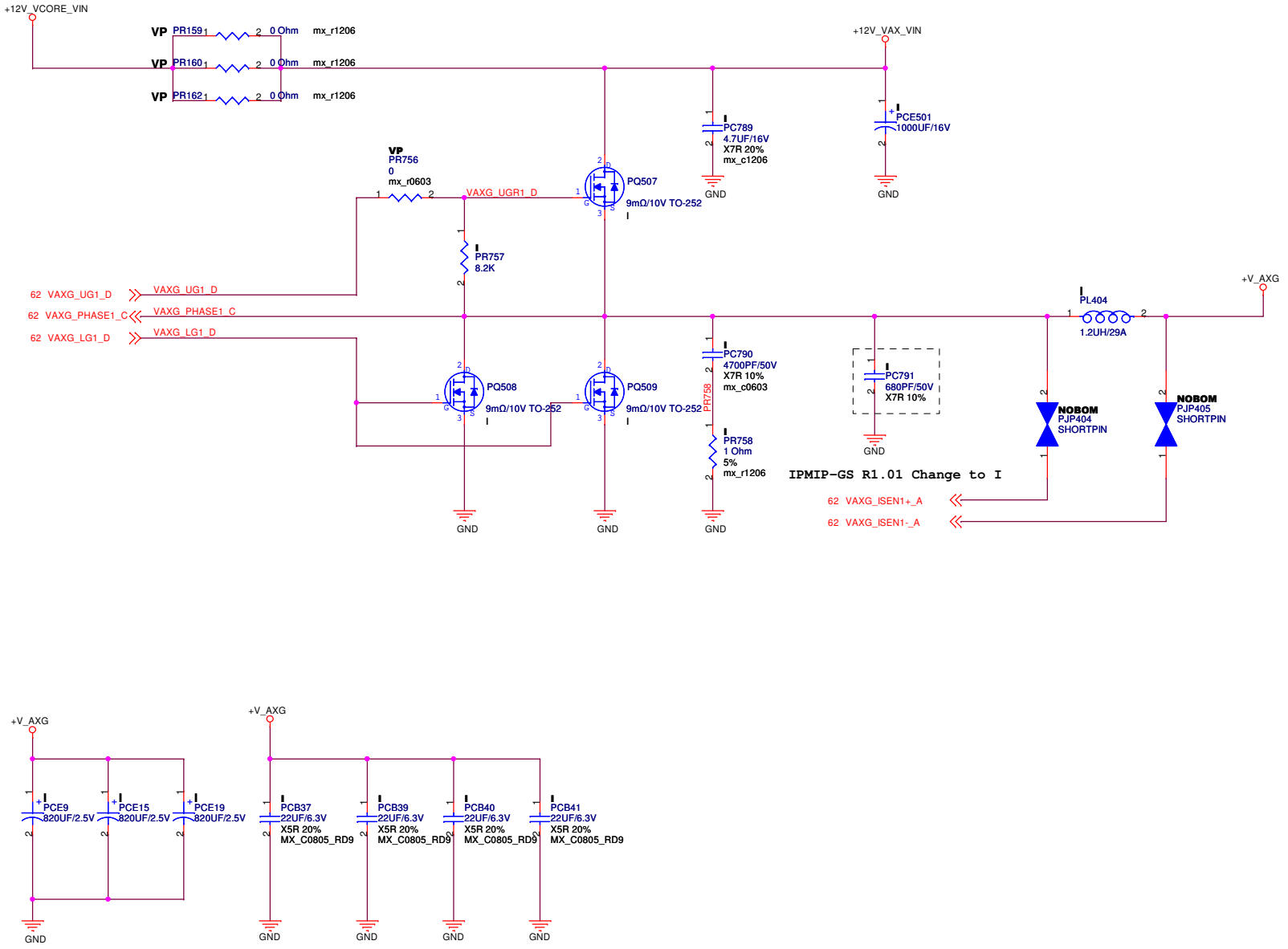
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : VAGX CONTROLLER

Pegatron Corp. Engineer: Michael Lee

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 62 of 68



PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : VAGX DRIVER

Pegatron Corp. Engineer: Michael Lee

Size	Project Name	Rev
A3	IPMIP-DP	1.01

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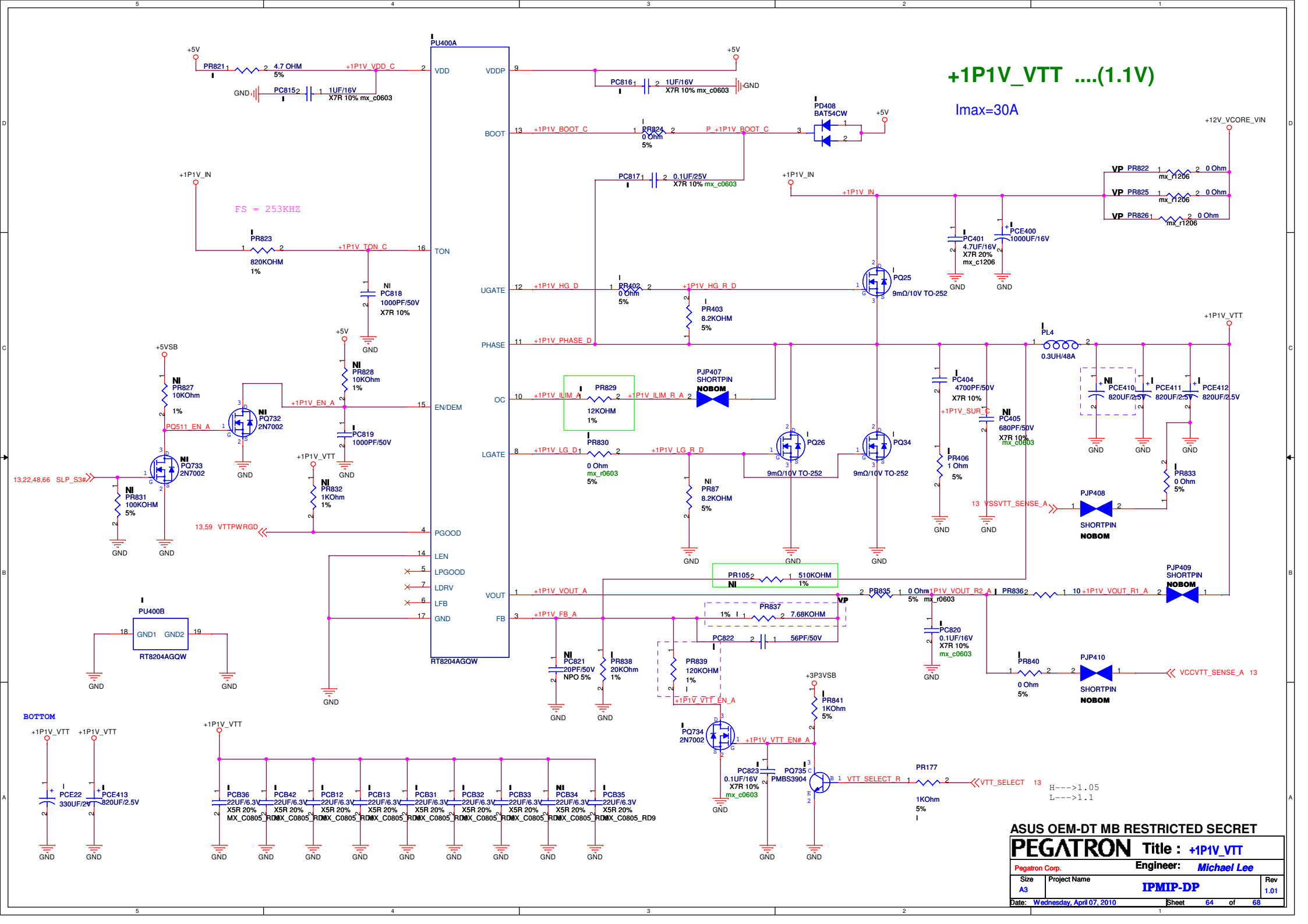
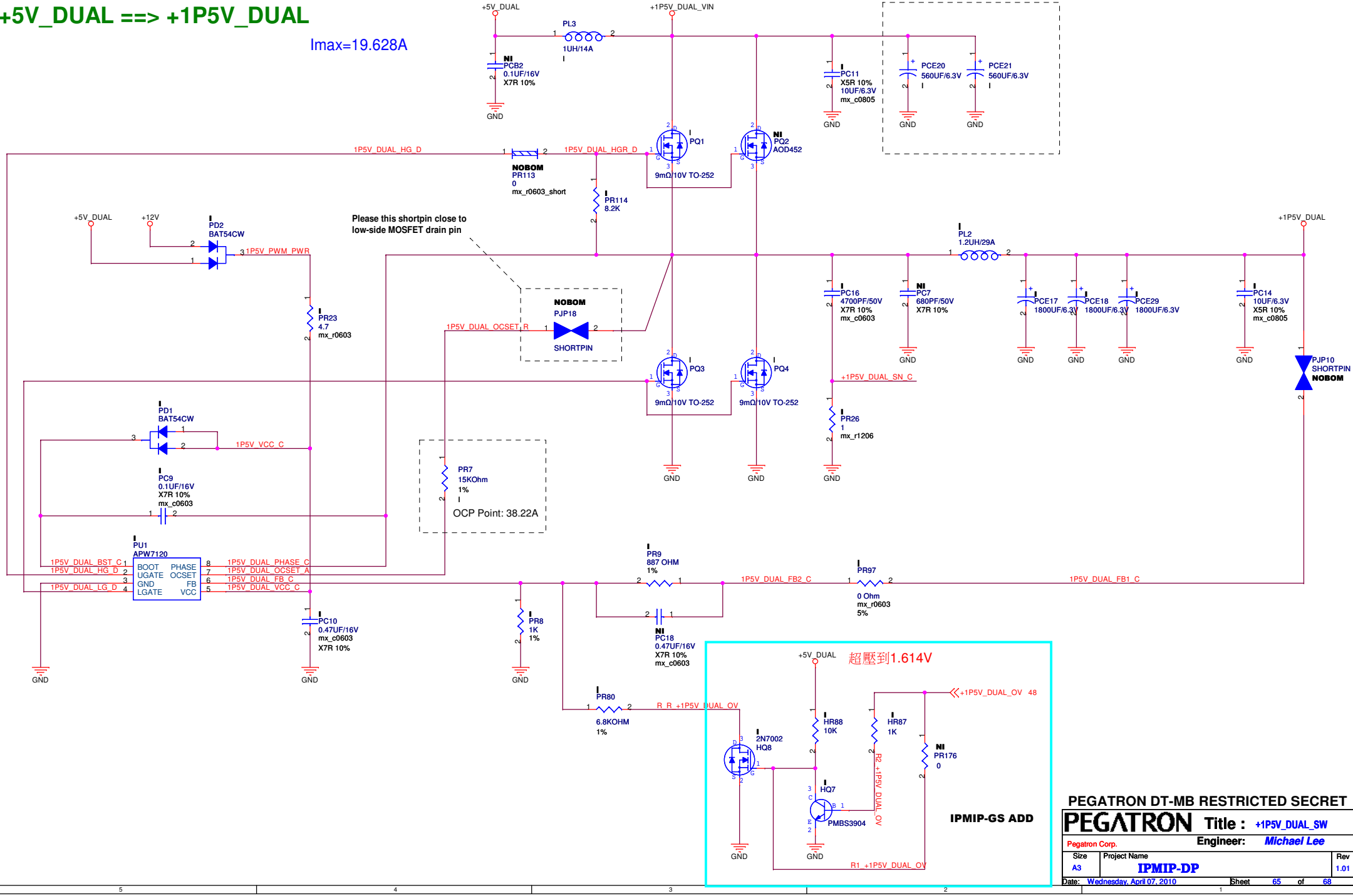

+1P1V_VTT ....(1.1V)
Imax=30A
PU400A
RT8204AGQW
PU400B
FS = 253KHZ
+1P1V_IN
+12V_VCORE_IN
+5V
+5VSB
+1P1V_VTT
VDD
VDDP
BOOT
UGATE
PHASE
TON
EN/DEM
OC
LGATE
PGOOD
LEN
LPGOOD
LDRV
LFB
GND
VOUT
FB
PR821 4.7 OHM 5%
PC815 1UF/16V X7R 10% mx_c0603
PC816 1UF/16V X7R 10% mx_c0603
PD408 BAT54CW
PR824 0 Ohm 5%
PC817 0.1UF/25V X7R 10% mx_c0603
PR822 0 Ohm mx_r1206
PR825 0 Ohm mx_r1206
PR826 0 Ohm mx_r1206
PC401 4.7UF/16V X7R 20% mx_c1206
PCE400 1000UF/16V
PR823 820KOHM 1%
PC818 1000PF/50V X7R 10%
PR828 10KOhm 1%
PR827 10KOhm 1%
PQ732 2N7002
PQ733 2N7002
PR831 100KOHM 5%
PC819 1000PF/50V
PR832 1KOhm 1%
PR829 12KOHM 1%
PR830 0 Ohm mx_r0603 5%
PR87 8.2KOHM 5%
PR402 0 Ohm 5%
PR403 8.2KOHM 5%
PQ25 9mΩ/10V TO-252
PQ26 9mΩ/10V TO-252
PQ34 9mΩ/10V TO-252
PJP407 SHORTPIN NOBOM
PL4 0.3UH/48A
PC404 4700PF/50V X7R 10%
PC405 680PF/50V X7R 10% mx_c0603
PCE410 820UF/2.5V
PCE411 820UF/2.5V
PCE412 820UF/2.5V
PR406 1 Ohm 5%
PR833 0 Ohm 5%
PJP408 SHORTPIN NOBOM
PR105 510KOHM 1%
PR835 0 Ohm 5% mx_r0603
PR836 10
PJP409 SHORTPIN NOBOM
PR837 7.68KOHM 1%
PC822 56PF/50V
PC820 0.1UF/16V X7R 10% mx_c0603
PR839 120KOHM 1%
PC821 20PF/50V NPO 5%
PR838 20KOhm 1%
PR840 0 Ohm 5%
PJP410 SHORTPIN NOBOM
PR841 1KOhm 5%
PQ734 2N7002
PC823 0.1UF/16V X7R 10% mx_c0603
PQ735 PMBS3904
PR177 1KOhm 5%
BOTTOM
PCE22 330UF/2V
PCE413 820UF/2.5V
PCB36 22UF/6.3V X5R 20% MX_C0805_RD9
PCB42 22UF/6.3V X5R 20% MX_C0805_RD9
PCB12 22UF/6.3V X5R 20% MX_C0805_RD9
PCB13 22UF/6.3V X5R 20% MX_C0805_RD9
PCB31 22UF/6.3V X5R 20% MX_C0805_RD9
PCB32 22UF/6.3V X5R 20% MX_C0805_RD9
PCB33 22UF/6.3V X5R 20% MX_C0805_RD9
PCB34 22UF/6.3V X5R 20% MX_C0805_RD9
PCB35 22UF/6.3V X5R 20% MX_C0805_RD9
13,22,48,66 SLP_S3#
13,59 VTTPWRGD
13 VSSVTT_SENSE_A
13 VCCVTT_SENSE_A
VTT_SELECT 13
H--->1.05
L--->1.1
ASUS OEM-DT MB RESTRICTED SECRET
PEGATRON Title : +1P1V_VTT
Pegatron Corp. Engineer: Michael Lee
Size A3 Project Name IPMIP-DP Rev 1.01
Date: Wednesday, April 07, 2010 Sheet 64 of 68

+5V_DUAL ==> +1P5V_DUAL

Imax=19.628A



PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title : +1P5V_DUAL_SW

Pegatron Corp. Engineer: Michael Lee

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 65 of 68

R1.01 add for PCH CORE LVR CONTROL

+1P05V_PCH

Imax=5.598A

+1P05V_DUAL

PQ22 IPDH6N03LAG

PQ23 IPDH6N03LAG

PR124 4.7K

PR509 20K 1%

PC501 470PF/50V X7R 10%

PR506 1K

PC503 3900PF/50V X7R 10%

OP1_VG_C

+3P3VSB

PR508 20K 1%

OP1_REF_A

PQ17_D

PQ18 2N7002

PC520 0.1UF/16V

PR505 9.31K 1%

PQ17_G

+3P3V

PR179 1K

PR131 1K

PR128 0

PQ28 PMBS3904

PC522 0.1UF/16V

PR180 1K

SLP_S3# 13,22,48,64

R1.01 add for PCH CORE LVR CONTROL

PQ18_B

PR511 20K 1%

PR507 24K 1%

PC521 0.1UF/16V

OP1_FB_A

OP2_REF_A OP2_REF_A

PU3 LM358

+12V

PC561 0.1UF/25V mx_c0603

+1P05V_PCH

PCE8 820UF/2.5V

PC554 0.1UF/25V mx_c0603

OP2_VG_C

PR178 100K 1%

PC502 470PF/50V X7R 10%

PC69_PR80

PC71 3300PF/25V X7R 10%

PR512 1K

PR129 4.7K

PQ32 P3055LDG

+3P3V

OP2_FB_A OP2_FB_B

PJP21 SHORTPIN NOBOM

R1.01 ADD OP2

Imax=1.84A

+1P8V_SFR

PCE36 820UF/6.3V

GND

Install for AMT support

+1P05V_ME

I/AMTNI PR47 0 mx_r1206

+1P05V_PCH

+3P3VSB

+3P3V_ME

NI/AMTI R43 0 Ohm

NI PR127 0 Ohm

R42R43

NI/AMTI PR54 33KOHM

NI/AMTI PR55 5.6KOHM

NI/AMTI PD3 BAT54CW

SLP_M# 22,67

MEPWROK 21

NI/AMTI PC30 0.1UF/16V X7R 10%

PQ1415

PR52 NI/AMTI 30.1KOHM 1%

PQ14B

NI/AMTI PQ14 PMBS3904

NI/AMTI PQ15 PMBS3904

NI/AMTI PR53 301K 1%

NI/AMTI PC29 0.47UF/16V X7R 10%

IP R1.01 CRB1.5

PC31 100PF/50V NPO 5% NI/AMTI

Install for AMT support

+1P05V_ME

Fsw = 500KHz

Imax=2.222A

+5VSB

PR73 1MOhm 5% NI/AMTI

NI/AMTI PR731 750KOhm

1P05VME_EN_A

1P05VME_FSW

PU763 RT8015APQW NI/AMTI

SHDN/RT GND1 LX1 LX2 PGND GND2 COMP FB VDD PVDD2 PVDD1

1P05MELX 1P05MELX

1P05MECOM_A 1P05MEFB_A

NI/AMTI PR728 13KOHM 1%

NI/AMTI PC771 1000PF/50V X7R 10%

PR728_A

1P05MECOM_A

1P05MEFB_A

PR729 154KOHM 1%

PR730 49.9KOHM

NI PC42 22PF/50V

1P05MEFB1_A

NI/AMTI PR78 0 Ohm 5%

NI/AMTI PL402 4.7UH

1P05MELX 1P05MELX_R

NI/AMTI PC722 22UF/6.3V X5R 10%

NI/AMTI PC723 22UF/6.3V X5R 10%

NI/AMTI PC724 22UF/6.3V X5R 10%

NI/AMTI PR74 100K

NI/AMTI PQ17 2N7002

22,67 SLP_M#

PCH

+5VSB

NI PR76 8.2K

PQ13_G

NI PR13 4.7K

NI PQ37 PMBS3904

22,67 SLP_M#

+1P05V_ME

+1P05V_PCH

NI PR45 0 mx_r1206

FDN340P_NL NI PQ13

+1P05V_PCH_PR45

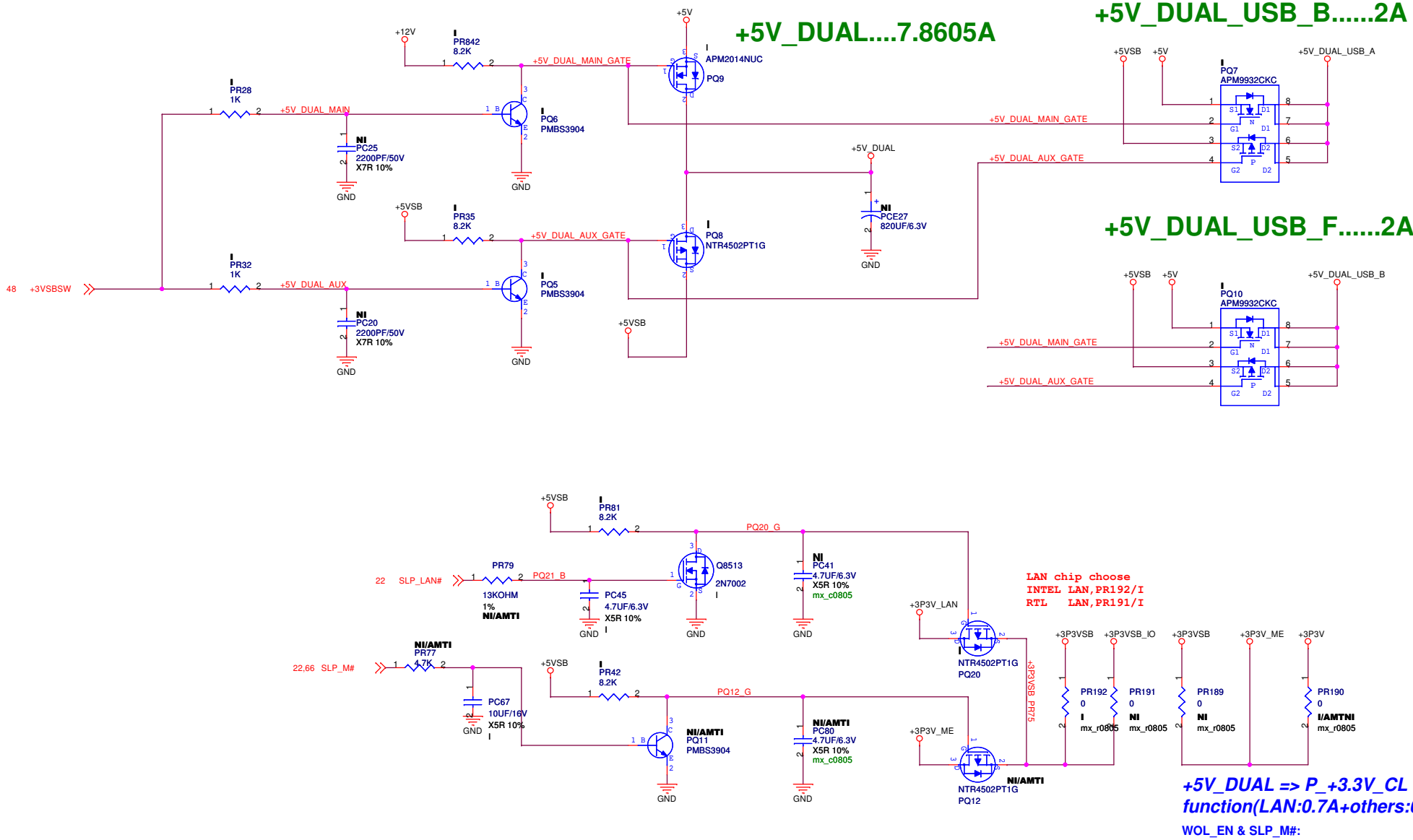
PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title :+1P05V_PCH & +1P05V_ME

Pegatron Corp. Engineer: Michael Lee

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Wednesday, April 07, 2010 Sheet 66 of 68

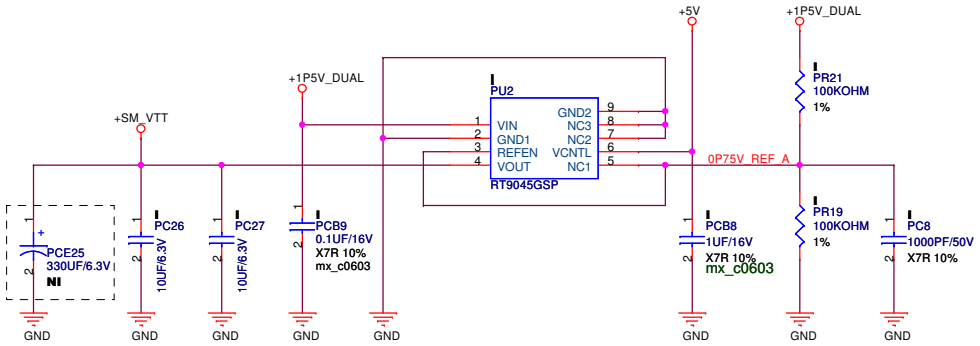


PEGATRON DT-MB RESTRICTED SECRET

PEGATRON	Title : +5V_DUAL & +3P3V_ME	
Pegatron Corp.	Engineer: Michael Lee	
Size: A3	Project Name: IPMIP-DP	Rev: 1.01
Date: Wednesday, April 07, 2010	Sheet 67 of 68	

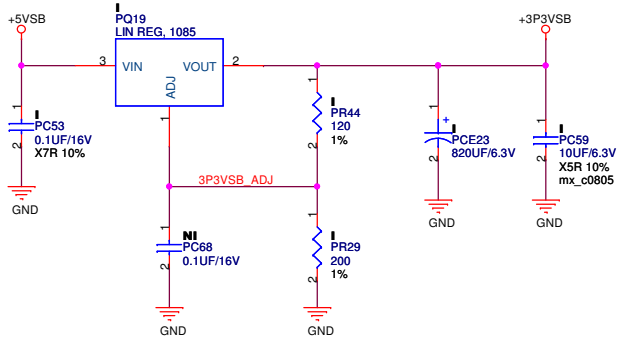
+1P5V_DUAL ==> +0P75V_VTT_DDR

Imax=0.83A



4/28 MODIFY

+5VSB ==> +3P3VSB....3.44A



PEGATRON DT-MB RESTRICTED SECRET

PEGATRON Title +0P75V_VTT_ & +1P8V_SFR

Pegatron Corp. Engineer: Michael Lee

Size	Project Name	Rev
A3	IPMIP-DP	1.01

Date: Thursday, April 01, 2010 Sheet 68 of 68