Winery CALPELLA N11M-GE Schematics

Mobile Arrandale

Intel Ibex Peak-M

2010-01-18

REV : X-build

DY : Nopop Component

UMA : Pop when schematic is UMA
DIS : Pop when schematic is DIS

<Core Design>

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Title	*Cover Page*	
Size: Custom	Document Number: *Vostro Calpella*	Rev: *X01*
Date: Monday, January 18, 2010	Sheet 1 of 91	

Winery CALPELLA Block Diagram

PCB LAYER

L1: Top
L2: VCC
L3: Signal
L4: Signal
L5: GND
L6: Bottom

Project code : 91.4ES01.001
Part Number : 48.4ES11.0SB
PCB P/N : 09297
Revision : SA

Clock Generator
SLG8SP585 7

Intel CPU
Arrandale
8,9,10,11,12,13,14

Nvidia
N11M-GE(40nm)
80,81,82,83

VRAM(gDDR3)
64Mbx16x4 (512MB) 84,85

VRAM

100MHz/
2.5Gbps

PCIe x 16

Bandwidth
:8GB

DDRIII 1066 Channel A
800/1066MHz

DDR III 1066 Channel B
800/1066MHz

DDRIII 1066 Slot 0 18

DDRIII 1066 Slot 1 19

Power SW
TPS2231R

New Card
(On daughter board)

PCIE x 1 & USB 2.0 x 1

HDMI 57

CRT 55

LCD 54

HDMI

LVDS

RGB CRT

Switchable 74

Switchable 74

75

DMIx4
2.5 GT/s

FDI(UMA)
2.7 GT/s

Intel
PCH

14 USB 2.0/1.1 ports
ETHERNET (10/100/1000Mb)
High Definition Audio
SATA ports (6)
PCIE ports (8)
LPC I/F
ACPI 1.1
PCI/PCI BRIDGE

20,21,22,23,24,25,26,27,28

PCIE x 1

10/100/1000LOM
RTL8111DL 35

(On daughter board)

RJ45
CONN 61

PCIE
100MHz
2.5Gbps

USB 2.0 x 1 PCIE x 1

Mini-Card
802.11a/b/g/n 65

Mini-Card
WWAN/ WiMAX 64

USB 2.0
480Mbps

USB 2.0 x 1

Touch Panel
(only for 15") 76

USB 2.0 x 2

Left Side:
USB x 2
76

USB 2.0 x 1

Right Side:
USB x 1
63

CAMERA
73

Bluetooth 73

Biometric 78

CardReader
Realtek
RTS5138

(8 in 1)SD/MMC
MS/MS Pro/xD

USB 2.0
480Mbps

(On daughter board)

SM Bus
400KHz

Free fall sensor 40

LPC Bus
33MHz

TPM
(only for 15") 76

(On daughter board)

Digital Mic Array

MIC IN

HP OUT

(On daughter board)

Azalia
CODEC
OP AMP
IDT
92HD81 30

AZALIA
24MHz

2CH SPEAKER 60

SATA,USB

SATA
3Gbps

SPI

KBC
NUVOTON
NPCE781BA0DX 37

SPI

SM Bus

Flash ROM
256kB 62

Touch
PAD 68

Int.
KB 68

Thermal
& Fan
EMC2102 39,58

Capacity Board
(On daughter board)

USB,ESATA
Multi-Port x1
63

ODD
HDD 59

Flash ROM
4MB 62

CPU DC/DC ISL62883 47,48

INPUTS	OUTPUTS
+PWR_SRC	+VCC_CORE

SYSTEM DC/DC TPS51125 46

INPUTS	OUTPUTS
+PWR_SRC	+15V_ALW +3.3V_RTC_LDO +5V_ALW +3.3V_ALW

SYSTEM DC/DC TPS51116 50

INPUTS	OUTPUTS
+PWR_SRC	+1.5V_SUS +0.75V_DDR_VTT +V_DDR_MCH_REF

SYSTEM DC/DC ADP3211 53

INPUTS	OUTPUTS
+PWR_SRC	+CPU_GFXCORE

SYSTEM DC/DC TPS51218 86

INPUTS	OUTPUTS
+PWR_SRC	+VCC_GFX_CORE

CHARGER BQ24745

INPUTS	OUTPUTS
+DC_IN +PBATT	+PWR_SRC

SYSTEM DC/DC TPS51218 49

INPUTS	OUTPUTS
+PWR_SRC	VTT_CORE

LDO APL5930 51

INPUTS	OUTPUTS
+3.3V_ALW	+1.8V_RUN

LDO RT9025 87

INPUTS	OUTPUTS
+3.3V_ALW	+1.8V_RUN_GPU

<Core Design>

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Title: Block Diagram

Size: Custom | Document Number: Vostro Calpella | Rev: X01

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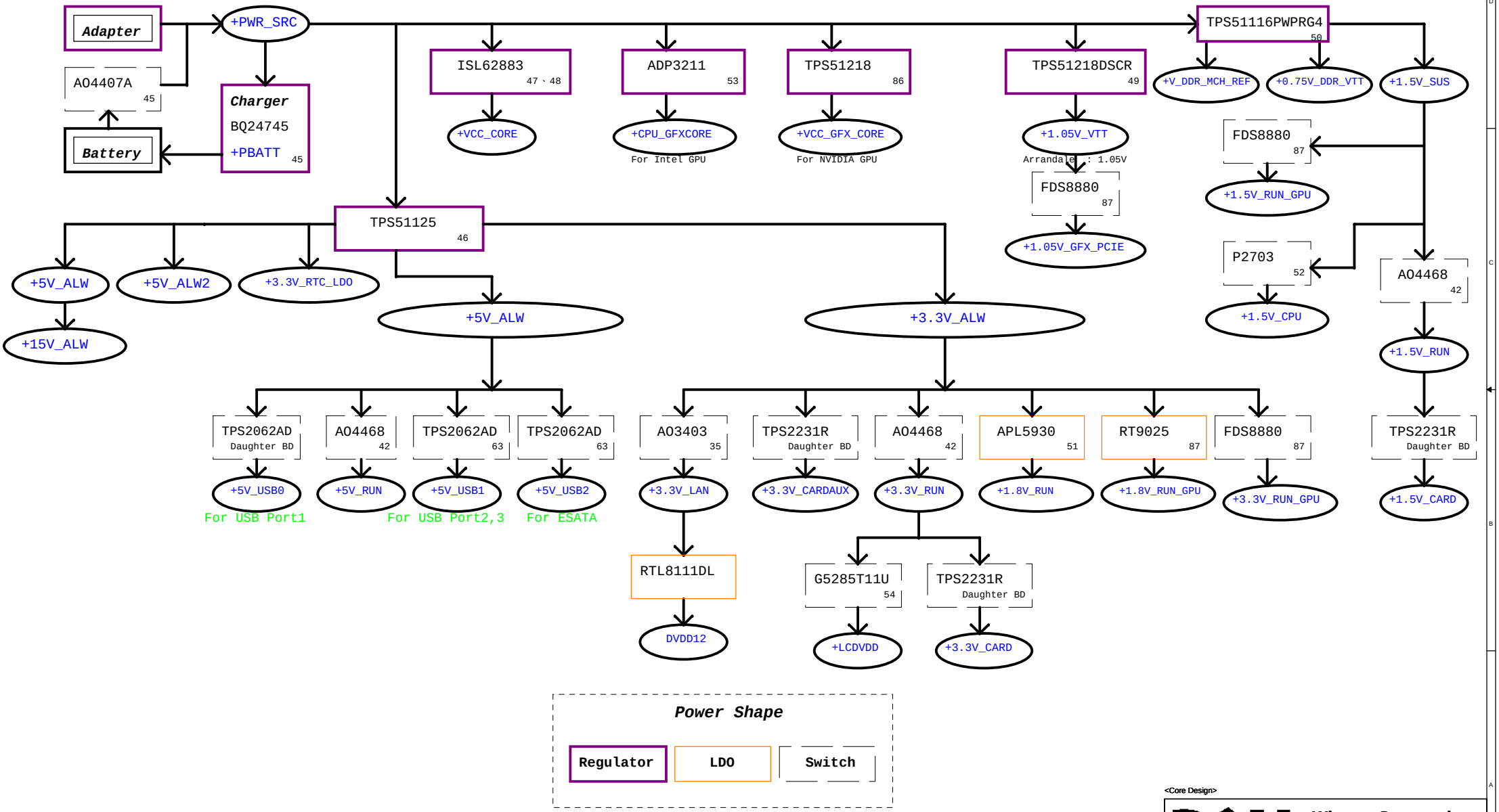

<Core Design>

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Title: Power Block Diagram

Size: Custom | Document Number: Vostro Calpella | Rev: X01

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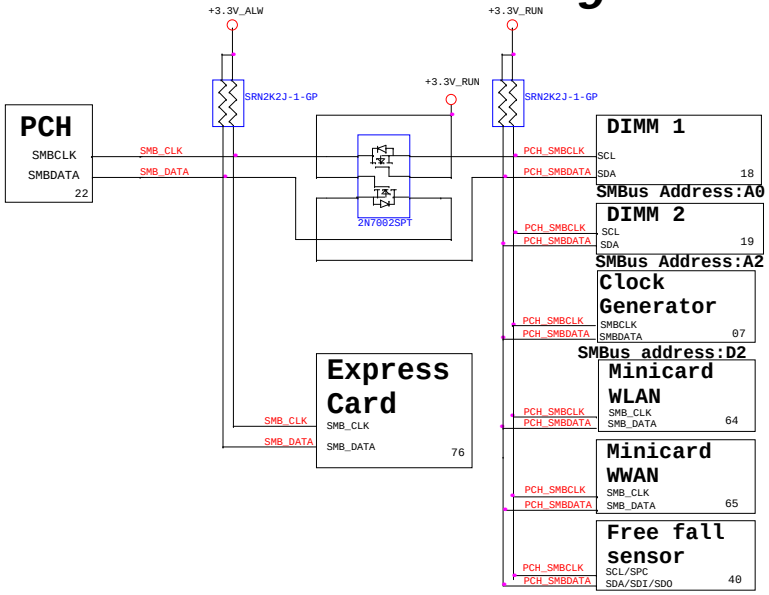
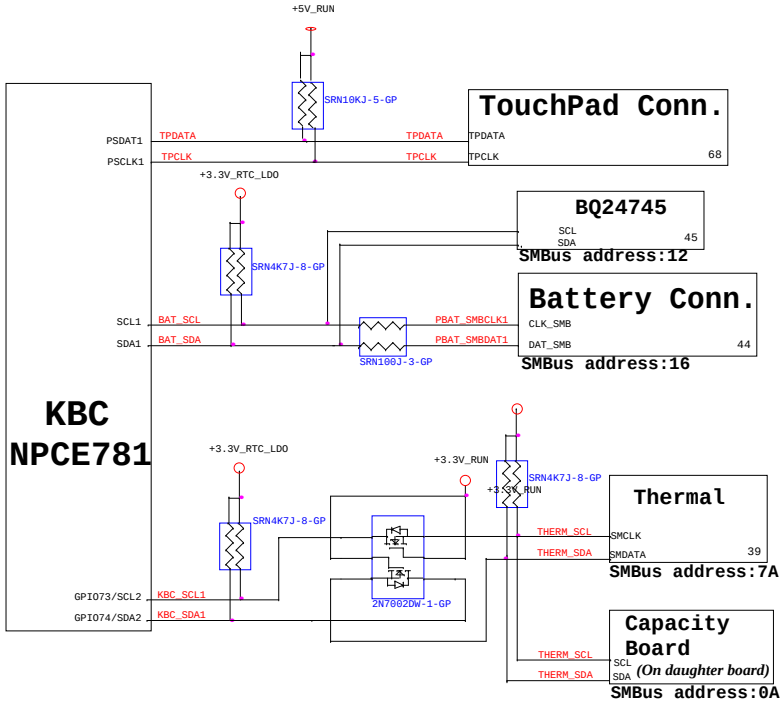
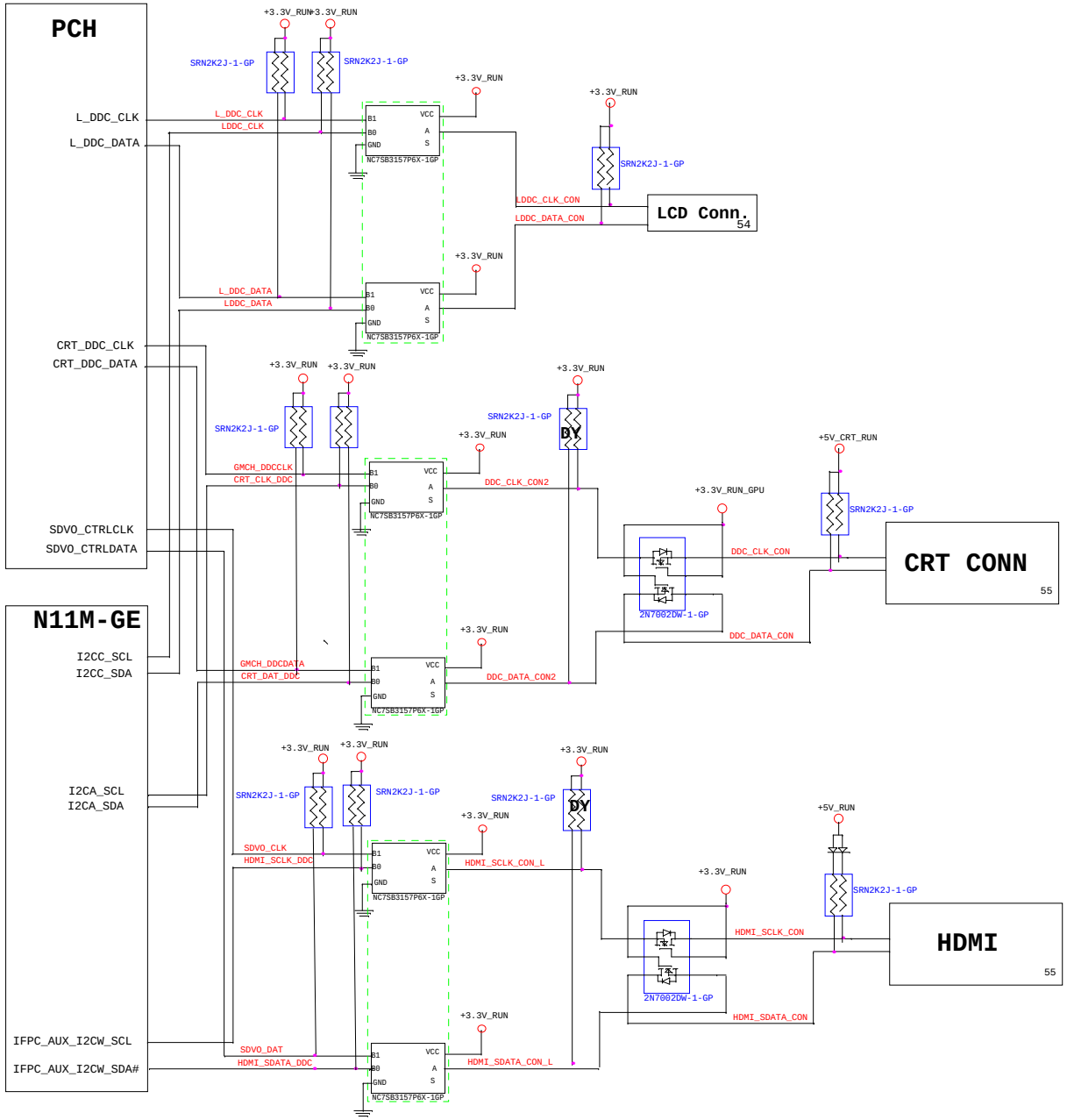
PCH SMBus Block Diagram



KBC SMBus Block Diagram



Switchable Graphic SMBus Block Diagram



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Title: SMBUS Block Diagram

Size	Document Number	Rev
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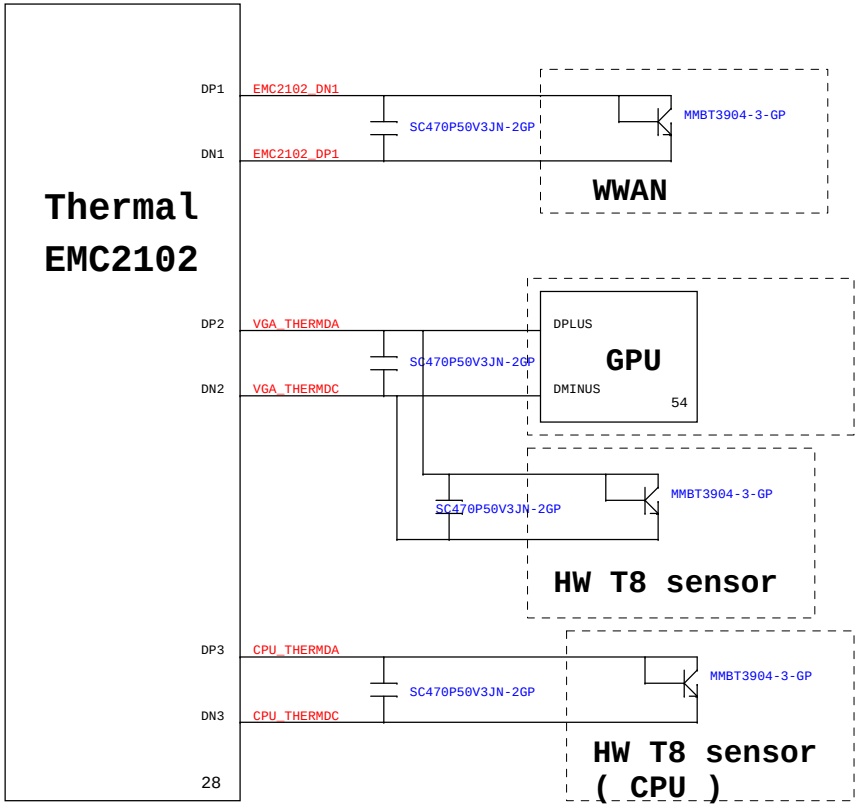
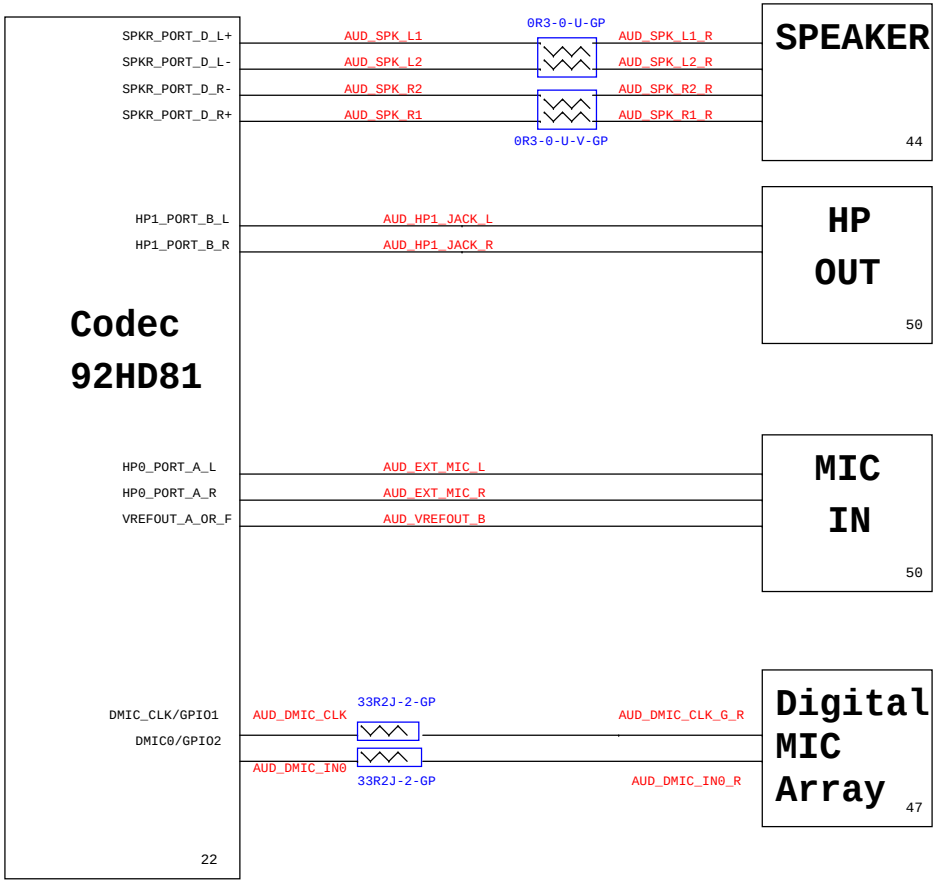
Thermal Block Diagram



Audio Block Diagram



<Core Design>

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Title: Thermal/Audio Block Diagram

Size: Custom | Document Number: Vostro Calpella | Rev: X01

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PCH Strapping

Calpella Schematic Checklist Rev.0_7

Name	Schematics Notes
SPKR	**Reboot option at power-up** **Default Mode:** Internal weak Pull-down. **No Reboot Mode with TCO Disabled:** Connect to Vcc3_3 with 8.2-kΩ - 10-kΩ weak pull-up resistor.
INIT3_3V#	Weak internal pull-down. Do not pull high.
GNT3#/ GPIO55	**Default Mode:** Internal pull-up. **Low (0) = Top Block Swap Mode**Note: Connect to ground with 4.7-k? weak pull-down resistor. CRB uses a 1 k do not stuff resistor.
INTVRMEN	**High (1) = Integrated VRM is enabled** **Low (0) = Integrated VRM is disabled**
GNT0#, GNT1#/GPIO51	**Default (SPI):** Left both GNT0# and GNT1# floating. No pull up required. **Boot from PCI:** Connect GNT1# to ground with 1-kΩ pull-down resistor. Leave GNT0# Floating. **Boot from LPC:** Connect both GNT0# and GNT1# to ground with 1-kΩ pull-down resistor.
GNT2#/ GPIO53	**Default - Internal pull-up.** **Low (0)**= Configures DMI for ESI compatible operation (for servers only. Not for mobile/desktops).
GPIO33	**Default:** Do not pull low. **Disable ME in Manufacturing Mode:** Connect to ground with 1-kΩ pull-down resistor.
SPI_MOSI	**Enable iTPM:** Connect to Vcc3_3 with 8.2-kΩ weak pull-up resistor. **Disable iTPM:** Left floating, no pull-down required.
NV_ALE	**Enable Danbury:** Connect to Vcc3_3 with 8.2-kΩ weak pull-up resistor. **Disable Danbury:** Connect to ground with 4.7-kΩ weak pull-down resistor.
NC_CLE	Weak internal pull-up. Do not pull low.
HAD_DOCK_EN# /GPIO[33]	**Low (0):** Flash Descriptor Security will be overridden. **High (1) :** Flash Descriptor Security will be in effect.
HDA_SDO	Weak internal pull-down. Do not pull high.
HDA_SYNC	Weak internal pull-down. Do not pull high.
GPIO15	Weak internal pull-down. Do not pull high.
GPIO8	Weak internal pull-up. Do not pull low.
GPIO27	**Default = Do not connect (floating)** High(1) = Enables the internal VccVRM to have a clean supply for analog rails. No need to use on-board filter circuit. Low (0) = Disables the VccVRM. Need to use on-board filter circuits for analog rails.

Processor Strapping

Calpella Schematic Checklist Rev.0_7

Pin Name	Strap Description	Configuration (Default value for each bit is 1 unless specified otherwise)	Default Value
CFG[4]	**Embedded DisplayPort Presence**	**1:** Disabled - No Physical Display Port attached to Embedded DisplayPort. **0:** Enabled - An external Display Port device is connected to the Embedded Display Port.	**1**
CFG[3]	**PCI-Express Static Lane Reversal**	**1:** Normal Operation. **0:** Lane Numbers Reversed 15 -> 0, 14 -> 1, ...	**1**
CFG[0]	**PCI-Express Configuration Select**	**1:** Single PCI-Express Graphics **0:** Bifurcation enabled	**1**
CFG[7]	**Reserved - Temporarily used for early Clarksfield samples.**	**Clarksfield (only for early samples pre-ES1)** - Connect to GND with 3.01K Ohm/5% resistor **Note:** Only temporary for early CFD samples (rPGA/BGA) [For details please refer to the WW33 MoW and sighting report]. For a common motherboard design (for AUB and CFD), the pull-down resistor should be used. Does not impact AUB functionality.	**0**

PCIE Routing

LANE1	**Card reader**
LANE2	**MiniCard WLAN**
LANE3	**LAN**
LANE4	**MiniCard WWAN**
LANE5	**New Card**

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Title: *Table of Content*

Size: Custom | Document Number: *Vostro Calpella* | Rev: *X01*

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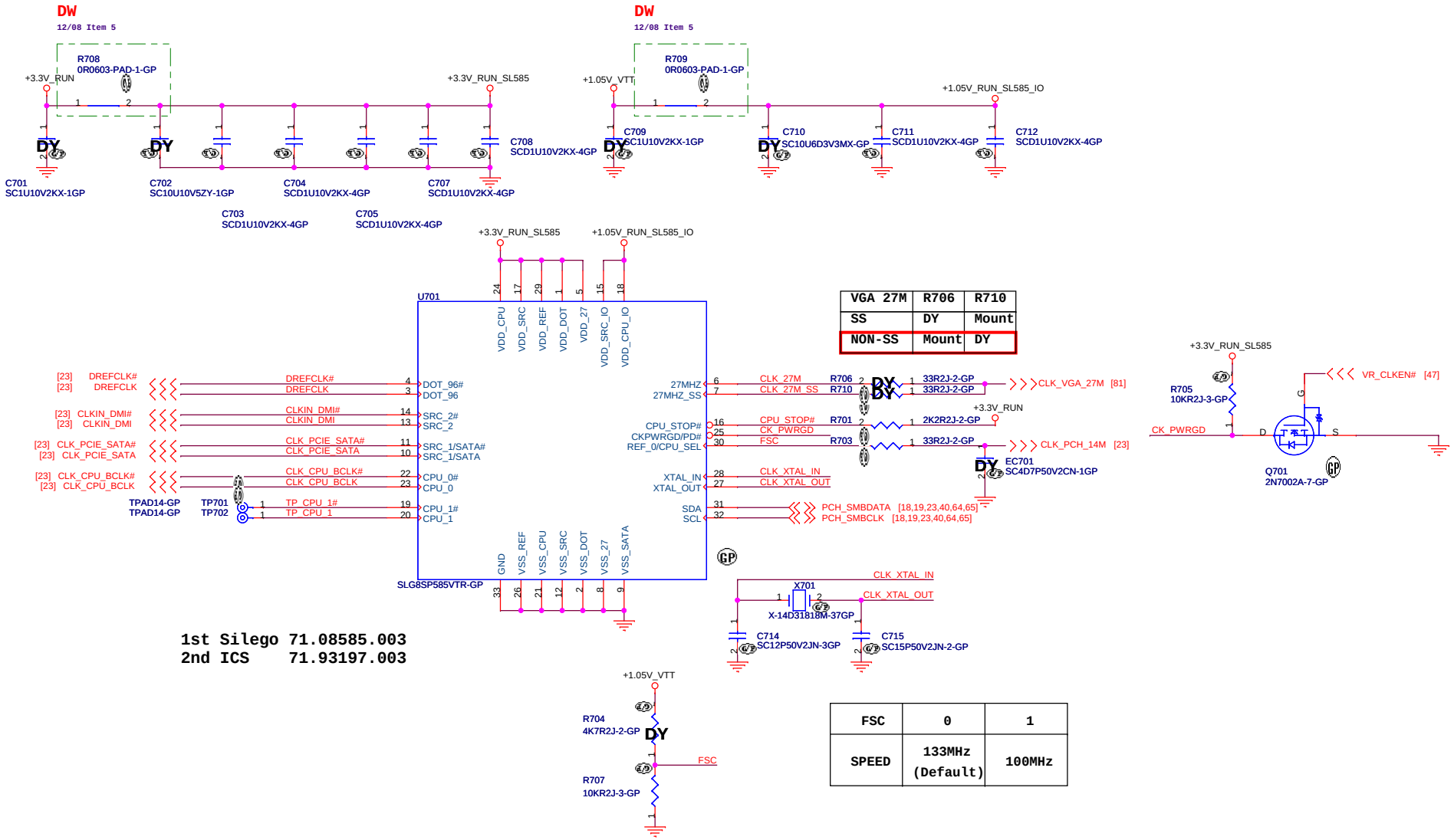

VGA 27M	R706	R710
SS	DY	Mount
NON-SS	Mount	DY

FSC	0	1
SPEED	133MHz (Default)	100MHz

1st Silego 71.08585.003
2nd ICS 71.93197.003

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Title: Clock Generator SLG8SP585

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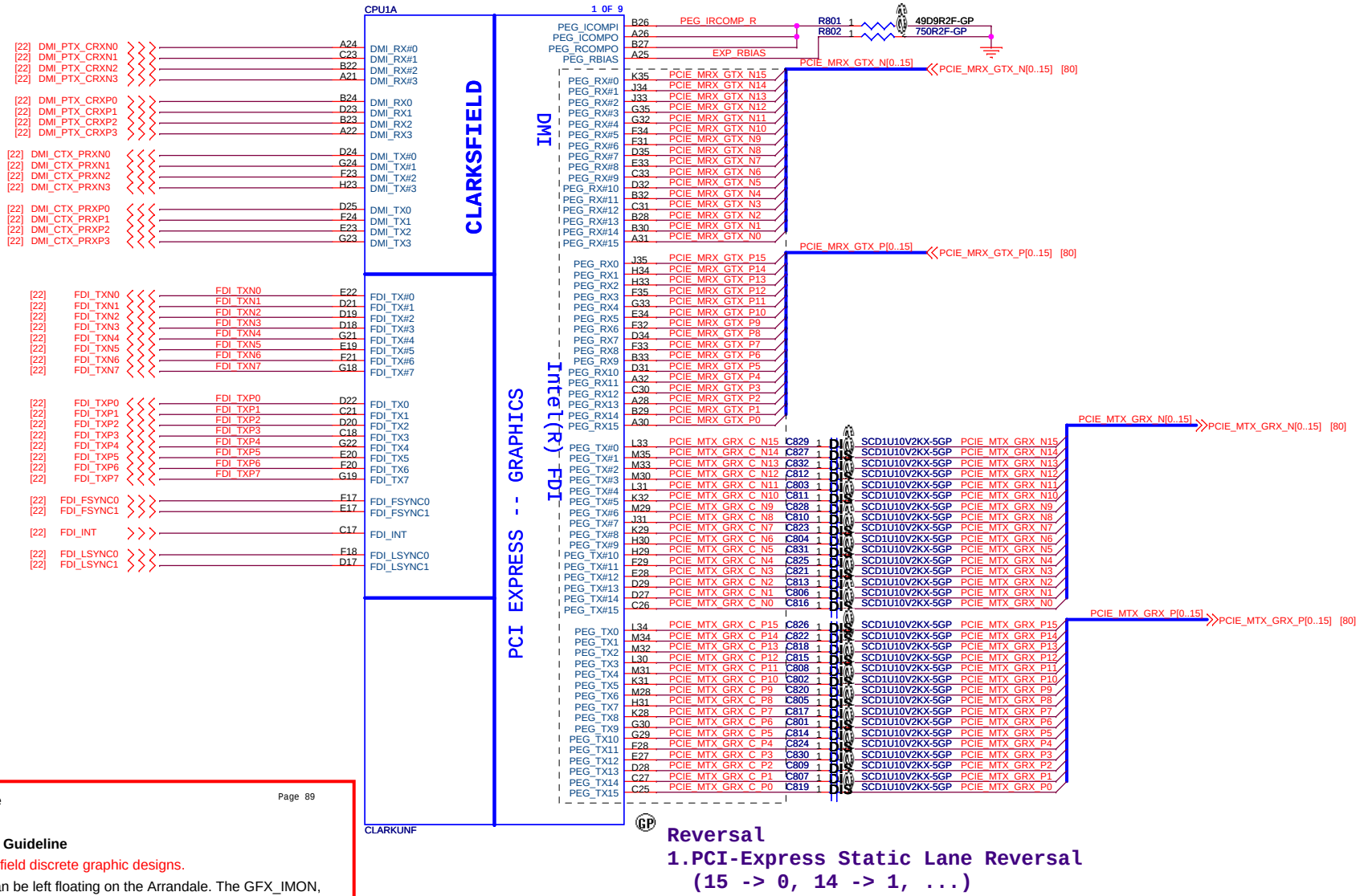

Calpella Platform Design Guide
Revision 1.6

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2.4 Arrandale Graphics Disable Guideline

It applies to Arrandale and Clarksfield discrete graphic designs.

FDI_TX[7:0] and FDI_TX#[7:0] can be left floating on the Arrandale. The GFX_IMON, FDI_FSYNC[0], FDI_FSYNC[1], FDI_LSYNC[0], FDI_LSYNC[1], and FDI_INT signals on the Arrandale side should be tied to GND (through 1-kΩ ±5% resistors).

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Title: CPU (PCIE/DMI/FDI)

Size	Document Number	Rev
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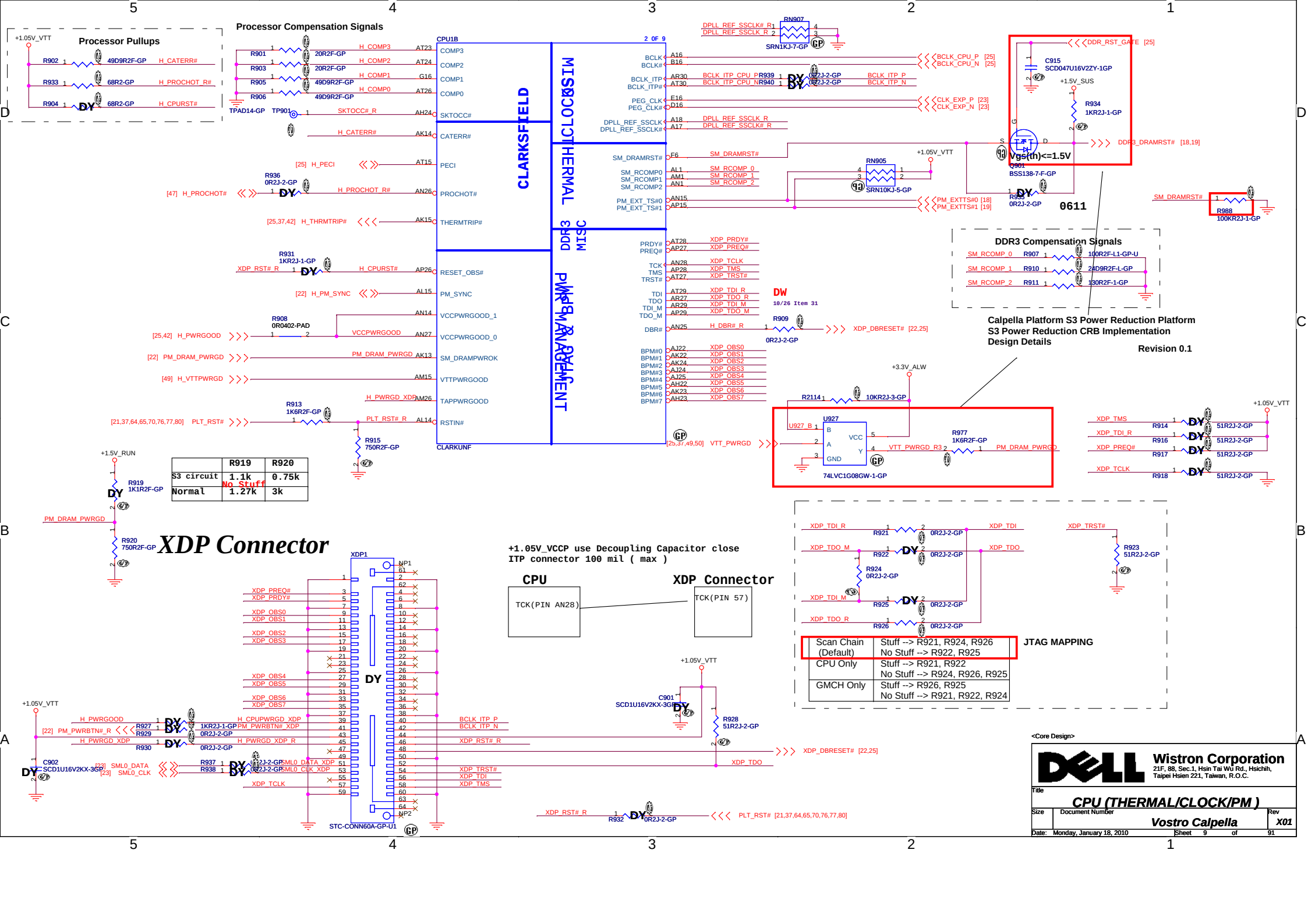
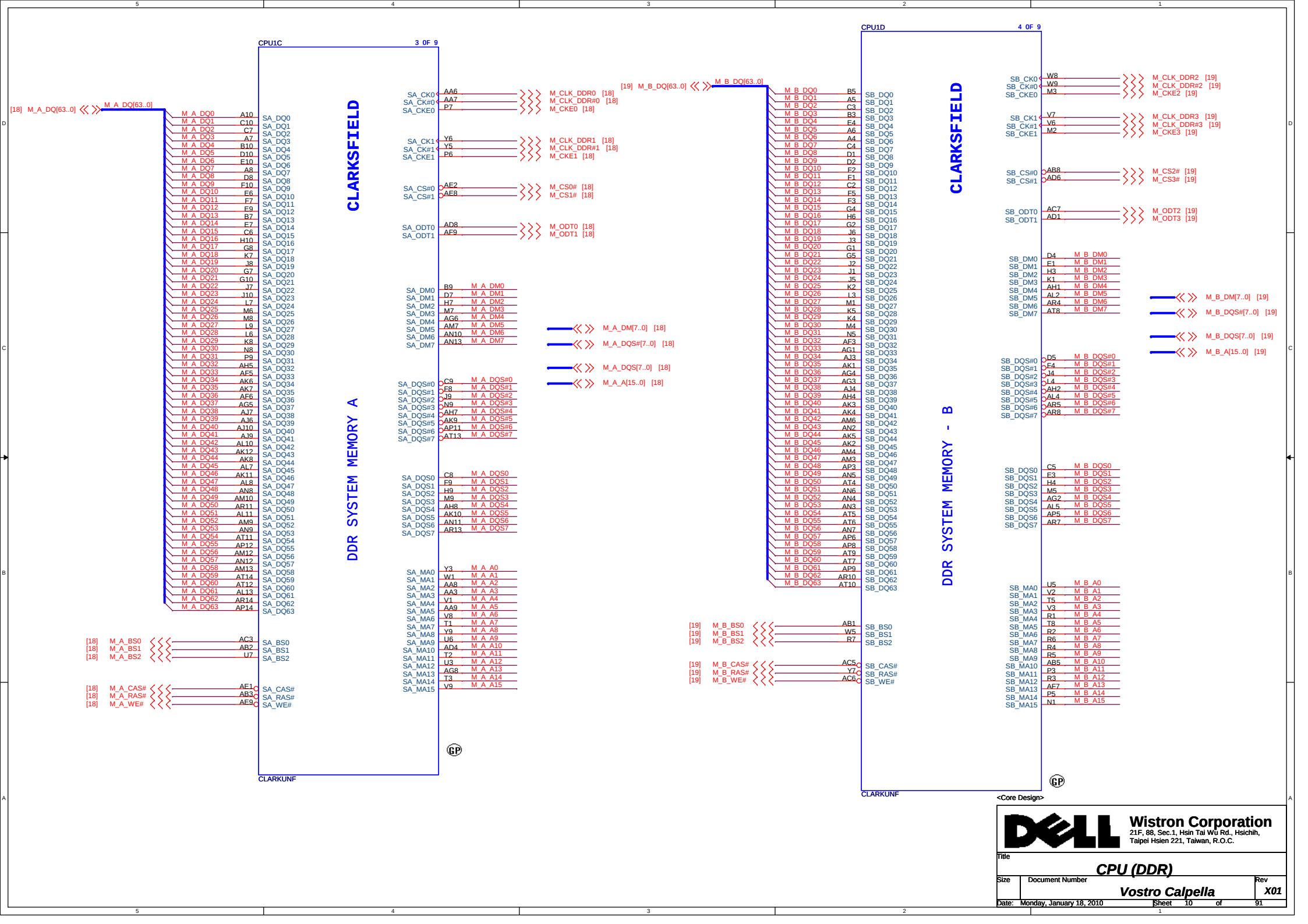


	R919	R920
S3 circuit	1.1k No Stuff	0.75k
Normal	1.27k	3k


CPU1C
3 OF 9
CLARKSFIELD
DDR SYSTEM MEMORY A
CLARKUNF
CPU1D
4 OF 9
CLARKSFIELD
DDR SYSTEM MEMORY - B
CLARKUNF
<Core Design>
Wistron Corporation
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Title
CPU (DDR)
Size
Document Number
Vostro Calpella
Rev
X01
Date: Monday, January 18, 2010
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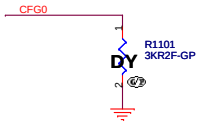
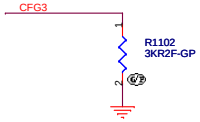
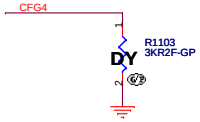


PCI-Express Configuration Select	
CFG0	1:Single PEG 0:Bifurcation enabled

DIS改5%



CFG3 - PCI-Express Static Lane Reversal	
CFG3	1 :Normal Operation 0 :Lane Numbers Reversed 15 -> 0, 14 -> 1, ...



CFG4 - Display Port Presence	
CFG4	1:Disabled; No Physical Display Port attached to Embedded Display Port 0:Enabled; An external Display Port device is connected to the Embedded Display Port

Calpella Platform Design Guide
Revision 1.6

4.8.3.1 LVDS Switching

Switchable GFX, just like integrated GFX only, to enable LVDS it is required that the OEM set the LDVS (L_DDC_DATA) strap to present (pulled up) and the eDP strap (CFG[4]) to disabled (not pulled down).

4.8.3.2 eDP Switching

eDP for Switchable GFX can only be driven out of Port D of PCH. To configure Port D for embedded DP it is required to set the DDPD_CTRLDATA strap high to 3.3V Core rail through 2.2 kΩ ±5% resistor, LVDS (L_DDC_DATA) strap as no connect and the eDP strap CFG[4] as no connect.

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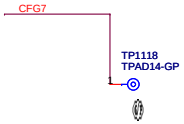
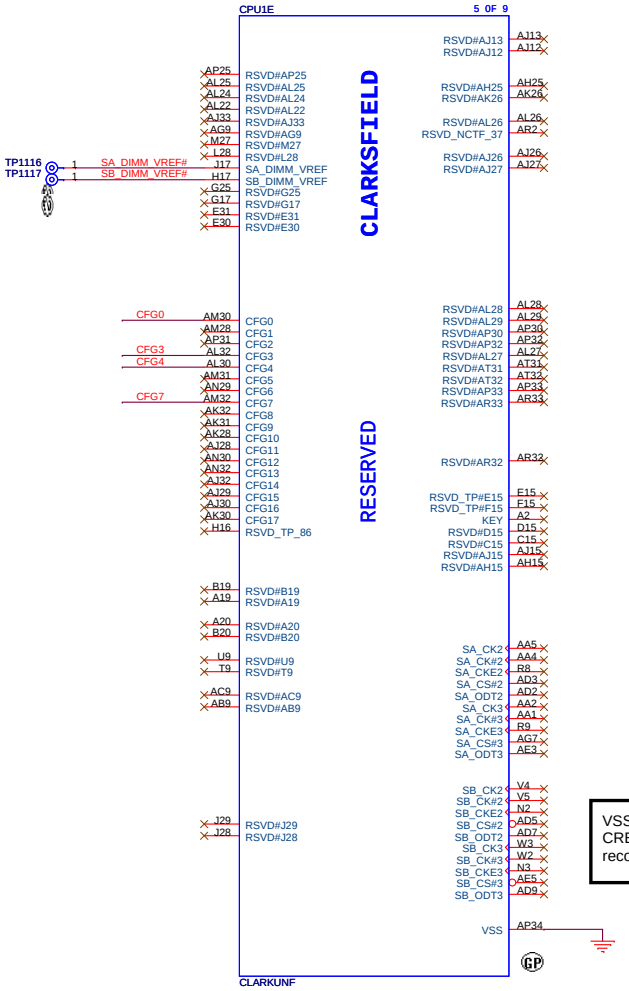


CFG7(Reserved) - Temporarily used for early Clarksfield samples.	
CFG7	Clarksfield (only for early samples pre-ES1) - Connect to GND with 3.01K Ohm/5% resistor. Note: Only temporary for early CFD sample (rPGA/BGA) [For details please refer to the WW33 MoW and sighting report]. For a common M/B design (for AUB and CFD), the pull-down resistor shouble be used. Does not impact AUB functionality.



VSS (AP34) can be left NC is CRB implementation; EDS/DG recommendation to GND.

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Title: CPU (RESERVED)

Size | Document Number: Vostro Calpella | Rev: X01

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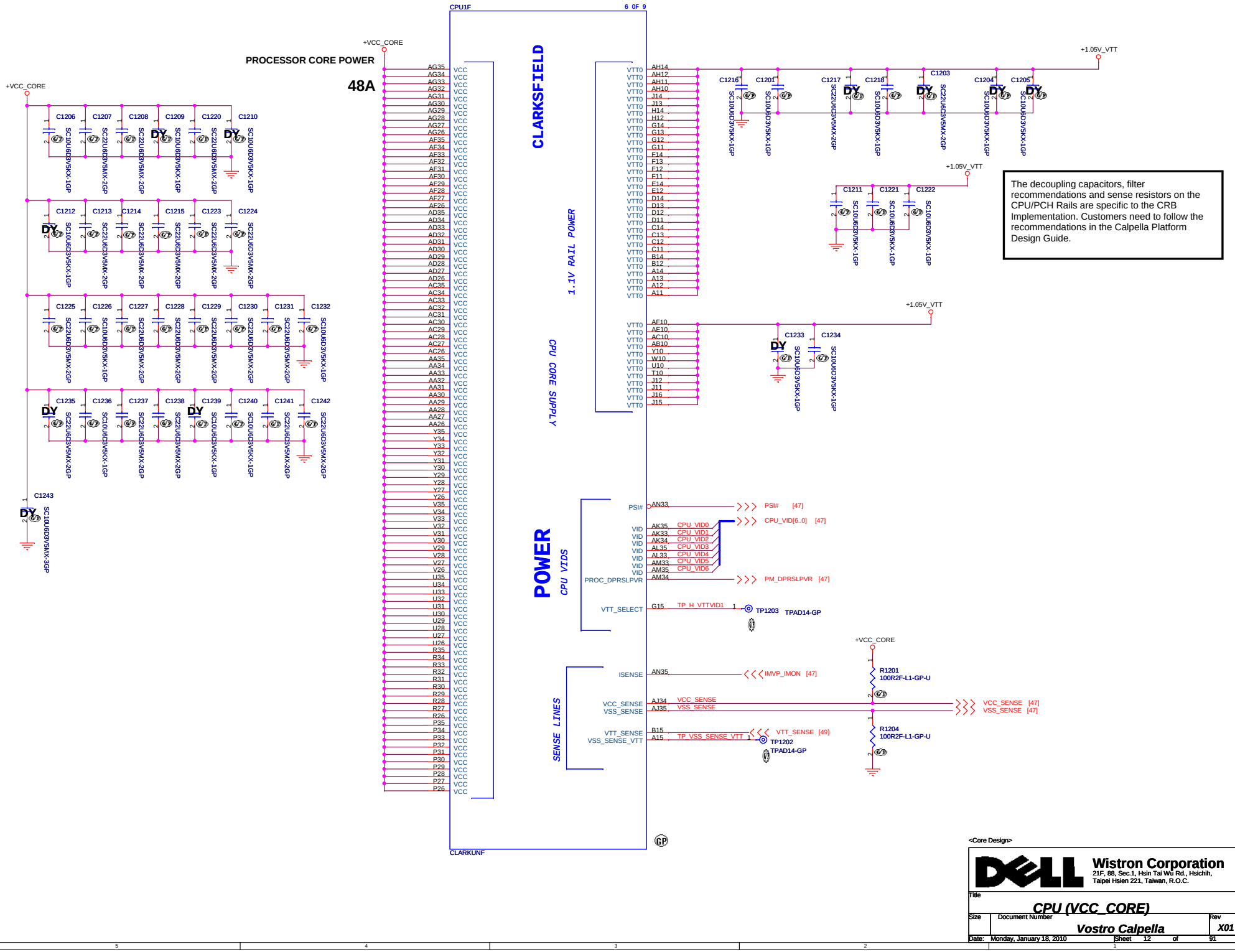
PROCESSOR CORE POWER
48A
+VCC_CORE
CPU1F
6 OF 9
CLARKSFIELD
1.1V RAIL POWER
CPU CORE SUPPLY
POWER
CPU VIDS
SENSE LINES
CLARKUNF
+1.05V_VTT
The decoupling capacitors, filter recommendations and sense resistors on the CPU/PCH Rails are specific to the CRB Implementation. Customers need to follow the recommendations in the Calpella Platform Design Guide.
PSI#
PSI# [47]
CPU_VID[6..0] [47]
PROC_DPRSLPVR
PM_DPRSLPVR [47]
VTT_SELECT
TP_H_VTTVID1
TP1203
TPAD14-GP
ISENSE
IMVP_IMON [47]
VCC_SENSE
VSS_SENSE
VTT_SENSE
VSS_SENSE_VTT
TP_VSS_SENSE_VTT
TP1202
TPAD14-GP
R1201
100R2F-L1-GP-U
R1204
100R2F-L1-GP-U
<Core Design>
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Title
CPU (VCC_CORE)
Size
Document Number
Vostro Calpella
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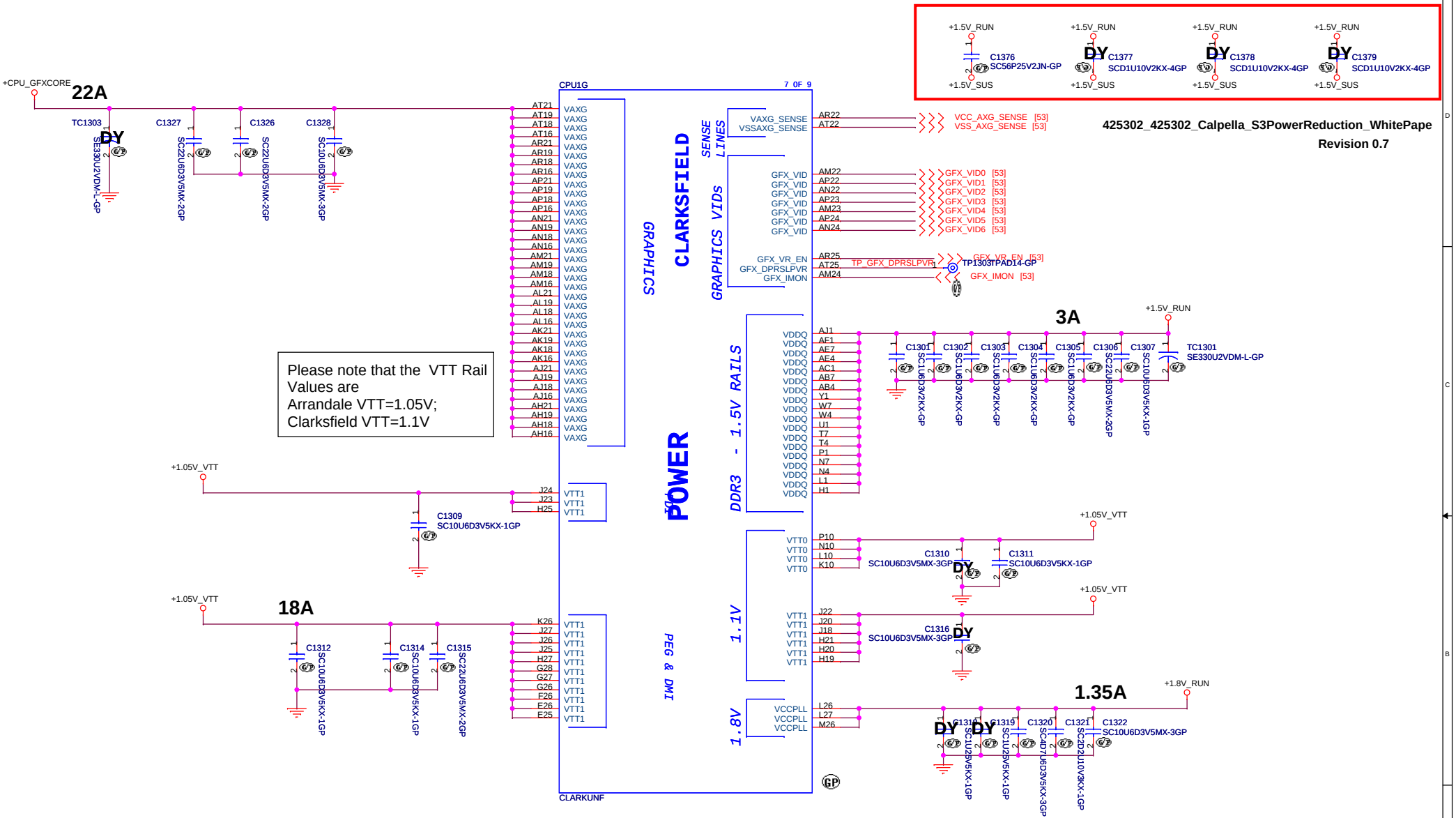

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Title	CPU (VCC_GFXCORE)	
Size	Document Number: Vostro Calpella	Rev: X01
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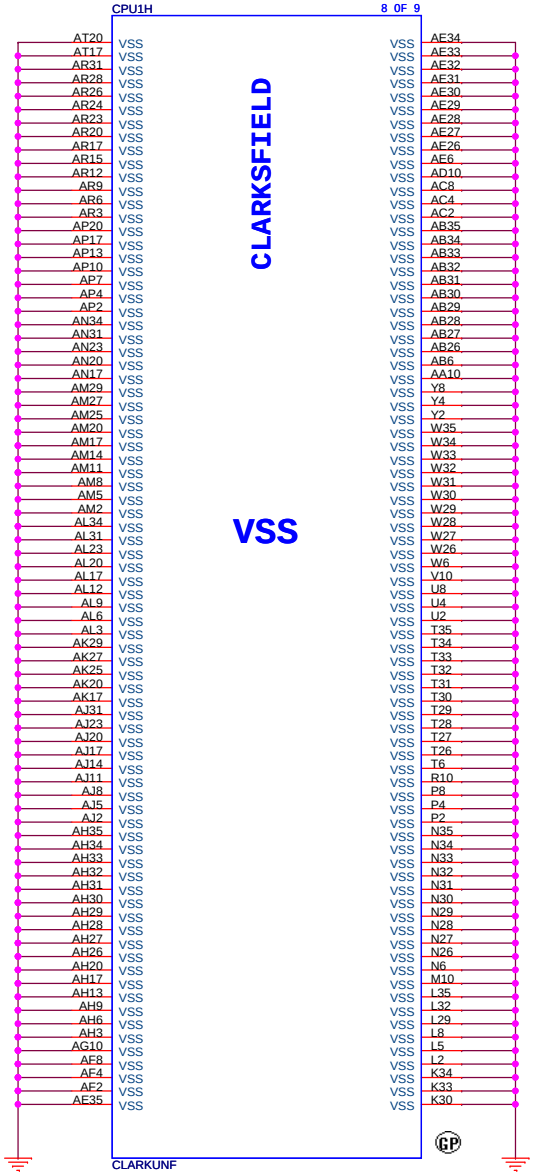

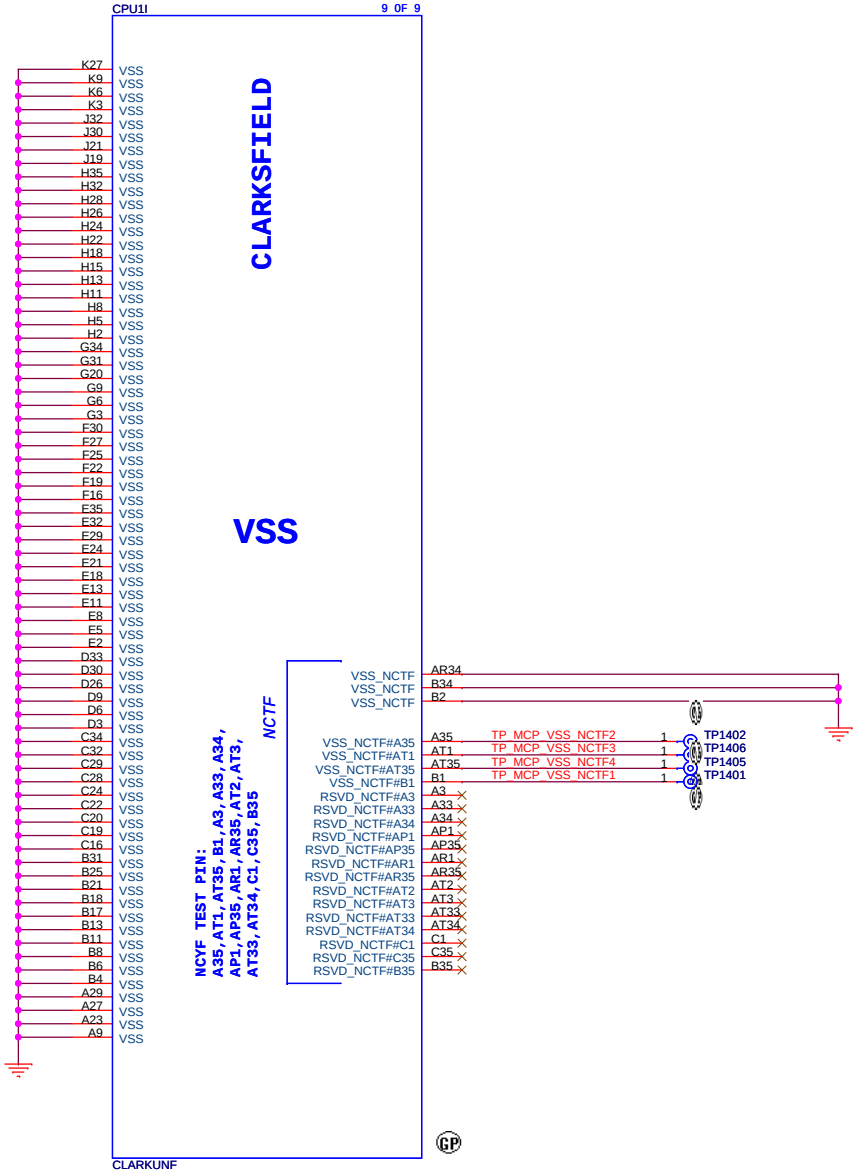

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Title	CPU (VSS)	
Size	Document Number: Vostro Calpella	Rev: X01
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Title: ***Reserved***

Size	Document Number	Rev
A3	***Vostro Calpella***	***X01***

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Title: *Reserved*

Size: A3 | Document Number: *Vostro Calpella* | Rev: *X01*

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Title

(Reserve)

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SSID = MEMORY

[10] M_A_DQS#[7..0]
[10] M_A_DQ[63..0]
[10] M_A_DM[7..0]
[10] M_A_DQS[7..0]
[10] M_A_A[15..0]

Layout Note:
Place near DM1

+1.5V_SUS

C1803 SC10U6D3V5MX-3GP
C1812 SC10U6D3V5MX-3GP
C1811 SC10U6D3V5MX-3GP
C1804 SC10U6D3V5MX-3GP
C1802 SC10U6D3V5MX-3GP
C1816 SC10U6D3V5MX-3GP
DY TC1803 ST330U2D5VBM-1-GP

Layout Note:
Put close to VTT1,VTT2.

+0.75V_DDR_VTT

C1823 SC10U6D3V5MX-3GP
C1813 SC1U10V2KX-1GP
C1801 SC1U10V2KX-1GP
C1814 SC1U10V2KX-1GP
C1815 SC1U10V2KX-1GP

+1.5V_SUS

C1872 SCD1U10V2KX-4GP
DY C1873 SCD1U10V2KX-4GP
DY C1874 SCD1U10V2KX-4GP
C1875 SCD1U10V2KX-4GP

425302_425302_Calpella_S3PowerReduction_WhitePape
Revision 0.7

+V_DDR_REF

C1810 SCD1U16V2KX-3GP
DY C1809 SC2D2U10V3KX-1GP
+V_DDR_REF
C1817 SCD1U16V2KX-3GP
DY C1805 SC2D2U10V3KX-1GP

DM1

M_A_A0	98	A0	
M_A_A1	97	A1	
M_A_A2	96	A2	
M_A_A3	95	A3	
M_A_A4	92	A4	
M_A_A5	91	A5	
M_A_A6	90	A6	
M_A_A7	86	A7	
M_A_A8	89	A8	
M_A_A9	85	A9	
M_A_A10	107	A10/AP	
M_A_A11	84	A11	
M_A_A12	83	A12	
M_A_A13	119	A13	
M_A_A14	80	A14	
M_A_A15	78	A15	
M_A_BS2	79	A16/BA2	[10] M_A_BS2
M_A_BS0	109	BA0	[10] M_A_BS0
M_A_BS1	108	BA1	[10] M_A_BS1
M_A_DQ0	5	DQ0	
M_A_DQ1	7	DQ1	
M_A_DQ2	15	DQ2	
M_A_DQ3	17	DQ3	
M_A_DQ4	4	DQ4	
M_A_DQ5	6	DQ5	
M_A_DQ6	16	DQ6	
M_A_DQ7	18	DQ7	
M_A_DQ8	21	DQ8	
M_A_DQ9	23	DQ9	
M_A_DQ10	33	DQ10	
M_A_DQ11	35	DQ11	
M_A_DQ12	22	DQ12	
M_A_DQ13	24	DQ13	
M_A_DQ14	34	DQ14	
M_A_DQ15	36	DQ15	
M_A_DQ16	39	DQ16	
M_A_DQ17	41	DQ17	
M_A_DQ18	51	DQ18	
M_A_DQ19	53	DQ19	
M_A_DQ20	40	DQ20	
M_A_DQ21	42	DQ21	
M_A_DQ22	50	DQ22	
M_A_DQ23	52	DQ23	
M_A_DQ24	57	DQ24	
M_A_DQ25	59	DQ25	
M_A_DQ26	67	DQ26	
M_A_DQ27	69	DQ27	
M_A_DQ28	56	DQ28	
M_A_DQ29	58	DQ29	
M_A_DQ30	68	DQ30	
M_A_DQ31	70	DQ31	
M_A_DQ32	129	DQ32	
M_A_DQ33	131	DQ33	
M_A_DQ34	141	DQ34	
M_A_DQ35	143	DQ35	
M_A_DQ36	130	DQ36	
M_A_DQ37	132	DQ37	
M_A_DQ38	140	DQ38	
M_A_DQ39	142	DQ39	
M_A_DQ40	147	DQ40	
M_A_DQ41	149	DQ41	
M_A_DQ42	157	DQ42	
M_A_DQ43	159	DQ43	
M_A_DQ44	146	DQ44	
M_A_DQ45	148	DQ45	
M_A_DQ46	158	DQ46	
M_A_DQ47	160	DQ47	
M_A_DQ48	163	DQ48	
M_A_DQ49	165	DQ49	
M_A_DQ50	175	DQ50	
M_A_DQ51	177	DQ51	
M_A_DQ52	164	DQ52	
M_A_DQ53	166	DQ53	
M_A_DQ54	174	DQ54	
M_A_DQ55	176	DQ55	
M_A_DQ56	181	DQ56	
M_A_DQ57	183	DQ57	
M_A_DQ58	191	DQ58	
M_A_DQ59	193	DQ59	
M_A_DQ60	180	DQ60	
M_A_DQ61	182	DQ61	
M_A_DQ62	192	DQ62	
M_A_DQ63	194	DQ63	
M_A_DQS#0	10	DQS0#	
M_A_DQS#1	27	DQS1#	
M_A_DQS#2	45	DQS2#	
M_A_DQS#3	62	DQS3#	
M_A_DQS#4	135	DQS4#	
M_A_DQS#5	152	DQS5#	
M_A_DQS#6	169	DQS6#	
M_A_DQS#7	186	DQS7#	
M_A_DQS0	12	DQS0	
M_A_DQS1	29	DQS1	
M_A_DQS2	47	DQS2	
M_A_DQS3	64	DQS3	
M_A_DQS4	137	DQS4	
M_A_DQS5	154	DQS5	
M_A_DQS6	171	DQS6	
M_A_DQS7	188	DQS7	
M_ODT0	116	ODT0	[10] M_ODT0
M_ODT1	120	ODT1	[10] M_ODT1
	126	VREF_CA	
	1	VREF_DQ	
	30	RESET#	+0.75V_DDR_VTT [9,19] DDR3_DRAMRST#
	203	VTT1	
	204	VTT2	

NP1	NP1		
NP2	NP2		
RAS#	110		M_A_RAS# [10]
WE#	113		M_A_WE# [10]
CAS#	115		M_A_CAS# [10]
CS0#	114		M_CS0# [10]
CS1#	121		M_CS1# [10]
CKE0	73		M_CKE0 [10]
CKE1	74		M_CKE1 [10]
CK0	101	M_CLK_DDR0	M_CLK_DDR0 [10]
CK0#	103	M_CLK_DDR#0	M_CLK_DDR#0 [10]
CK1	102	M_CLK_DDR1	M_CLK_DDR1 [10]
CK1#	104	M_CLK_DDR#1	M_CLK_DDR#1 [10]
DM0	11	M_A_DM0	
DM1	28	M_A_DM1	
DM2	46	M_A_DM2	
DM3	63	M_A_DM3	
DM4	136	M_A_DM4	
DM5	153	M_A_DM5	
DM6	170	M_A_DM6	
DM7	187	M_A_DM7	
SDA	200	PCH_SMBDATA	PCH_SMBDATA [7,19,23,40,64,65]
SCL	202	PCH_SMBCLK	PCH_SMBCLK [7,19,23,40,64,65]
EVENT#	198		PM_EXTTS#0 [9]
VDDSPD	199		
SA0	197	SA0_DM1	
SA1	201	SA1_DM1	
NC#1	77		
NC#2	122		
NC#/TEST	125		
VDD1	75		+1.5V_SUS
VDD2	76		
VDD3	81		
VDD4	82		
VDD5	87		
VDD6	88		
VDD7	93		
VDD8	94		
VDD9	99		
VDD10	100		
VDD11	105		
VDD12	106		
VDD13	111		
VDD14	112		
VDD15	117		
VDD16	118		
VDD17	123		
VDD18	124		
VSS	2		
VSS	3		
VSS	8		
VSS	9		
VSS	13		
VSS	14		
VSS	19		
VSS	20		
VSS	25		
VSS	26		
VSS	31		
VSS	32		
VSS	37		
VSS	38		
VSS	43		
VSS	44		
VSS	48		
VSS	49		
VSS	54		
VSS	55		
VSS	60		
VSS	61		
VSS	65		
VSS	66		
VSS	71		
VSS	72		
VSS	127		
VSS	128		
VSS	133		
VSS	134		
VSS	138		
VSS	139		
VSS	144		
VSS	145		
VSS	150		
VSS	151		
VSS	155		
VSS	156		
VSS	161		
VSS	162		
VSS	167		
VSS	168		
VSS	172		
VSS	173		
VSS	178		
VSS	179		
VSS	184		
VSS	185		
VSS	189		
VSS	190		
VSS	195		
VSS	196		
VSS	205		
VSS	206		

Height 5.2mm

DDR3-204P-47-GP

SA0_DM1
SA1_DM1
RN1802 SRN10KJ-5-GP

SMBUS address:A0

+3.3V_RUN
C1806 SCD1U16V2KX-3GP
DY C1807 SC2D2U10V3KX-1GP

62.10017.P31

<Core Design>

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

Title: DDRIII-SODIMM SLOT1
Size: Custom | Document Number: Vostro Calpella | Rev: X01
Date: Monday, January 18, 2010 | Sheet 18 of 91

SSID = MEMORY

[10] M_B_DQS#[7..0]
[10] M_B_DQ[63..0]
[10] M_B_DM[7..0]
[10] M_B_DQS[7..0]
[10] M_B_A[15..0]

Layout Note:
Place near DM2

+1.5V_SUS

C1919 SC10U6D3V5MX-3GP
C1911 SC10U6D3V5MX-3GP
C1913 SC10U6D3V5MX-3GP
C1905 SC10U6D3V5MX-3GP
C1916 SC10U6D3V5MX-3GP
C1920 SC10U6D3V5MX-3GP
TC1903 ST330U2D5VBM-1-GP

Layout Note:
Put close to VTT1,VTT2.

+0.75V_DDR_VTT

C1908 SC1U10V2KX-1GP
C1909 SC1U10V2KX-1GP
C1917 SC1U10V2KX-1GP
C1918 SC1U10V2KX-1GP

+1.5V_SUS

C1976 SCD1U10V2KX-4GP
C1977 SCD1U10V2KX-4GP
C1978 SCD1U10V2KX-4GP
C1979 SCD1U10V2KX-4GP

425302_425302_Calpella_S3PowerReduction_WhitePape
Revision 0.7

+V_DDR_REF

C1907 SCD1U16V2KX-3GP
C1914 SC2D2U10V3KX-1GP
C1910 SCD1U16V2KX-3GP
C1912 SC2D2U10V3KX-1GP

DM2

M_B_A0	98	A0	
M_B_A1	97	A1	
M_B_A2	96	A2	
M_B_A3	95	A3	
M_B_A4	92	A4	
M_B_A5	91	A5	
M_B_A6	90	A6	
M_B_A7	86	A7	
M_B_A8	89	A8	
M_B_A9	85	A9	
M_B_A10	107	A10/AP	
M_B_A11	84	A11	
M_B_A12	83	A12	
M_B_A13	119	A13	
M_B_A14	80	A14	
M_B_A15	78	A15	
[10] M_B_BS2	M_B_BS2	79	A16/BA2
M_B_BS0	109	BA0	
[10] M_B_BS0	M_B_BS1	108	BA1
[10] M_B_BS1			
M_B_DQ0	5	DQ0	
M_B_DQ1	7	DQ1	
M_B_DQ2	15	DQ2	
M_B_DQ3	17	DQ3	
M_B_DQ4	4	DQ4	
M_B_DQ5	6	DQ5	
M_B_DQ6	16	DQ6	
M_B_DQ7	18	DQ7	
M_B_DQ8	21	DQ8	
M_B_DQ9	23	DQ9	
M_B_DQ10	33	DQ10	
M_B_DQ11	35	DQ11	
M_B_DQ12	22	DQ12	
M_B_DQ13	24	DQ13	
M_B_DQ14	34	DQ14	
M_B_DQ15	36	DQ15	
M_B_DQ16	39	DQ16	
M_B_DQ17	41	DQ17	
M_B_DQ18	51	DQ18	
M_B_DQ19	53	DQ19	
M_B_DQ20	40	DQ20	
M_B_DQ21	42	DQ21	
M_B_DQ22	50	DQ22	
M_B_DQ23	52	DQ23	
M_B_DQ24	57	DQ24	
M_B_DQ25	59	DQ25	
M_B_DQ26	67	DQ26	
M_B_DQ27	69	DQ27	
M_B_DQ28	56	DQ28	
M_B_DQ29	58	DQ29	
M_B_DQ30	68	DQ30	
M_B_DQ31	70	DQ31	
M_B_DQ32	129	DQ32	
M_B_DQ33	131	DQ33	
M_B_DQ34	141	DQ34	
M_B_DQ35	143	DQ35	
M_B_DQ36	130	DQ36	
M_B_DQ37	132	DQ37	
M_B_DQ38	140	DQ38	
M_B_DQ39	142	DQ39	
M_B_DQ40	147	DQ40	
M_B_DQ41	149	DQ41	
M_B_DQ42	157	DQ42	
M_B_DQ43	159	DQ43	
M_B_DQ44	146	DQ44	
M_B_DQ45	148	DQ45	
M_B_DQ46	158	DQ46	
M_B_DQ47	160	DQ47	
M_B_DQ48	163	DQ48	
M_B_DQ49	165	DQ49	
M_B_DQ50	175	DQ50	
M_B_DQ51	177	DQ51	
M_B_DQ52	164	DQ52	
M_B_DQ53	166	DQ53	
M_B_DQ54	174	DQ54	
M_B_DQ55	176	DQ55	
M_B_DQ56	181	DQ56	
M_B_DQ57	183	DQ57	
M_B_DQ58	191	DQ58	
M_B_DQ59	193	DQ59	
M_B_DQ60	180	DQ60	
M_B_DQ61	182	DQ61	
M_B_DQ62	192	DQ62	
M_B_DQ63	194	DQ63	
M_B_DQS#0	10	DQS0#	
M_B_DQS#1	27	DQS1#	
M_B_DQS#2	45	DQS2#	
M_B_DQS#3	62	DQS3#	
M_B_DQS#4	135	DQS4#	
M_B_DQS#5	152	DQS5#	
M_B_DQS#6	169	DQS6#	
M_B_DQS#7	186	DQS7#	
M_B_DQS0	12	DQS0	
M_B_DQS1	29	DQS1	
M_B_DQS2	47	DQS2	
M_B_DQS3	64	DQS3	
M_B_DQS4	137	DQS4	
M_B_DQS5	154	DQS5	
M_B_DQS6	171	DQS6	
M_B_DQS7	188	DQS7	
M_ODT2	116	ODT0	
[10] M_ODT2	M_ODT3	120	ODT1
[10] M_ODT3		126	VREF_CA
		1	VREF_DQ
[9,18] DDR3_DRAMRST#		30	RESET#
+0.75V_DDR_VTT		203	VTT1
		204	VTT2

NP1	NP1		
NP2	NP2		
RAS#	110	M_B_RAS# [10]	
WE#	113	M_B_WE# [10]	
CAS#	115	M_B_CAS# [10]	
CS0#	114	M_CS2# [10]	
CS1#	121	M_CS3# [10]	
CKE0	73	M_CKE2 [10]	
CKE1	74	M_CKE3 [10]	
CK0	101	M_CLK_DDR2	M_CLK_DDR2 [10]
CK0#	103	M_CLK_DDR#2	M_CLK_DDR#2 [10]
CK1	102	M_CLK_DDR3	M_CLK_DDR3 [10]
CK1#	104	M_CLK_DDR#3	M_CLK_DDR#3 [10]
DM0	11	M_B_DM0	
DM1	28	M_B_DM1	
DM2	46	M_B_DM2	
DM3	63	M_B_DM3	
DM4	136	M_B_DM4	
DM5	153	M_B_DM5	
DM6	170	M_B_DM6	
DM7	187	M_B_DM7	
SDA	200	PCH_SMBDATA	PCH_SMBDATA [7,18,23,40,64,65]
SCL	202	PCH_SMBCLK	PCH_SMBCLK [7,18,23,40,64,65]
EVENT#	198	PM_EXTTS#1 [9]	
VDDSPD	199		
SA0	197	SA0_DM2	
SA1	201	SA1_DM2	
NC#1	77		
NC#2	122		
NC#/TEST	125		
VDD1	75		
VDD2	76		
VDD3	81		
VDD4	82		
VDD5	87		
VDD6	88		
VDD7	93		
VDD8	94		
VDD9	99		
VDD10	100		
VDD11	105		
VDD12	106		
VDD13	111		
VDD14	112		
VDD15	117		
VDD16	118		
VDD17	123		
VDD18	124		
VSS	2		
VSS	3		
VSS	8		
VSS	9		
VSS	13		
VSS	14		
VSS	19		
VSS	20		
VSS	25		
VSS	26		
VSS	31		
VSS	32		
VSS	37		
VSS	38		
VSS	43		
VSS	44		
VSS	48		
VSS	49		
VSS	54		
VSS	55		
VSS	60		
VSS	61		
VSS	65		
VSS	66		
VSS	71		
VSS	72		
VSS	127		
VSS	128		
VSS	133		
VSS	134		
VSS	138		
VSS	139		
VSS	144		
VSS	145		
VSS	150		
VSS	151		
VSS	155		
VSS	156		
VSS	161		
VSS	162		
VSS	167		
VSS	168		
VSS	172		
VSS	173		
VSS	178		
VSS	179		
VSS	184		
VSS	185		
VSS	189		
VSS	190		
VSS	195		
VSS	196		
VSS	205		
VSS	206		

Height 9.2mm

DDR3-204P-55-GP

+3.3V_RUN

RN1903 SRN10KJ-5-GP

SA0_DM2
SA1_DM2

SMBUS address:A4

+3.3V_RUN

C1906 SCD1U16V2KX-3GP
C1921 SC2D2U10V3KX-1GP

Note:
If SA0_DIM0 = 0, SA1_DIM0 = 0
SO-DIMMA SPD Address is 0xA0
If SA0_DIM0 = 1, SA1_DIM0 = 0
SO-DIMMA SPD Address is 0xA2
If SA0_DIM0 = 0, SA1_DIM0 = 1
SO-DIMMA SPD Address is 0xA4

+1.5V_SUS

+0.75V_DDR_VTT

62.10017.Q31

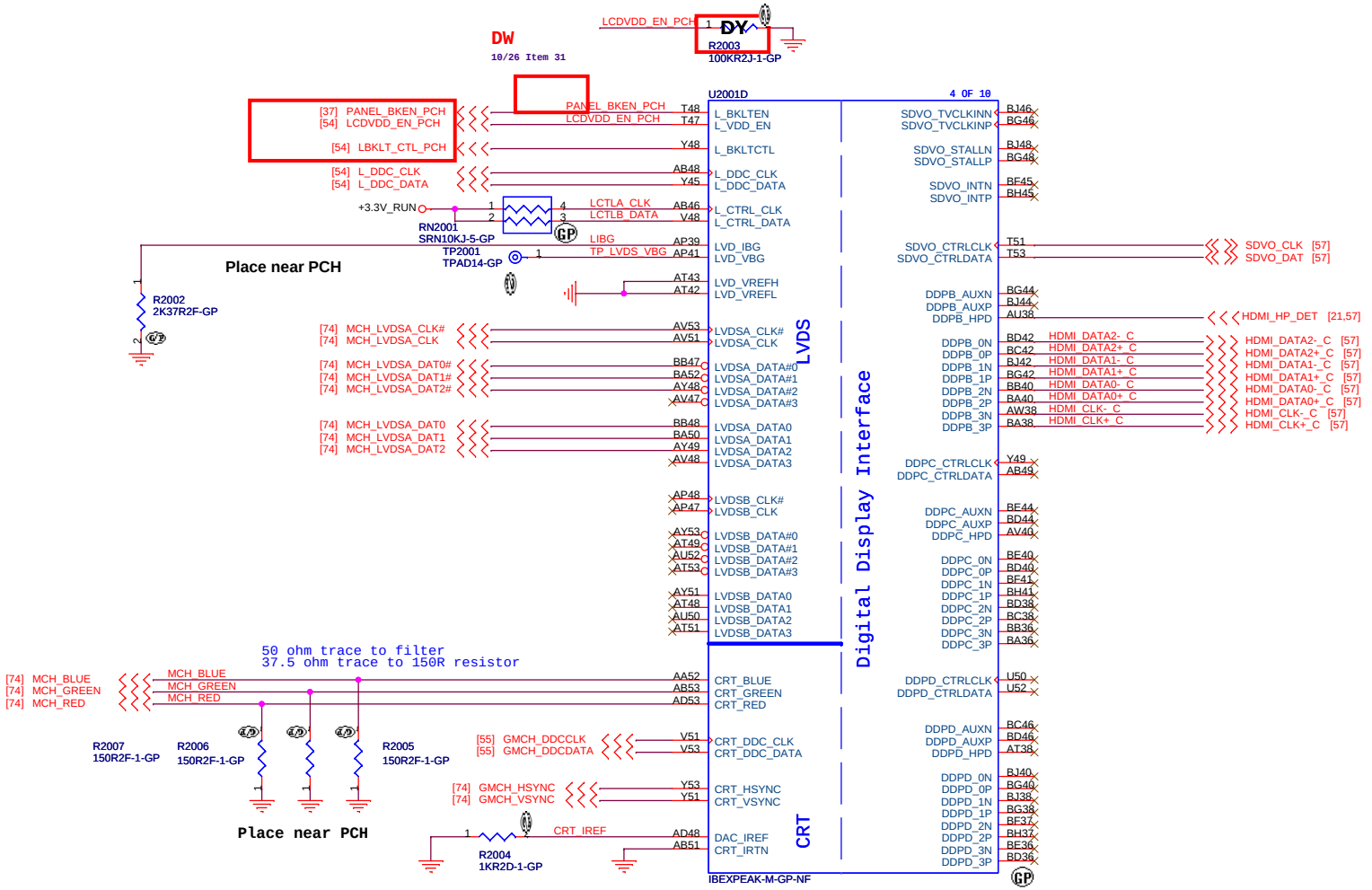
<Core Design>

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

Title: **DDRIII-SODIMM SLOT2**

Size: Custom | Document Number: **Vostro Calpella** | Rev: X01

Date: Monday, January 18, 2010 | Sheet 19 of 91



<Core Design>

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

Title: **PCH (LVDS/CRT/DDI)**

Size | Document Number: **Vostro Calpella** | Rev: X01

Date: Monday, January 18, 2010 | Sheet 20 of 91

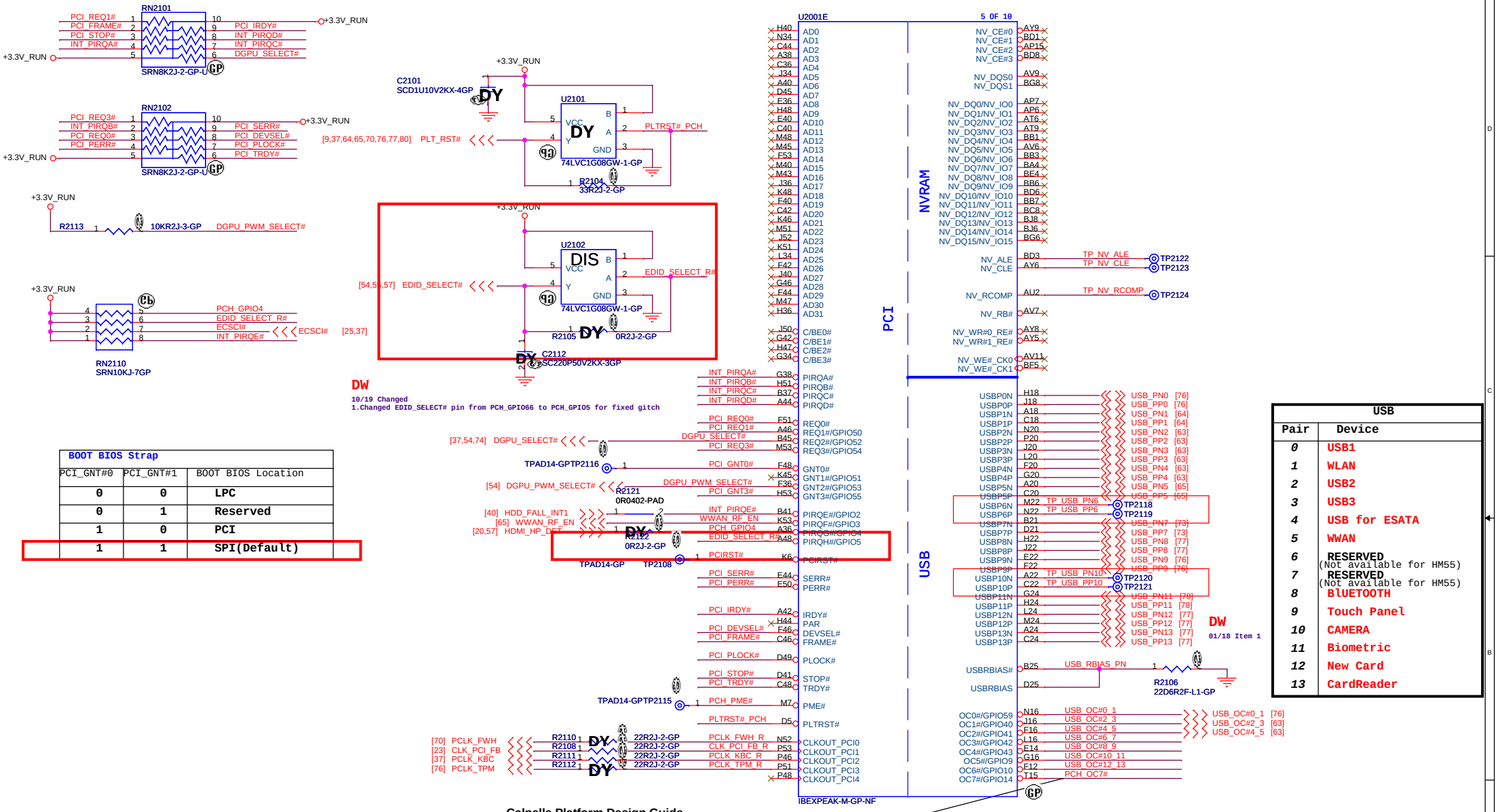
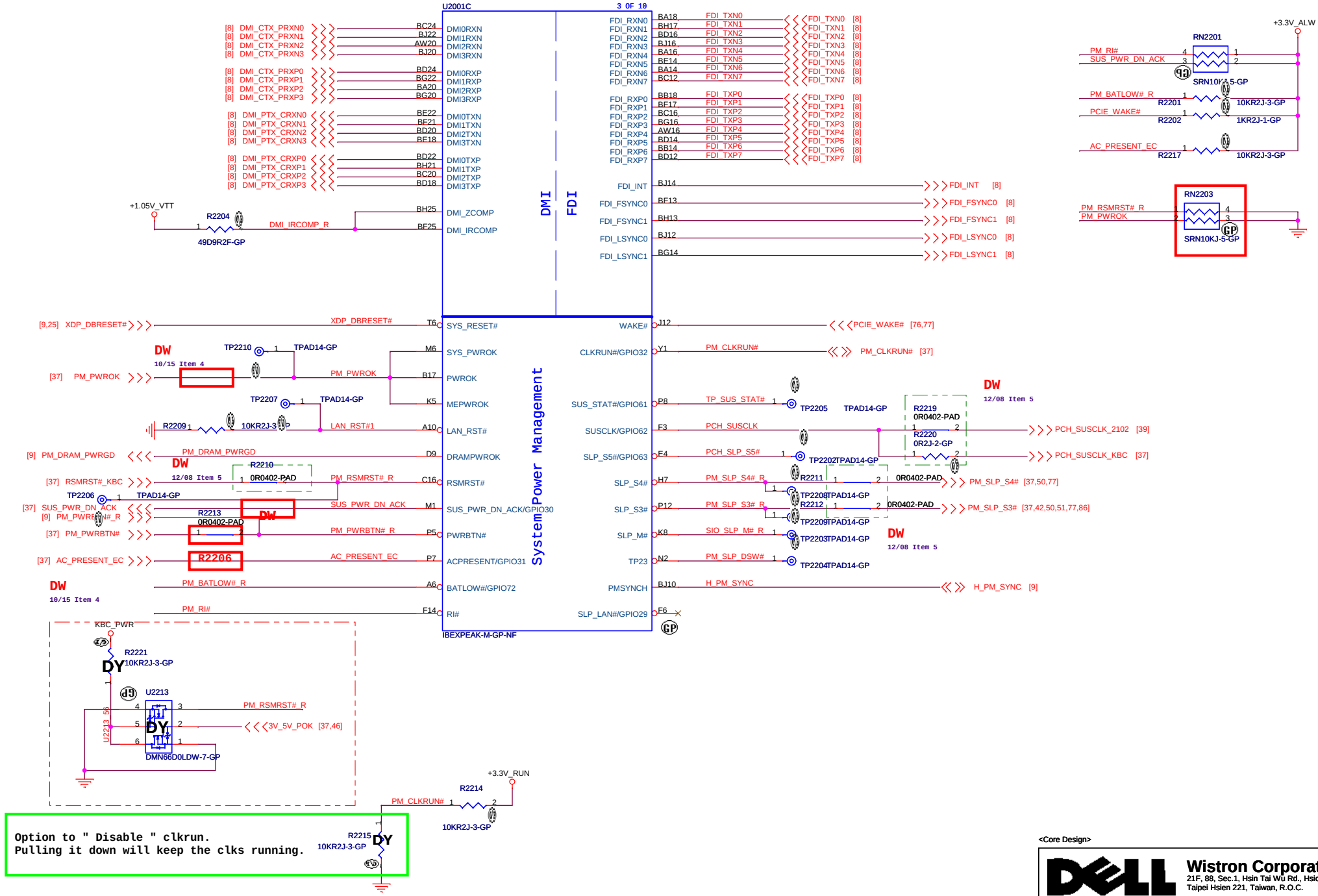


Table 111. Overcurrent Pin Example Configuration

These OC7# pins are not used for USB overcurrent protection and should be configured as GPIOs. The unused USB ports can be left as no connect.



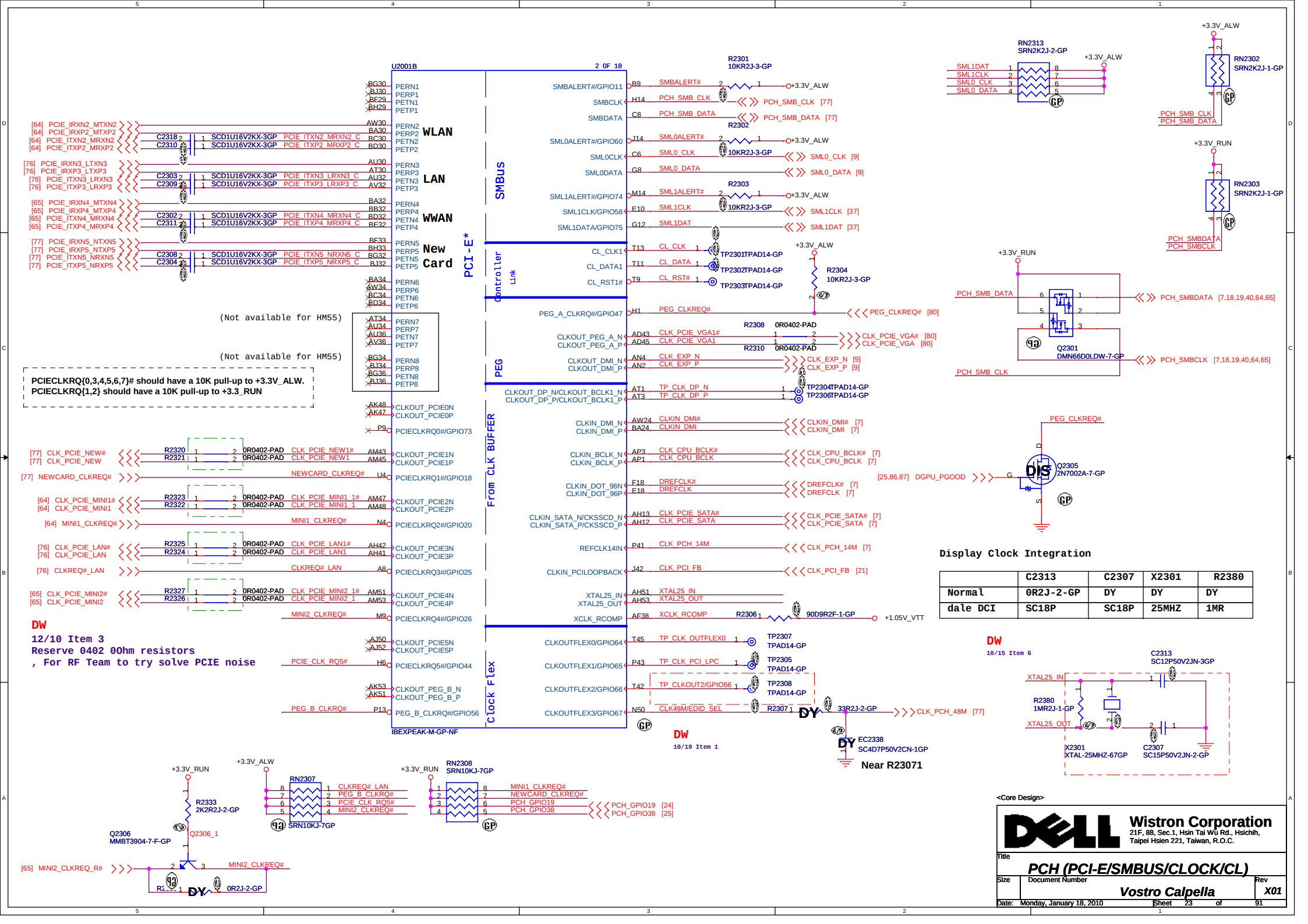
<Core Design>

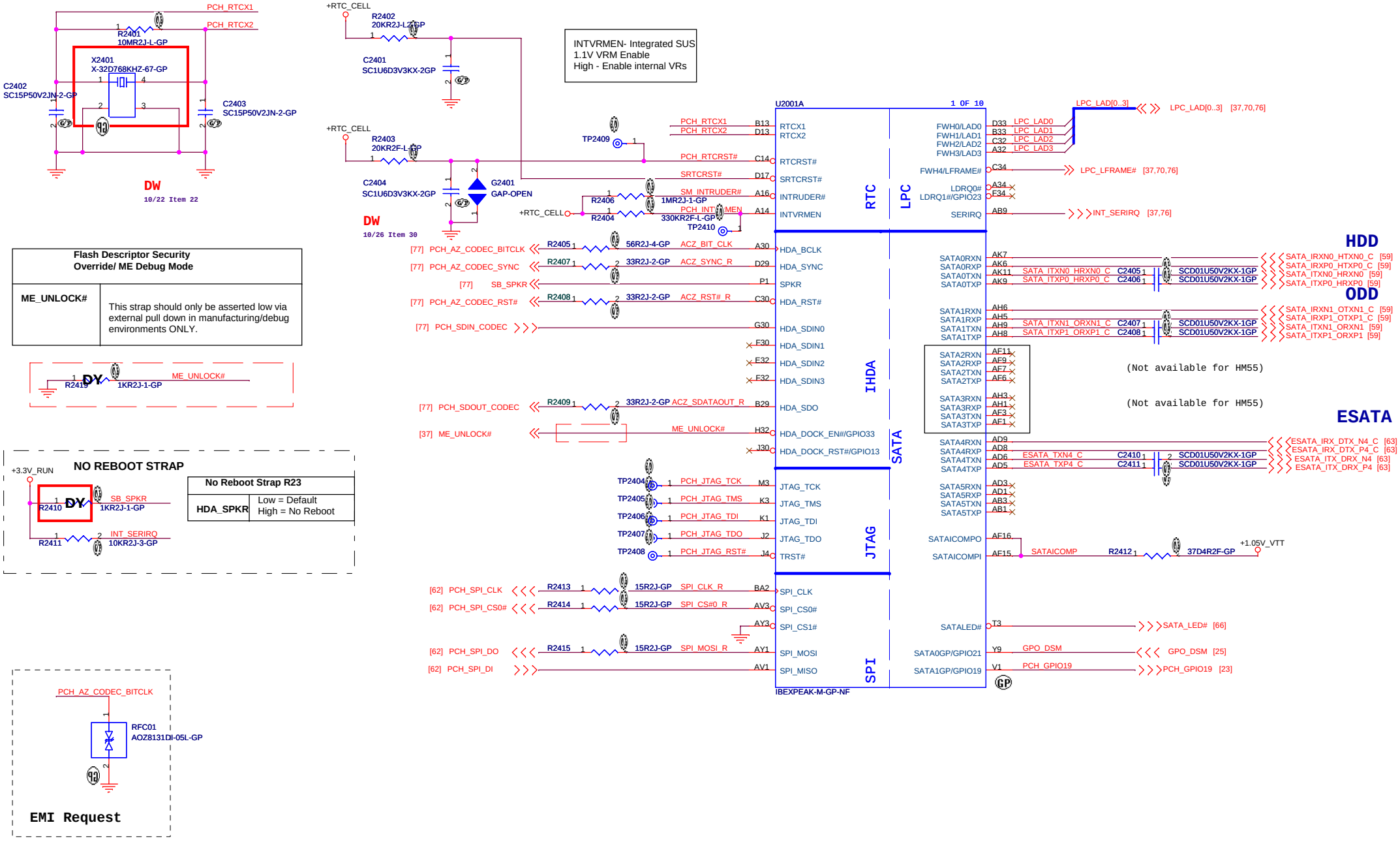
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: PCH (DM I/FDI/PM)

Size | Document Number: Vostro Calpella | Rev: X01

Date: Monday, January 18, 2010 | Sheet 22 of 91


U2001B
2 OF 10
PCI-E*
SMBus
PEG
From CLK BUFFER
Clock Flex
WLAN
LAN
WWAN
New Card
(Not available for HM55)
(Not available for HM55)
PCIECLKRQ{0,3,4,5,6,7}# should have a 10K pull-up to +3.3V_ALW.
PCIECLKRQ{1,2} should have a 10K pull-up to +3.3_RUN
IBEXPEAK-M-GP-NF
Display Clock Integration
C2313
C2307
X2301
R2380
Normal
0R2J-2-GP
DY
DY
DY
dale DCI
SC18P
SC18P
25MHZ
1MR
DW
12/10 Item 3
Reserve 0402 0Ohm resistors
, For RF Team to try solve PCIE noise
DW
10/19 Item 1
DW
10/15 Item 6
Near R23071
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
PCH (PCI-E/SMBUS/CLOCK/CL)
Size
Document Number
Vostro Calpella
Rev
X01
Date: Monday, January 18, 2010
Sheet 23 of 91



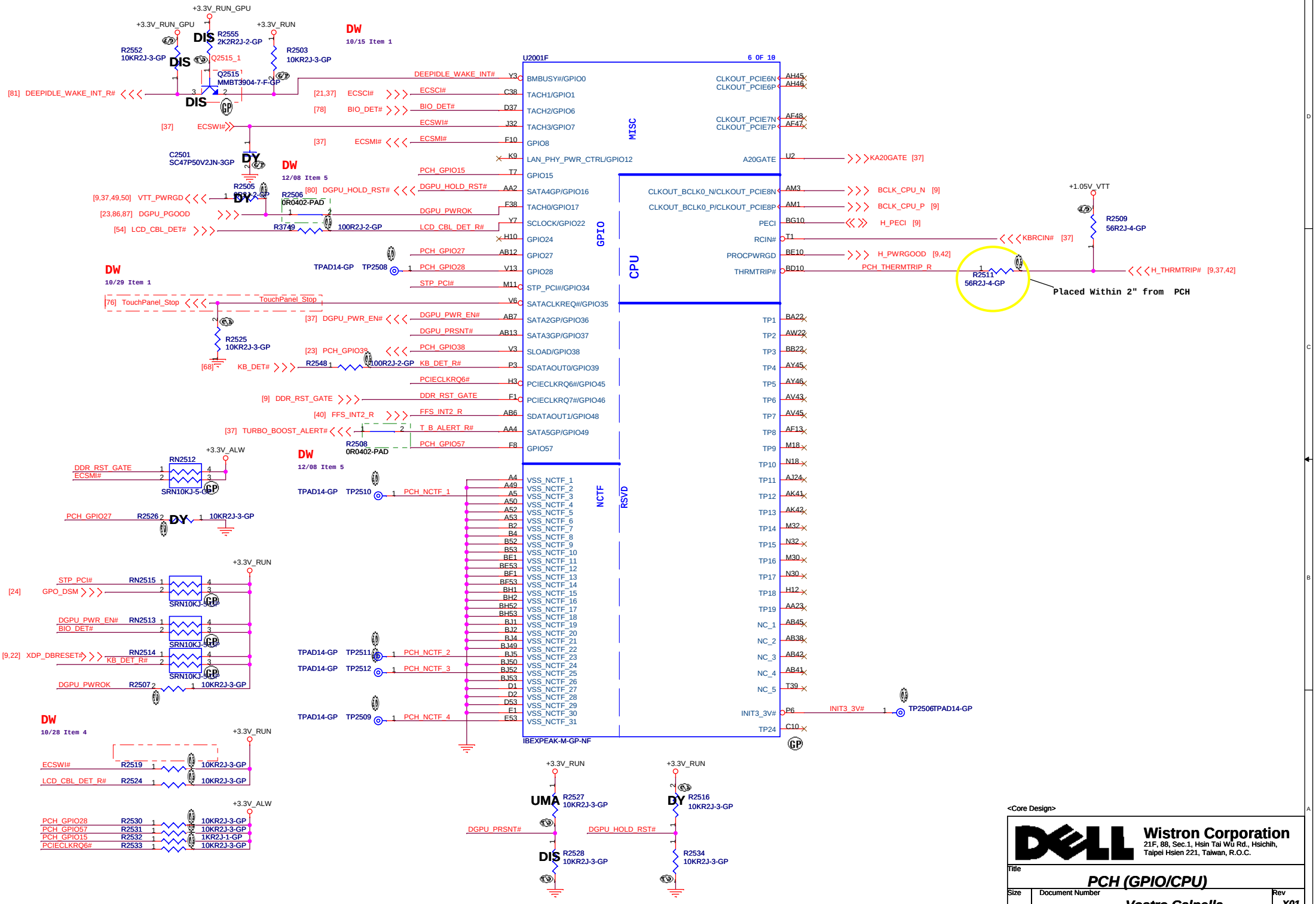
<Core Design>

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

Title: PCH (SPI/RTC/LPC/SATA/IHDA)

Size | Document Number: Vostro Calpella | Rev: X01

Date: Monday, January 18, 2010 | Sheet 24 of 91



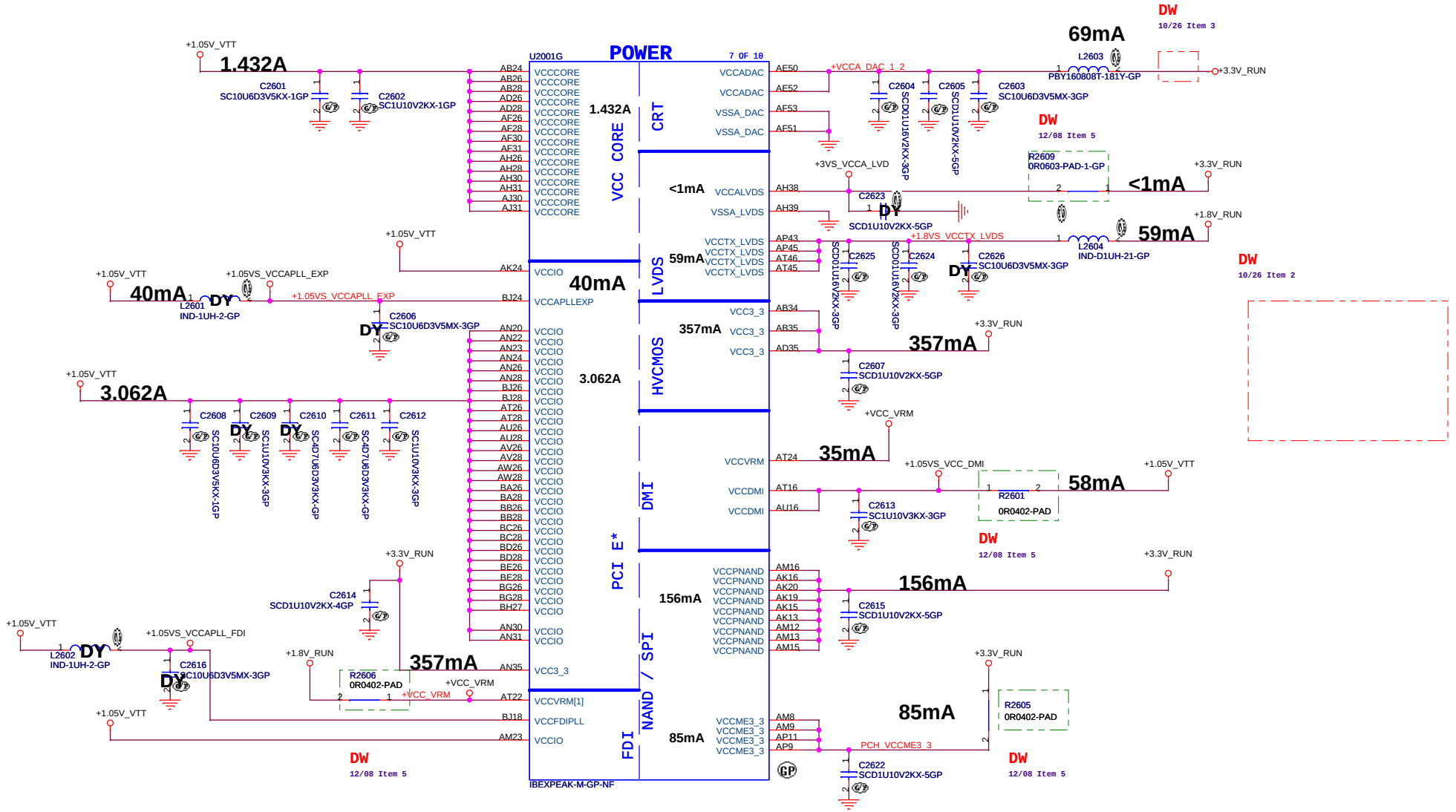
<Core Design>

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

Title: PCH (GPIO/CPU)

Size	Document Number	Rev
	Vostro Calpella	X01

Date: Monday, January 18, 2010 Sheet 25 of 91


POWER
7 OF 10
U2001G
IBEXPEAK-M-GP-NF
VCC CORE
1.432A
CRT
<1mA
LVDS
59mA
HVCMOS
357mA
DMI
3.062A
PCI E*
156mA
SPI
NAND
FDI
85mA
40mA
+1.05V_VTT
+1.05VS_VCCAPLL_EXP
+1.05VS_VCCAPLL_FDI
+3.3V_RUN
+1.8V_RUN
+3VS_VCCA_LVD
+1.8VS_VCCTX_LVDS
+VCC_VRM
+1.05VS_VCC_DMI
PCH_VCCME3_3
69mA
58mA
35mA
DW
10/26 Item 3
12/08 Item 5
10/26 Item 2
DY
<Core Design>
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Title
PCH (POWER1)
Size
Document Number
Vostro Calpella
Rev
X01
Date: Monday, January 18, 2010
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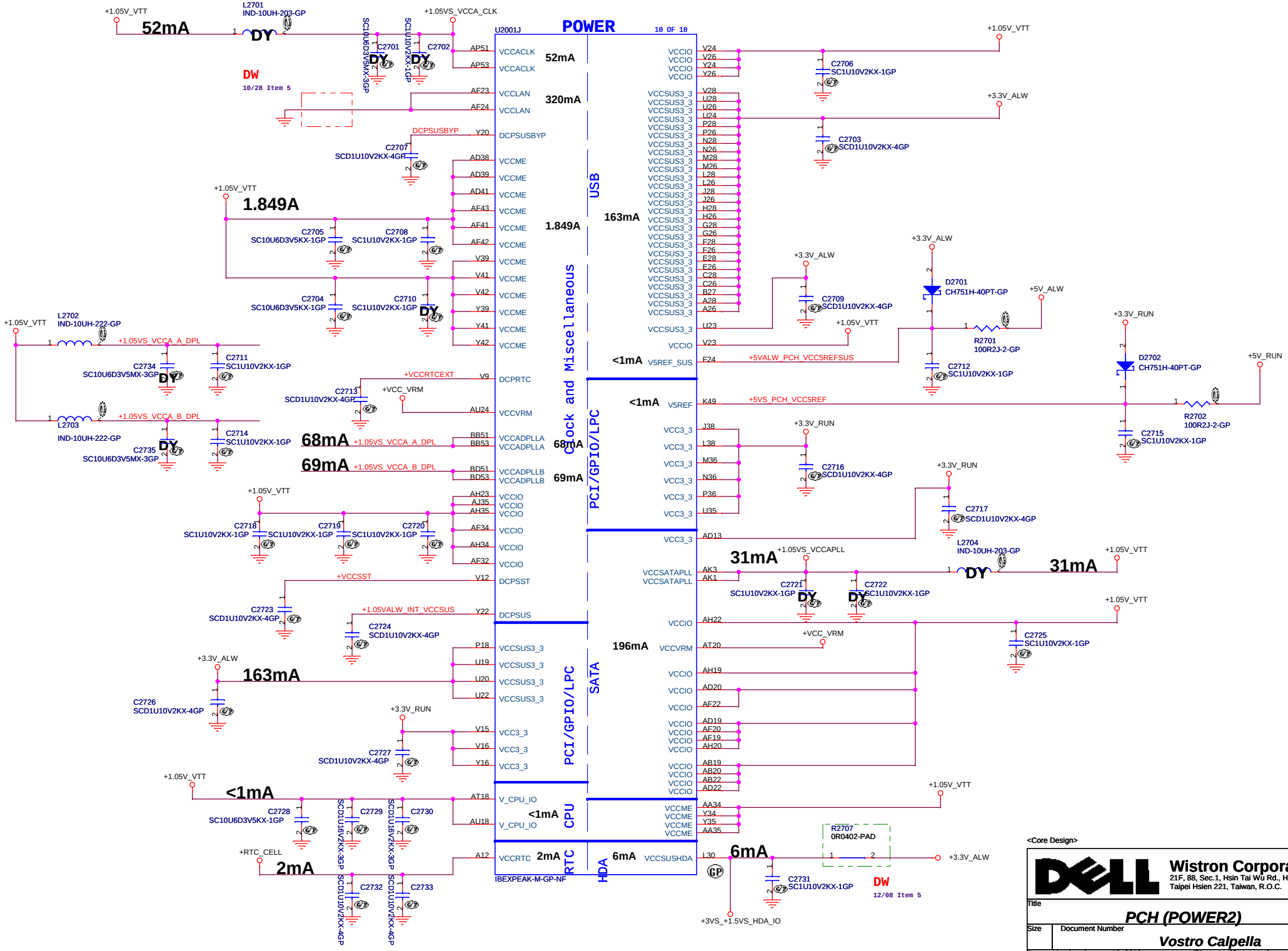
POWER
10 OF 10
U2001J
VCCACLK 52mA
VCCLAN 320mA
DCPSUSBYP
VCCME 1.849A
VCCSUS3_3 163mA
V5REF_SUS <1mA
V5REF <1mA
VCC3_3
DCPRTC
VCCVRM
VCCADPLLA 68mA
VCCADPLLB 69mA
VCCIO
DCPSST
DCPSUS
VCCSUS3_3
VCC3_3
V_CPU_IO <1mA
VCCRTC 2mA
IBEXPEAK-M-GP-NF
VCCSATAPLL 31mA
VCCVRM 196mA
VCCSUSHDA 6mA
Clock and Miscellaneous
USB
PCI/GPIO/LPC
SATA
CPU
RTC
HDA
+1.05V_VTT
+1.05VS_VCCA_CLK
+3.3V_ALW
+3.3V_RUN
+5V_ALW
+5V_RUN
+VCCRTCEXT
+VCC_VRM
+1.05VS_VCCA_A_DPL
+1.05VS_VCCA_B_DPL
+1.05VS_VCCAPLL
+1.05VALW_INT_VCCSUS
+5VALW_PCH_VCC5REFSUS
+5VS_PCH_VCC5REF
+RTC_CELL
+3VS_+1.5VS_HDA_IO
L2701 IND-10UH-203-GP
L2702 IND-10UH-222-GP
L2703 IND-10UH-222-GP
L2704 IND-10UH-203-GP
D2701 CH751H-40PT-GP
D2702 CH751H-40PT-GP
R2701 100R2J-2-GP
R2702 100R2J-2-GP
R2707 0R0402-PAD
DW 10/28 Item 5
DW 12/08 Item 5
DY
<Core Design>
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Title
PCH (POWER2)
Size
Document Number
Vostro Calpella
Rev
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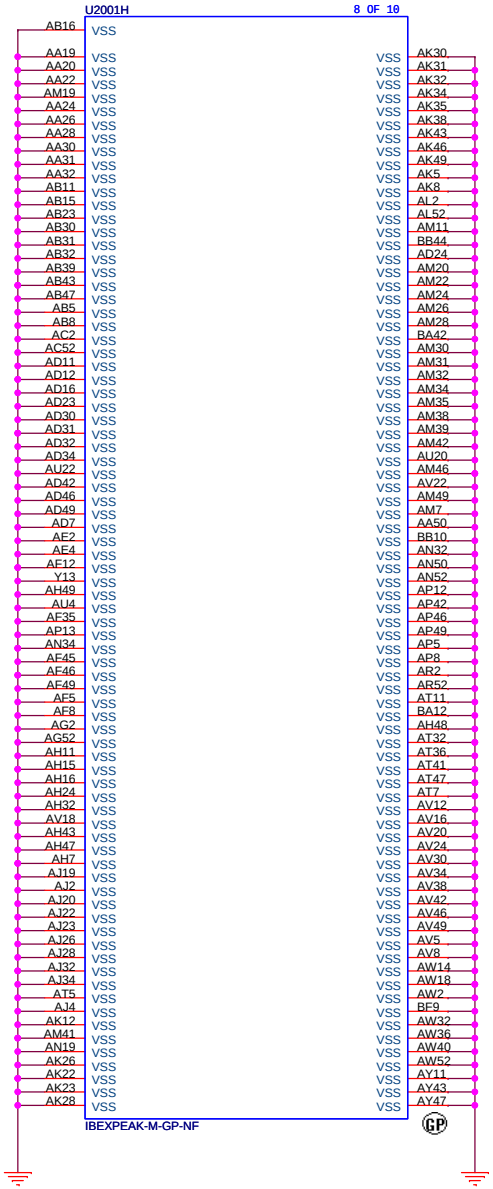

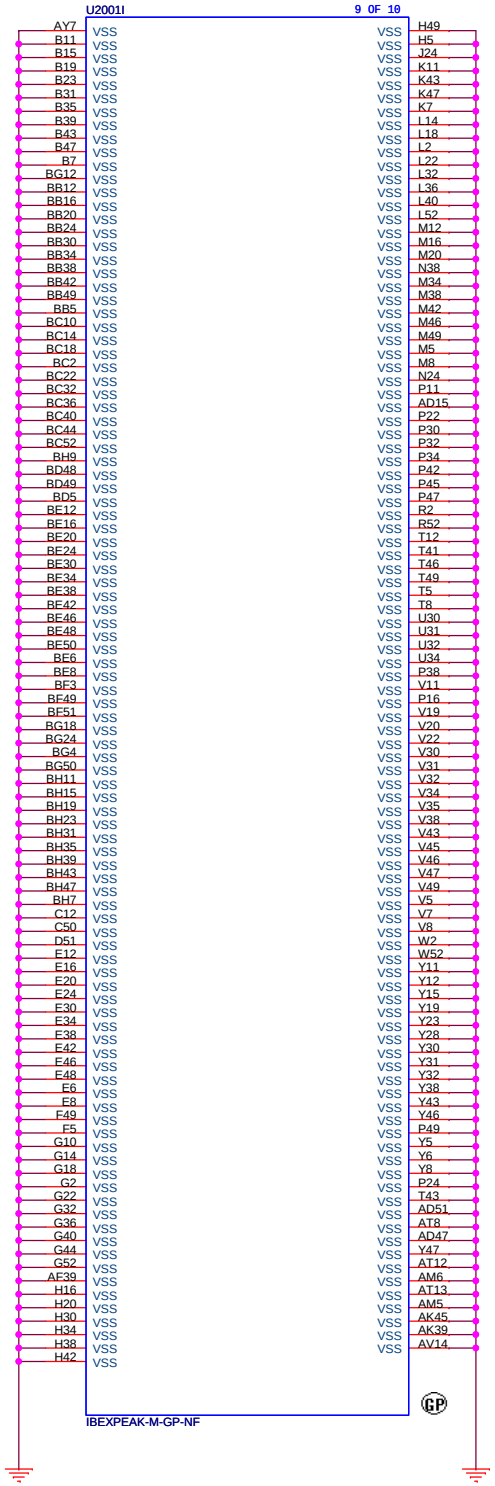

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Title: ***PCH (VSS)***

Size | Document Number: ***Vostro Calpella*** | Rev: ***X01***

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Title

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<Core Design>

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Title

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<Core Design>

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Title

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<Core Design>

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Title: *Reserve*

Size: A3 | Document Number: *Vostro Calpella* | Rev: *X01*

Date: Monday, January 18, 2010 | Sheet 32 of 91

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<Core Design>

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Title

(Reserve)

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<Core Design>

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Title

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Title

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Title: *(Reserve)*

Size: A3 | Document Number: *Vostro Calpella* | Rev: *X01*

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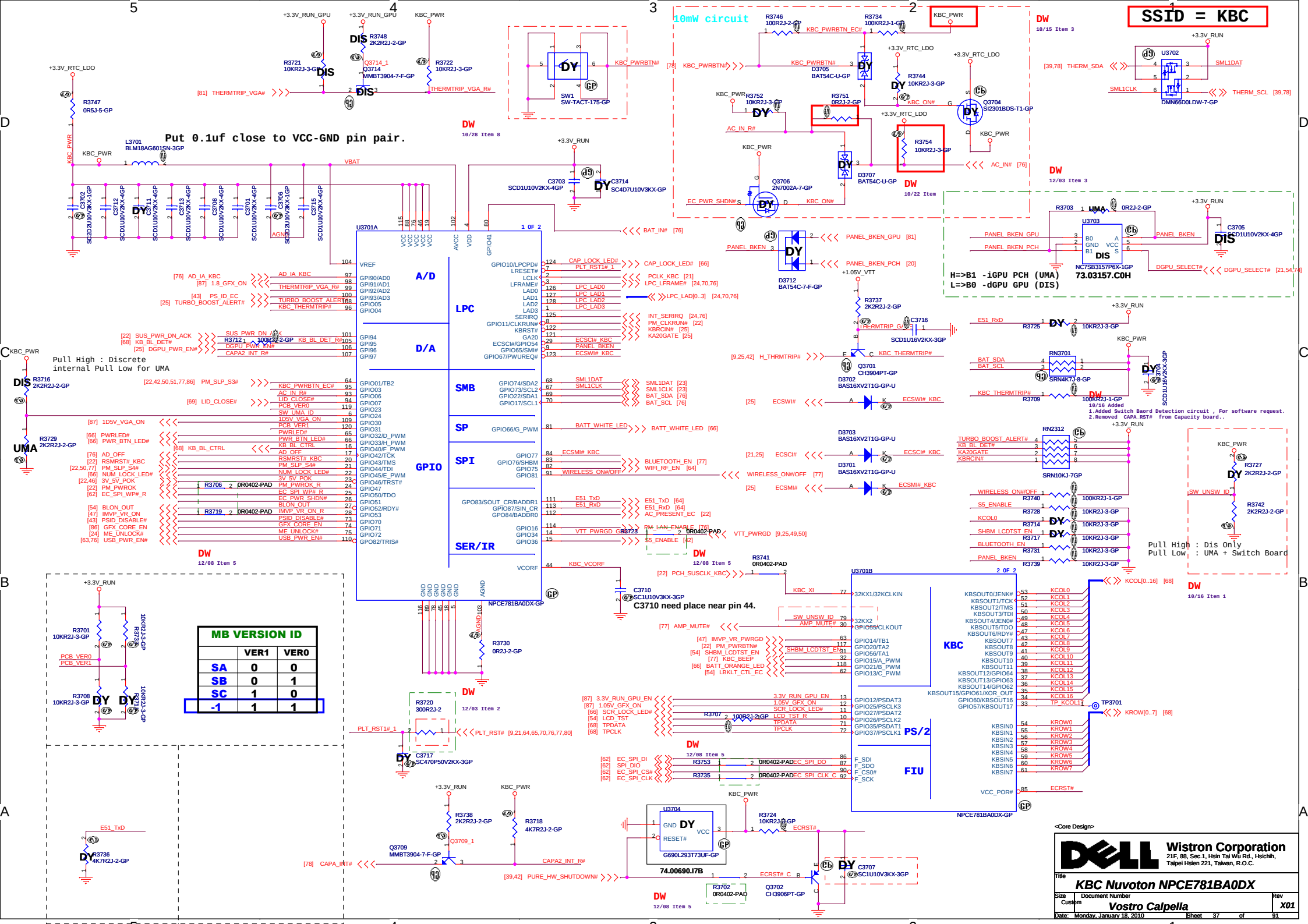
SSID = KBC
10mW circuit
Put 0.1uf close to VCC-GND pin pair.
Pull High : Discrete
internal Pull Low for UMA
H=>B1 -iGPU PCH (UMA)
L=>B0 -dGPU GPU (DIS)
73.03157.C0H
Pull High : Dis Only
Pull Low : UMA + Switch Board
C3710 need place near pin 44.
MB VERSION ID
VER1 VER0
SA 0 0
SB 0 1
SC 1 0
-1 1 1
U3701A
U3701B
NPCE781BA0DX-GP
KBC
PS/2
FIU
Wistron Corporation
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KBC Nuvoton NPCE781BA0DX
Vostro Calpella
X01
Monday, January 18, 2010
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Title

(Reserve)

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SSID = Thermal

1. WWAN

Q3905 must be near WWAN

C3912 must be near Q3905

Layout notice:
H_THERMDA, H_THERMDC routing together,
Trace width / Spacing = 10 / 10 mil

2. GPU Sensor

2. CPU Sensor

Layout notice :
Both VGA_THERMDA and THERMDC routing
10 mil trace width and 10 mil spacing.

C3901 must be near Q3901

3.HW T8 sensor (CPU)

Layout notice :
Both DN3 and DP3 routing 10 mil
trace width and 10 mil spacing.

GND = Channel 1
OPEN = Channel 3
+3.3V = Disabled

GND = Fan is OFF
OPEN = Fan is at 60% full-scale
+3.3V = Fan is at 75% full-scale

GND = Internal Oscillator Selected
+3.3V = External 32.768kHz Clock Selected

TRIP_SET Pin Voltage
V_DEGREE=(((Degree-75)/21)
T8 shutdown is set 86 deg-C.

32K suspend clock output

<Core Design>

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Title: Thermal/Fan Controllor EMC2102

Size: Custom | Document Number: Vostro Calpella | Rev: X01

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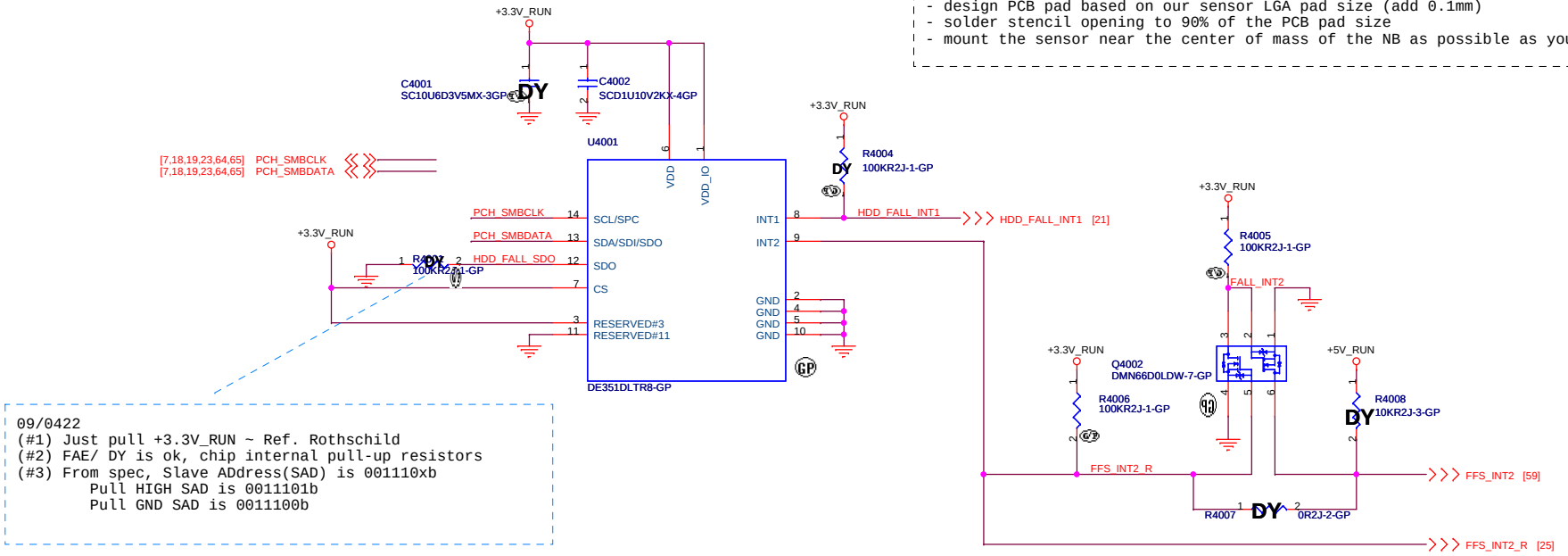
SSID = User.Interface

Free Fall Sensor

Note
- no via, trace, under the sensor (keep out area around 2mm)
- stay away from the screw hole or metal shield soldering joints
- design PCB pad based on our sensor LGA pad size (add 0.1mm)
- solder stencil opening to 90% of the PCB pad size
- mount the sensor near the center of mass of the NB as possible as you can



09/0422
(#1) Just pull +3.3V_RUN ~ Ref. Rothschild
(#2) FAE/ DY is ok, chip internal pull-up resistors
(#3) From spec, Slave ADdress(SAD) is 001110xb
Pull HIGH SAD is 0011101b
Pull GND SAD is 0011100b

Note
(1) Keep all signals are the same trace width. (included VDD, GND).
(2) No VIA under IC bottom.

<Core Design>

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Title: Free Fall Sensor

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Title

(Reserve)

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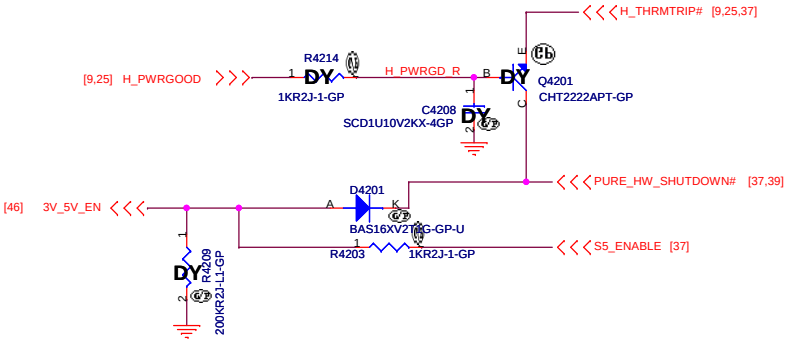
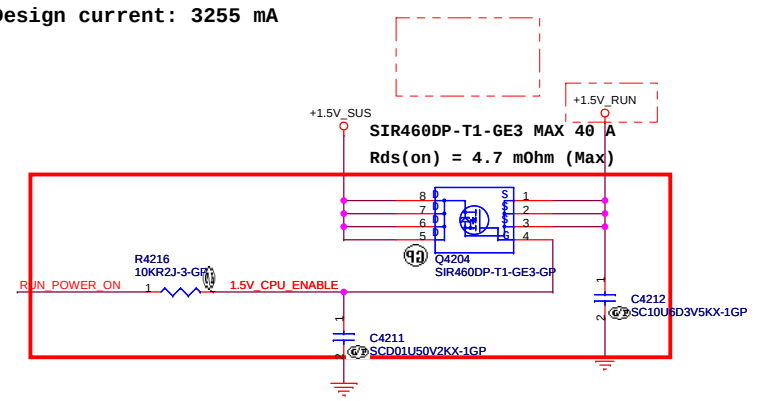
SSID = Reset.Suspend

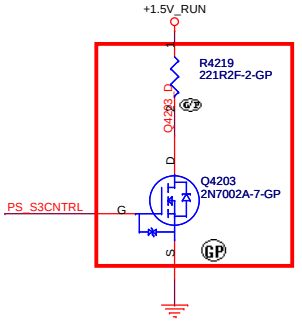
+1.5V_RUN:

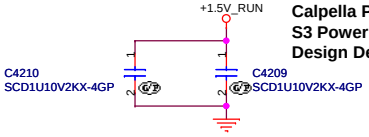
Peak current: 4650 mA
Design current: 3255 mA

DW
10/26 Item 3





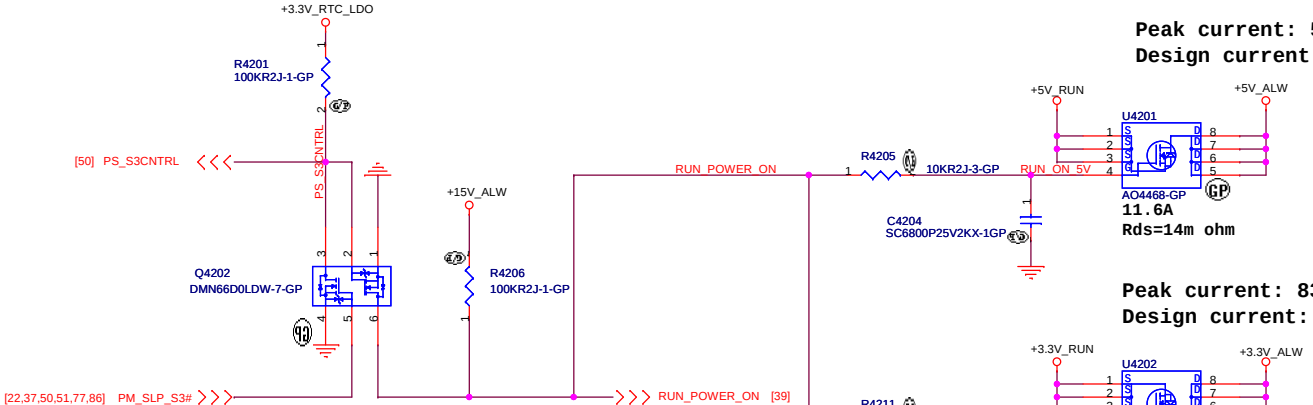




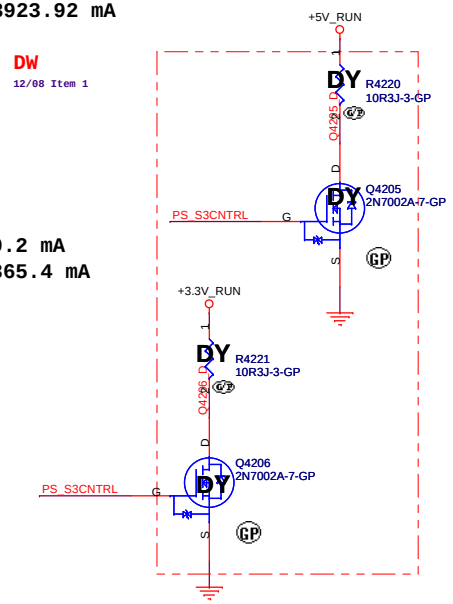
Calpella Platform S3 Power Reduction Platform
S3 Power Reduction CRB Implementation
Design Details
Revision 0.1

Peak current: 5605.6mA (HD:1100 ODD:2500)
Design current: 3923.92 mA

DW
12/08 Item 1



DW
10/26 Item 3



<Core Design>

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Title: ***Power Plane Enable***

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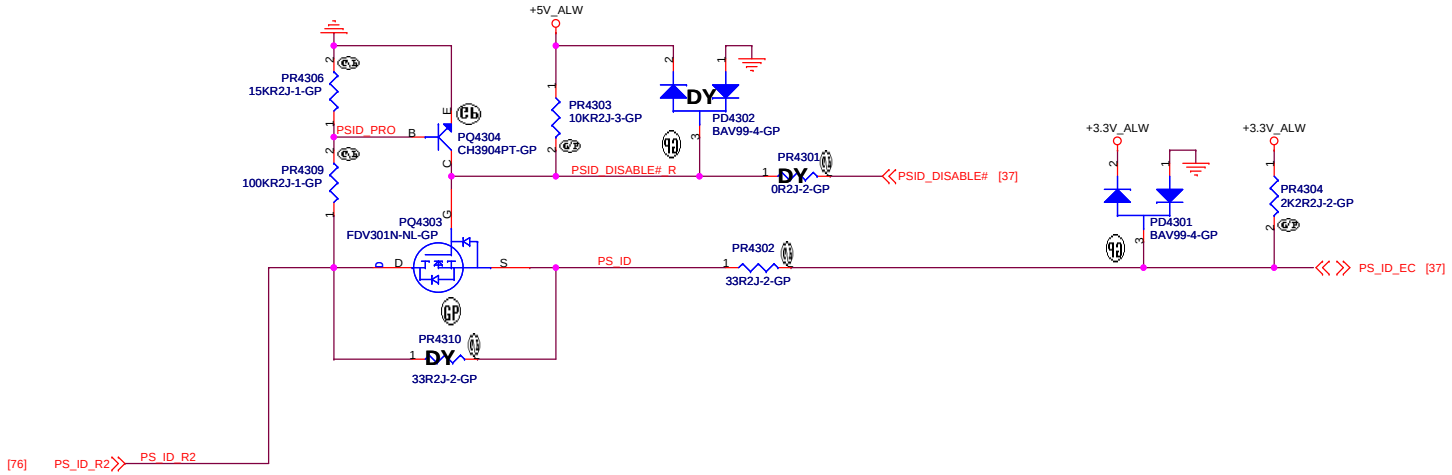

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Title: DC IN

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<Core Design>

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Title: *(Reserve)*

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<Core Design>

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Title

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Size	Document Number	Rev
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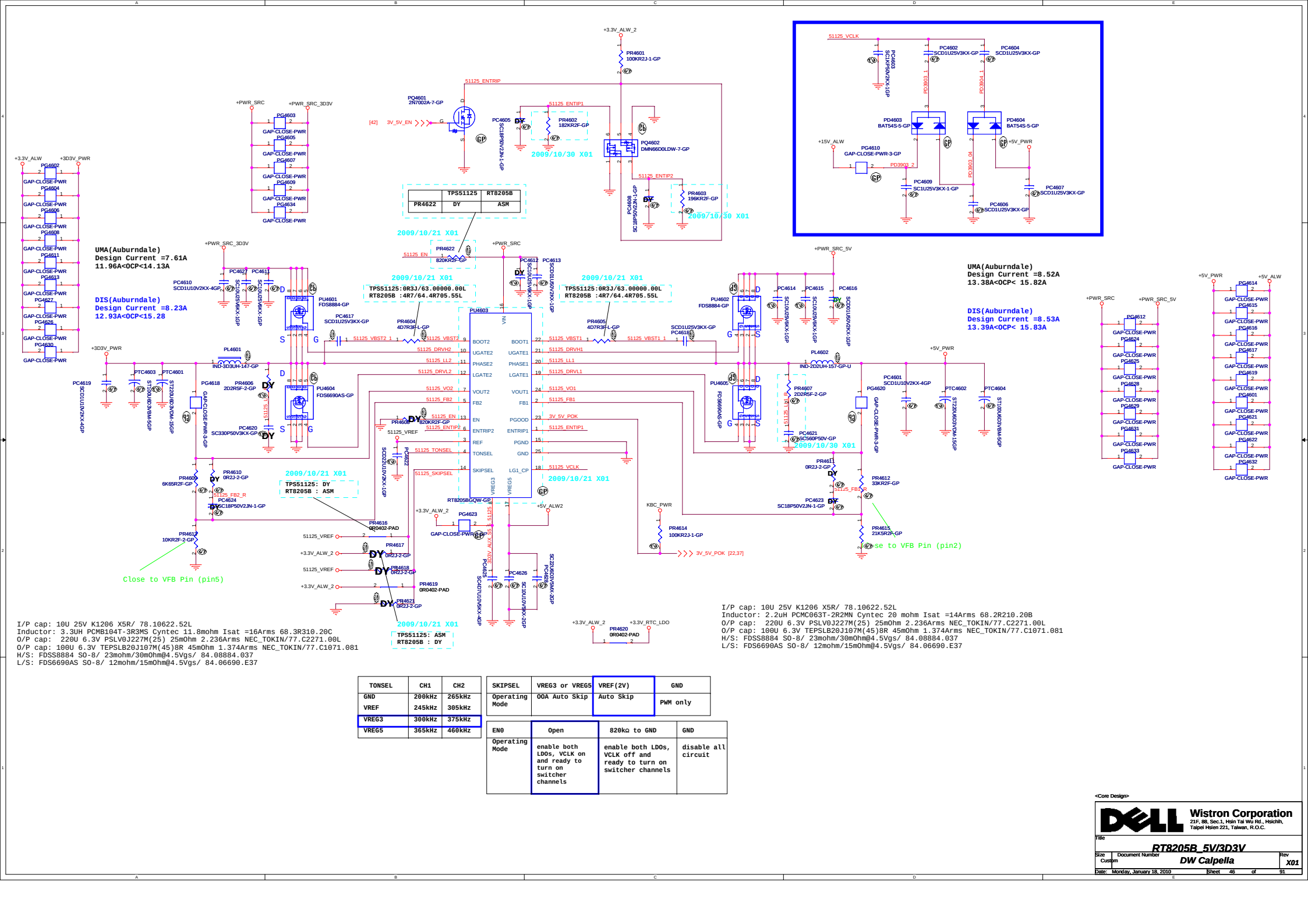
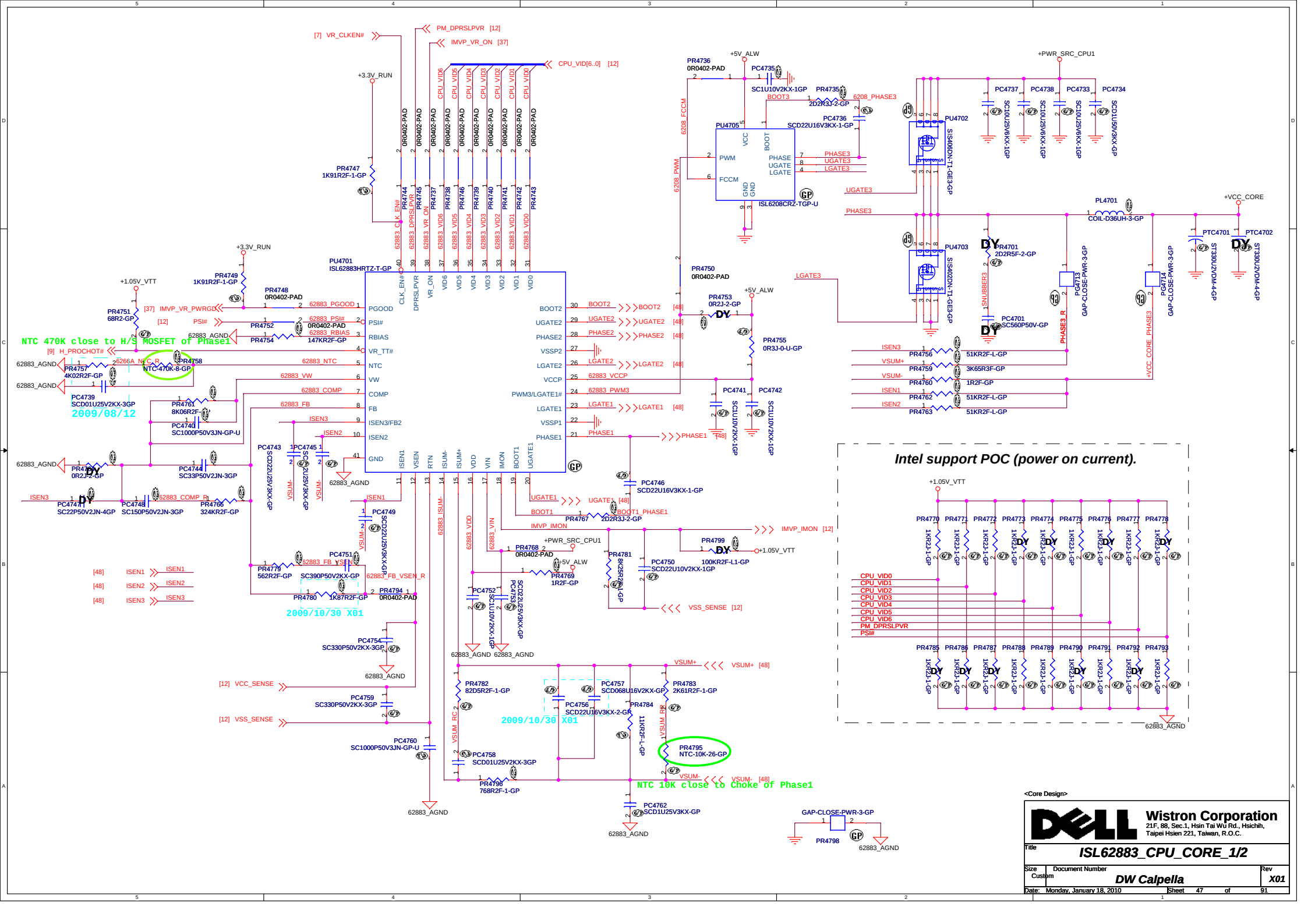


TONSEL	CH1	CH2
GND	200kHz	265kHz
VREF	245kHz	305kHz
VREG3	300kHz	375kHz
VREG5	365kHz	460kHz

SKIPSEL	VREG3 or VREG5	VREF(2V)	GND
Operating Mode	OOA Auto Skip	Auto Skip	PWM only

EN0	Open	820kΩ to GND	GND
Operating Mode	enable both LDOs, VCLK on and ready to turn on switcher channels	enable both LDOs, VCLK off and ready to turn on switcher channels	disable all circuit



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Title: ISL62883_CPU_CORE_1/2

Size: Custom | Document Number: DW Calpella | Rev: X01

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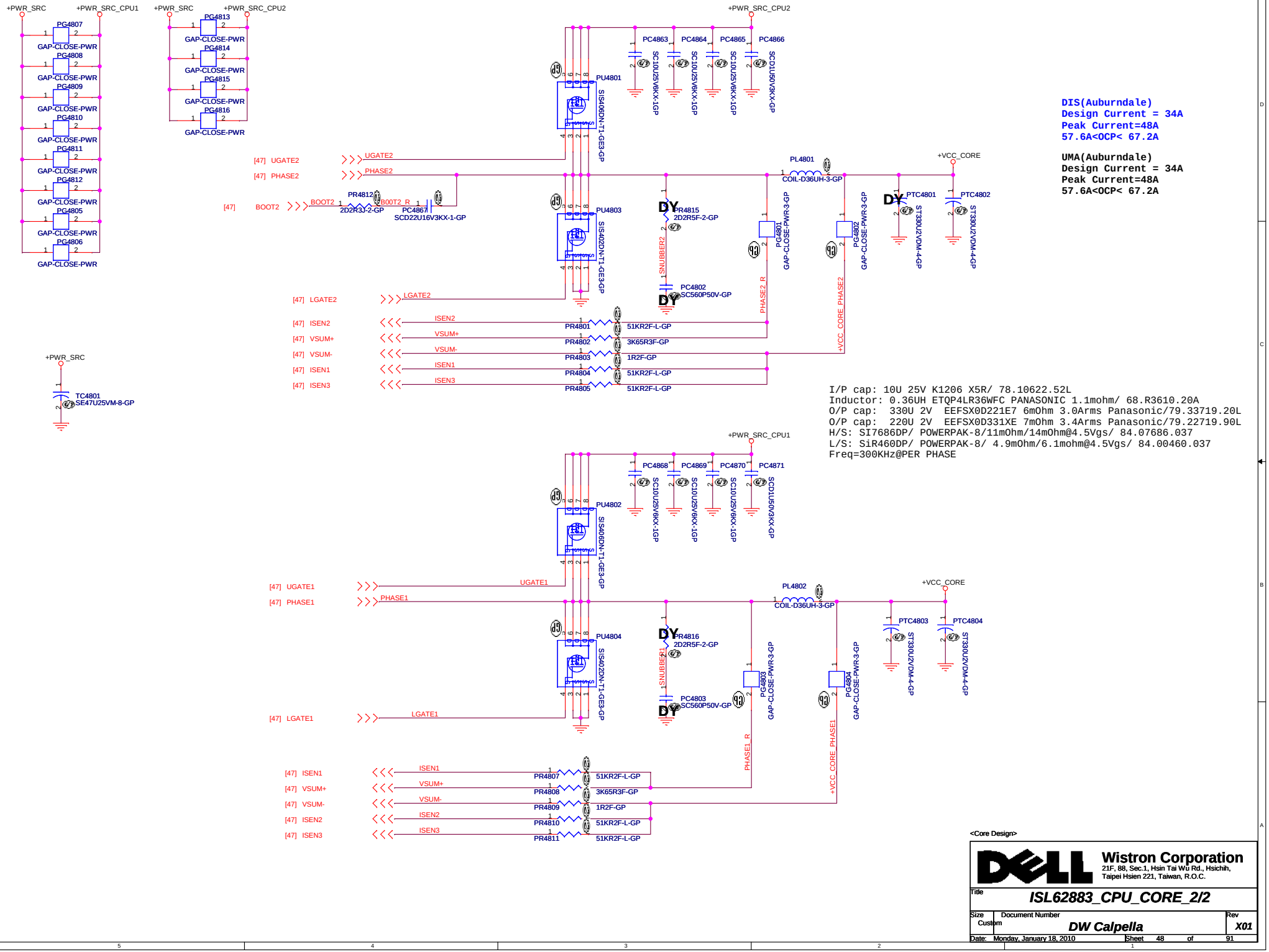

DIS(Auburndale)
Design Current = 34A
Peak Current=48A
57.6A<OCP< 67.2A

UMA(Auburndale)
Design Current = 34A
Peak Current=48A
57.6A<OCP< 67.2A

I/P cap: 10U 25V K1206 X5R/ 78.10622.52L
Inductor: 0.36UH ETQP4LR36WFC PANASONIC 1.1mohm/ 68.R3610.20A
O/P cap: 330U 2V EEFSX0D221E7 6mOhm 3.0Arms Panasonic/79.33719.20L
O/P cap: 220U 2V EEFSX0D331XE 7mOhm 3.4Arms Panasonic/79.22719.90L
H/S: SI7686DP/ POWERPAK-8/11mOhm/14mOhm@4.5Vgs/ 84.07686.037
L/S: SiR460DP/ POWERPAK-8/ 4.9mOhm/6.1mohm@4.5Vgs/ 84.00460.037
Freq=300KHz@PER PHASE

<Core Design>

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Title: ISL62883_CPU_CORE_2/2

Size: Custom | Document Number: DW Calpella | Rev: X01

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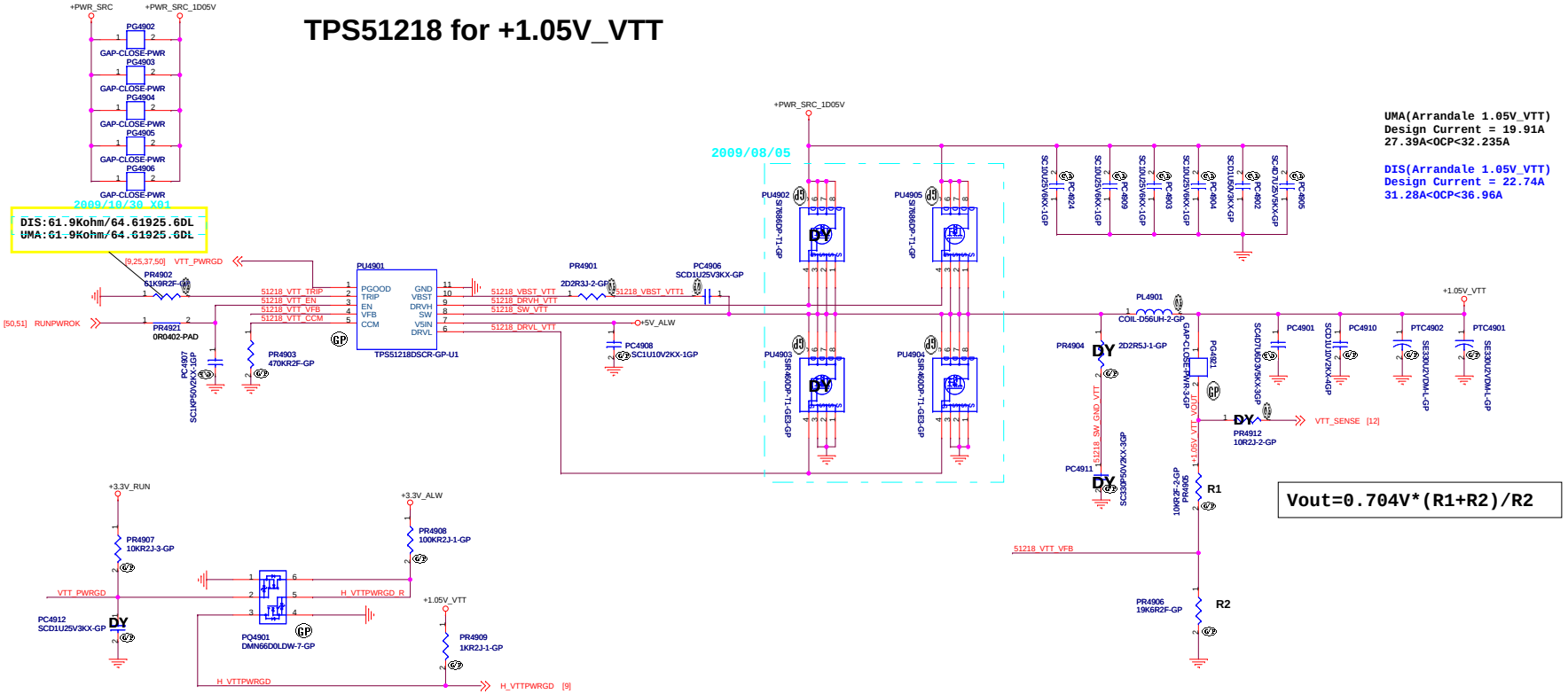
TPS51218 for +1.05V_VTT



UMA(Arrandale 1.05V_VTT)
Design Current = 19.91A
27.39A<OCP<32.235A

DIS(Arrandale 1.05V_VTT)
Design Current = 22.74A
31.28A<OCP<36.96A

Vout=0.704V*(R1+R2)/R2

Frequency setting
470K -->290KHz
200K -->340KHz
100K -->380KHz
39K -->430KHz

I/P cap: 10U 25V K1206 X5R/ 78.10622.52L
Inductor: 0.56uH PCMC104T-R56MN Cyntec DCR:1.8mohm Isat=25Arms 68.R5610.10D
O/P cap: 330U 2.5V EEFSX0D331ER 9mOhm 3Arms PANASONIC/ 79.33719.L01
H/S: SIR474DP-T1-GE3/10mohm/ 12mOhm@4.5Vgs/ 84.00474.037
L/S: SI7170DP-T1-GE3/3.6mOhm/4.3mohm@4.5Vgs/ 84.07170.037

<Core Design>

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Title: TPS51218 +1.05V_VTT

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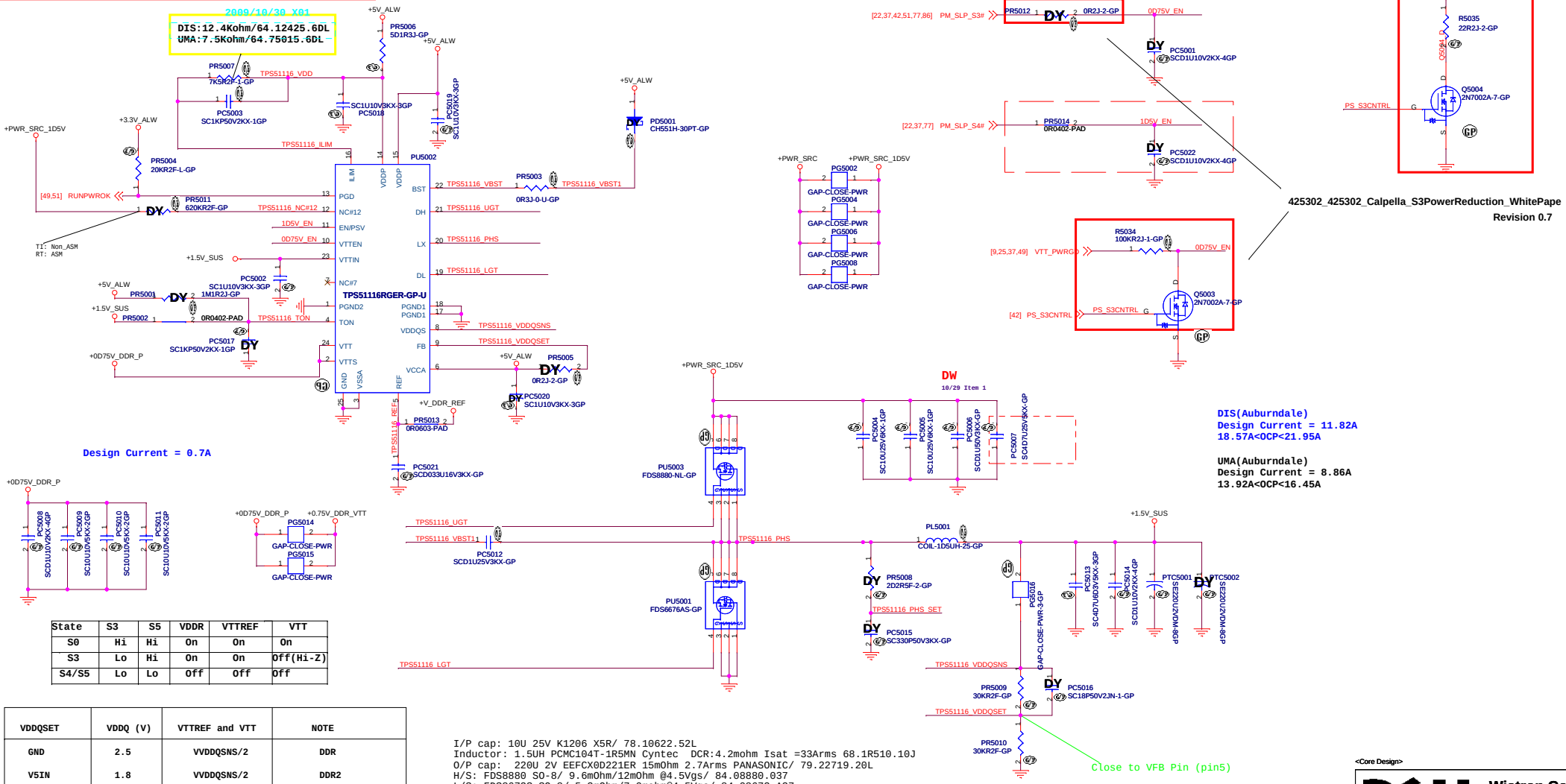
SSID = PWR.Plane.Regulator_1p5v0p75v

2009/10/30 X01

DIS:12.4Kohm/64.12425.6DL
UMA:7.5Kohm/64.75015.6DL



Design Current = 0.7A

DW
10/29 Item 1

DIS(Auburndale)
Design Current = 11.82A
18.57A<OCP<21.95A

UMA(Auburndale)
Design Current = 8.86A
13.92A<OCP<16.45A

425302_425302_Calpella_S3PowerReduction_WhitePape
Revision 0.7

State	S3	S5	VDDR	VTTREF	VTT
S0	Hi	Hi	On	On	On
S3	Lo	Hi	On	On	Off(Hi-Z)
S4/S5	Lo	Lo	Off	Off	Off

VDDQSET	VDDQ (V)	VTTREF and VTT	NOTE
GND	2.5	VVDDQSNS/2	DDR
V5IN	1.8	VVDDQSNS/2	DDR2
FB Resistors	Adjustable	VVDDQSNS/2	1.5 V < VVDDQ < 3 V

I/P cap: 10U 25V K1206 X5R/ 78.10622.52L
Inductor: 1.5UH PCMC104T-1R5MN Cyntec DCR:4.2mohm Isat =33Arms 68.1R510.10J
O/P cap: 220U 2V EEFCX0D221ER 15mOhm 2.7Arms PANASONIC/ 79.22719.20L
H/S: FDS8880 SO-8/ 9.6mOhm/12mOhm @4.5Vgs/ 84.08880.037
L/S: FDS8672S SO-8/ 5.3mOhm/7.0mohm@4.5Vgs/ 84.08672.A37
Switching freq-->400KHz

<Core Design>

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Title: TPS51116_+1.5V_SUS

Size: Custom | Document Number: DW Calpella | Rev: X01

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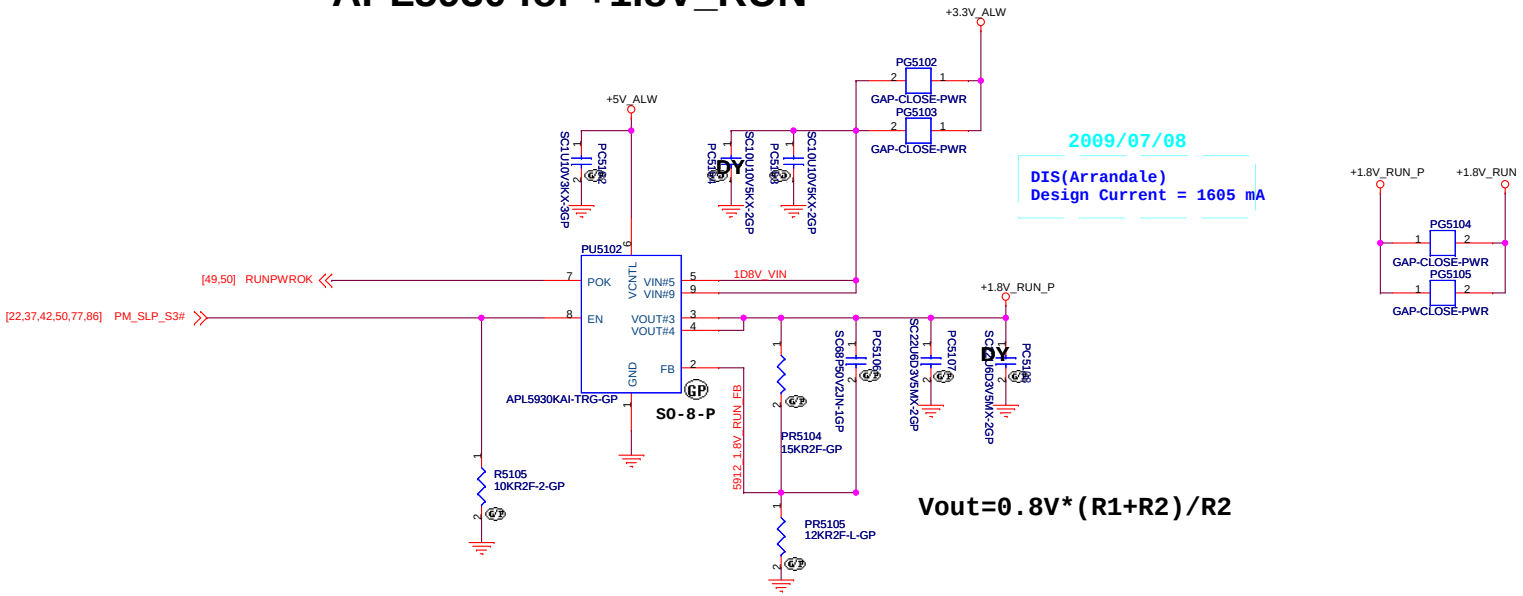
SSID = PWR.Plane.Regulator_1p8v

APL5930 for +1.8V_RUN



<Core Design>

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Title	APL5930 +1.8V_RUN	
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Title

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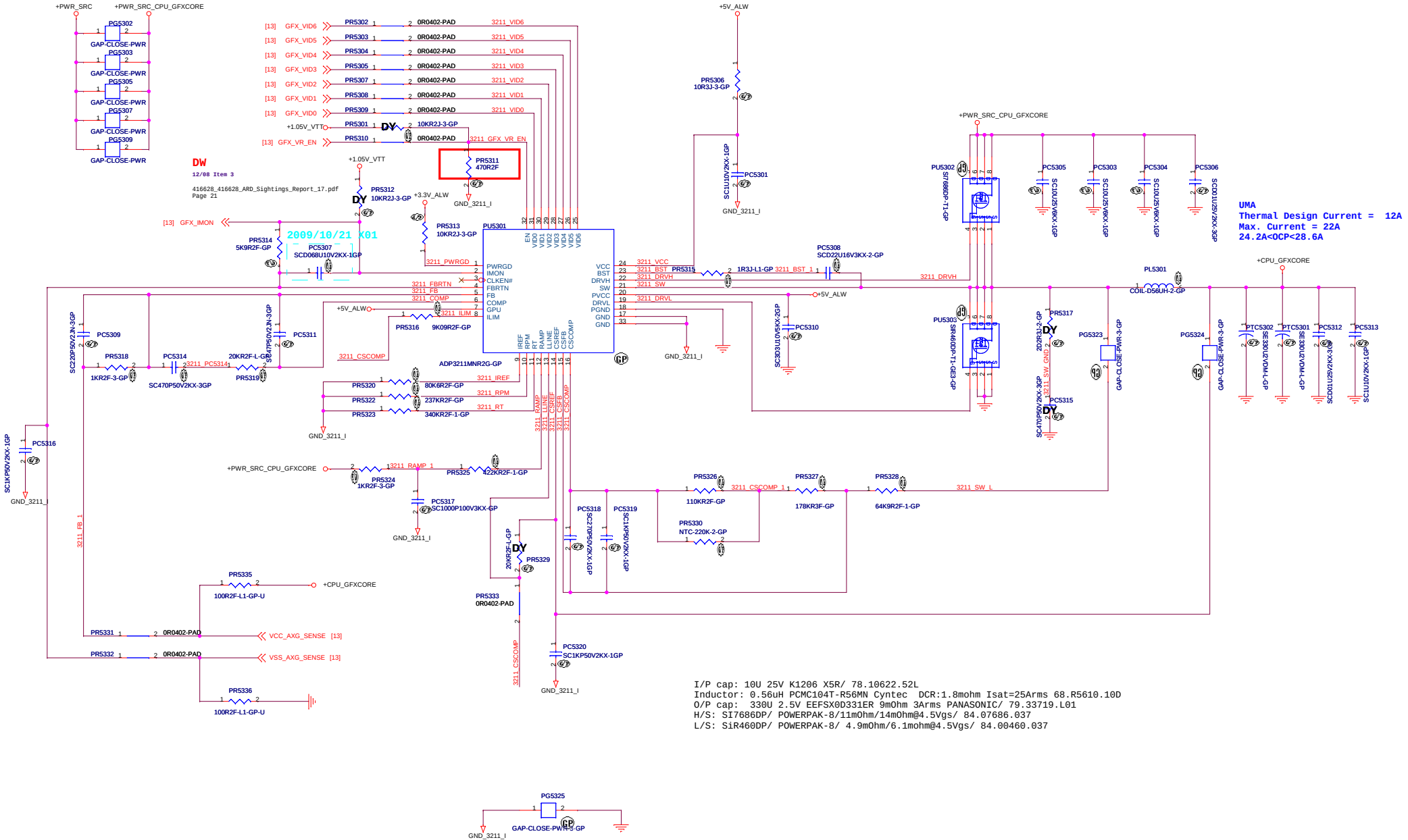
SSID = CPU.GFX.Regulator



<Core Design>

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

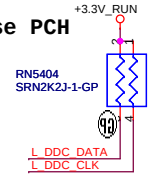
Title: ADP3211 CPU GFXCORE

Size: Custom | Document Number: DW Calpella UMA | Rev: X01

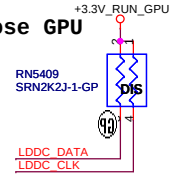
Date: Monday, January 18, 2010 | Sheet 53 of 91

SSID = VIDEO

Close PCH

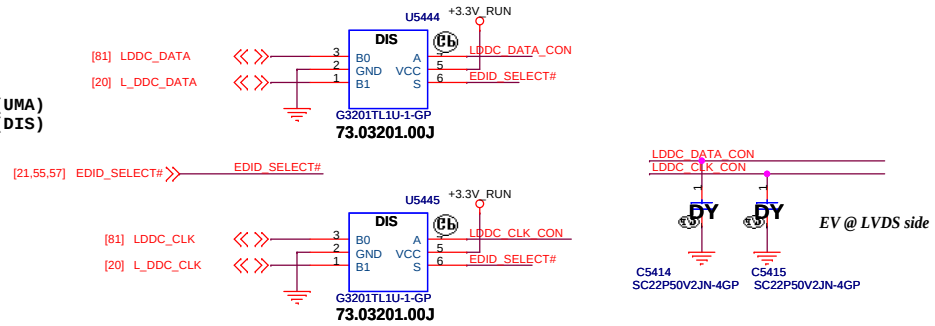


Close GPU

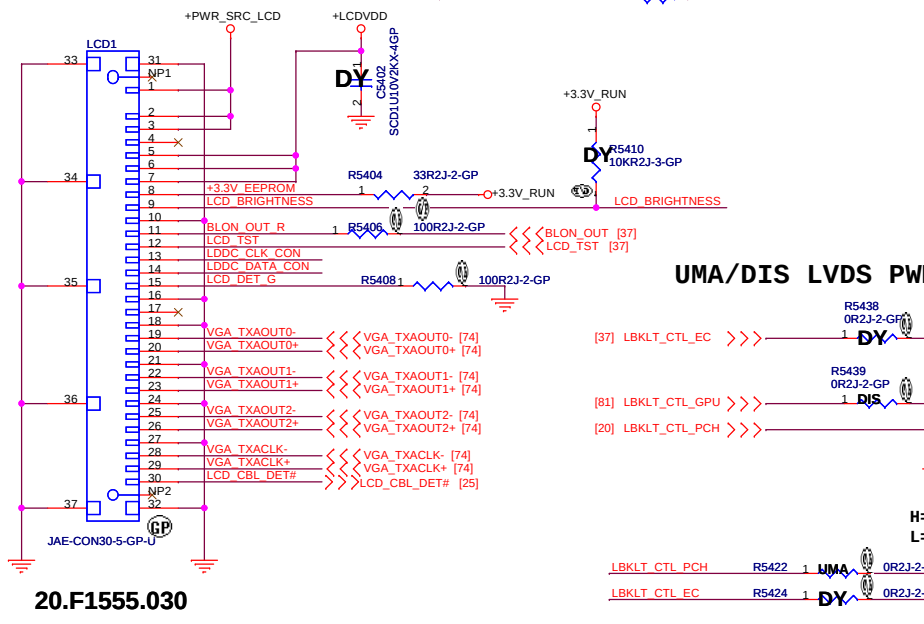


UMA/DIS LVDS DDC CLK/DAT select circuit

H=>B1 -iGPU PCH (UMA)
L=>B0 -dGPU GPU (DIS)



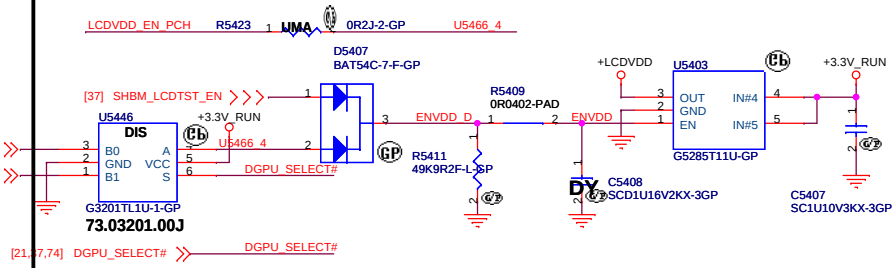
LVDS CONNECTOR



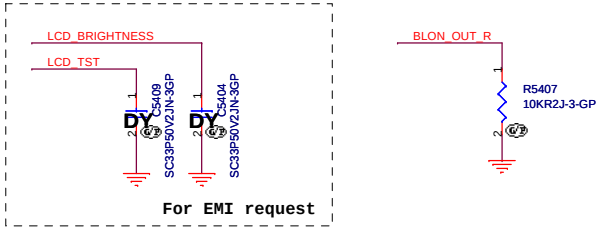
20.F1555.030

UMA/DIS LVDS PWM select circuit

H=>B1 -iGPU PCH (UMA)
L=>B0 -dGPU GPU (DIS)

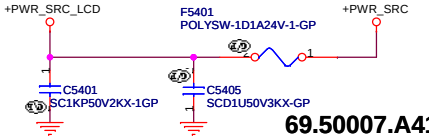


H=>B1 -iGPU PCH (UMA)
L=>B0 -dGPU GPU (DIS)



SSID = Inverter

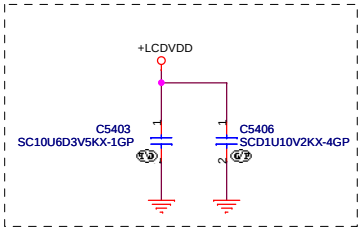
INVERTER POWER



69.50007.A41
2ND : 69.50007.A31

SSID = VIDEO

LCD POWER



<Core Design>

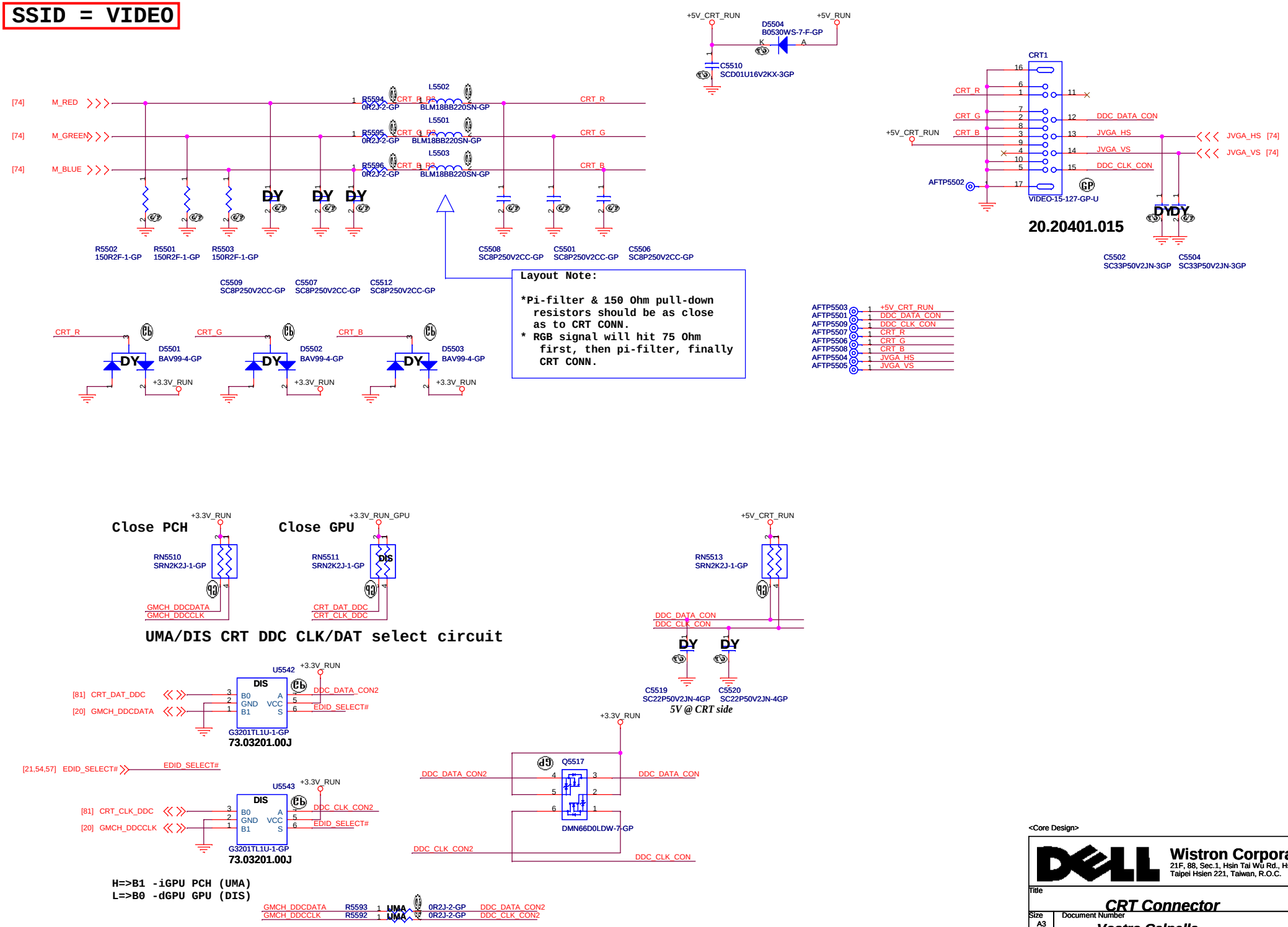
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: LCD/Inverter Connector

Size: Custom | Document Number: Vostro Calpella | Rev: X01

Date: Monday, January 18, 2010 | Sheet 54 of 91

SSID = VIDEO



<Core Design>

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

Title: CRT Connector

Size	Document Number	Rev
A3	Vostro Calpella	X01

Date: Monday, January 18, 2010 Sheet 55 of 91

(Blank)

<Core Design>

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

Title

(Reserve)

Size	Document Number	Rev
Custom	*Vostro Calpella*	*X01*

Date: Monday, January 18, 2010 Sheet 56 of 91

UMA/DIS HDMI signal select circuit

Place near connector

[81]	IFPC_D2+	C5769	SCD1U10V2KX-4GP	HDMI_TXD2
[81]	IFPC_D2-	C5764	SCD1U10V2KX-4GP	HDMI_TXD#2
[81]	IFPC_D1+	C5770	SCD1U10V2KX-4GP	HDMI_TXD1
[81]	IFPC_D1-	C5765	SCD1U10V2KX-4GP	HDMI_TXD#1
[81]	IFPC_D0+	C5768	SCD1U10V2KX-4GP	HDMI_TXD0
[81]	IFPC_D0-	C5767	SCD1U10V2KX-4GP	HDMI_TXD#0
[81]	IFPC_TXC+	C5771	SCD1U10V2KX-4GP	HDMI_TXC
[81]	IFPC_TXC-	C5766	SCD1U10V2KX-4GP	HDMI_TX#C

[20]	HDMI_CLK-_C	C5776	SCD1U10V2KX-4GP	HDMI_C_CLK-
[20]	HDMI_CLK+_C	C5778	SCD1U10V2KX-4GP	HDMI_C_CLK+
[20]	HDMI_DATA0-_C	C5782	SCD1U10V2KX-4GP	HDMI_C_DATA0-
[20]	HDMI_DATA0+_C	C5780	SCD1U10V2KX-4GP	HDMI_C_DATA0+
[20]	HDMI_DATA1-_C	C5781	SCD1U10V2KX-4GP	HDMI_C_DATA1-
[20]	HDMI_DATA1+_C	C5779	SCD1U10V2KX-4GP	HDMI_C_DATA1+
[20]	HDMI_DATA2-_C	C5777	SCD1U10V2KX-4GP	HDMI_C_DATA2-
[20]	HDMI_DATA2+_C	C5783	SCD1U10V2KX-4GP	HDMI_C_DATA2+

Close to PCH

Place near connector

HDMI_TXD2 RN5713 SRN499F-GP
HDMI_TXD#2
HDMI_TXD1
HDMI_TXD#1

HDMI_TXD0 RN5716 SRN499F-GP
HDMI_TXD#0
HDMI_TXC
HDMI_TX#C

IFPC_Lo

Q5701 2N7002A-7-GP

HDMI1

HDMI_HP_DET_CON
HDMI_SDATA_CON
HDMI_SCLK_CON
HDMI_TX#C
HDMI_TXC
HDMI_TXD#0
HDMI_TXD0
HDMI_TXD#1
HDMI_TXD1
HDMI_TXD#2
HDMI_TXD2

SKT-HDMI19P-25-GP

D5705 BAV99-4-GP

Close HDMI Connect

22.10296.061

UMA HDMI level shift circuit

PS8101 TMDS inputs equalization control

PC0	PC1	EQ
0	0	8db
0	1	4db
1	0	12db
1	1	0db

jitter elimination control

PS8101 (internal pull-lo)
PI3VDP411LS (internal pull-up)

U5750 PS8101-GP

HDMI_C_CLK- / HDMI_C_CLK+
HDMI_C_DATA0- / HDMI_C_DATA0+
HDMI_C_DATA1- / HDMI_C_DATA1+
HDMI_C_DATA2- / HDMI_C_DATA2+

HDMI_TX#C / HDMI_TXC
HDMI_TXD#0 / HDMI_TXD0
HDMI_TXD#1 / HDMI_TXD1
HDMI_TXD#2 / HDMI_TXD2

SDVO_DAT
SDVO_CLK
HDMI_HP_DET

HPD_SINK
SDA_SINK
SCL_SINK

HDMI_HP_DET_CON
HDMI_SDATA_CON
HDMI_SCLK_CON

REXT_HDMI
8101_OE#
DDC_EN_PS8101

5V @ HDMI side

71.P8101.003 (PARADE)
2ND = 71.03360.A0K (NXP)

HDMI level shift circuit

Q5702 2N7002A-7-GP
Q5703 DMN66D0LDW-7-GP
Q5704 2N7002A-7-GP

UMA/DIS HDMI DDC CLK/DAT select circuit

Close PCH
RN5714 SRN2K2J-1-GP
SDVO_DAT
SDVO_CLK

Close GPU
RN5715 SRN2K2J-1-GP
HDMI_SDATA_DDC
HDMI_SCLK_DDC

U5746 / U5747 G3201TL1U-1-GP 73.03201.00J

Q5720 DMN66D0LDW-7-GP

D5704 RB751V-40-1-GP
D5703 RB751V-40-1-GP

5V @ HDMI side

RN5711 SRN2K2J-1-GP

C5721 SC22P50V2JN-4GP
C5722 SC22P50V2JN-4GP

H=>B1 -iGPU PCH (UMA)
L=>B0 -dGPU GPU (DIS)

UMA/DIS HDMI Detection select circuit

U5749 G3201TL1U-1-GP 73.03201.00J

Close GPU
Close PCH

H=>B1 -iGPU PCH (UMA)
L=>B0 -dGPU GPU (DIS)

<Core Design>

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

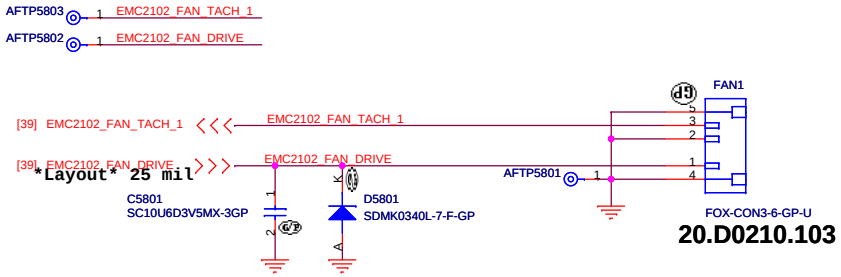
Title: HDMI Connector

Size: Custom | Document Number: Vostro Calpella | Rev: X01

Date: Monday, January 18, 2010 | Sheet 57 of 91

SSID = Thermal

Fan Connector



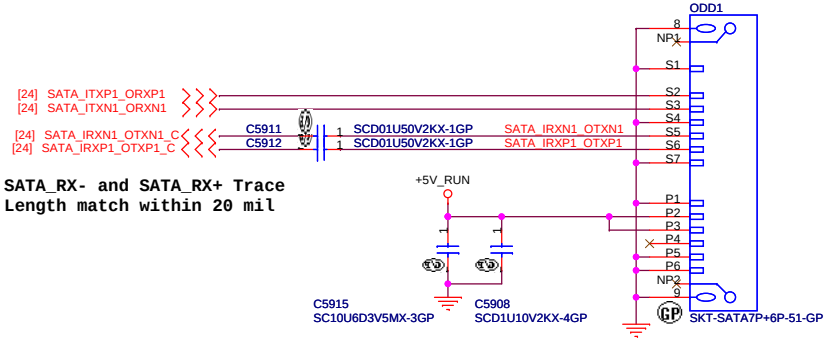
<Core Design>

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

Title: FAN		
Size: A3	Document Number: Vostro Calpella	Rev: X01
Date: Monday, January 18, 2010	Sheet 58 of 91	

SSID = SATA

ODD Connector

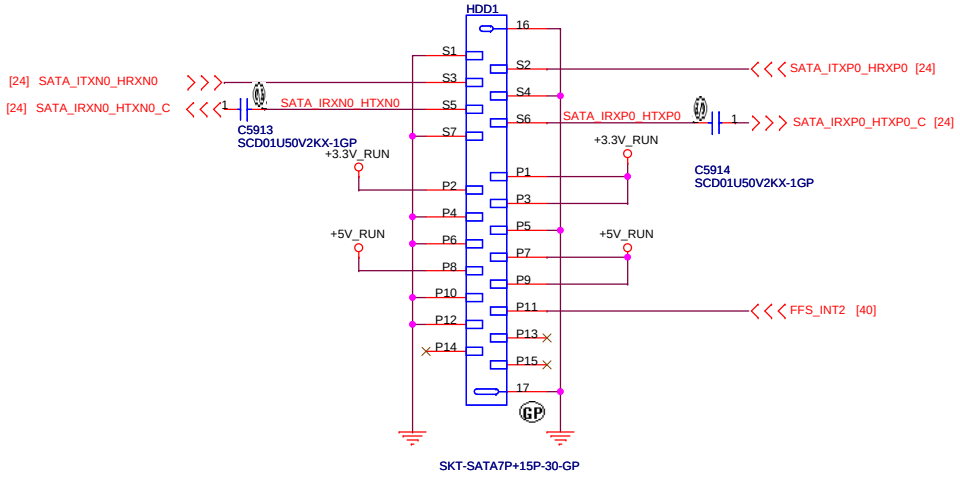


SATA_RX- and SATA_RX+ Trace Length match within 20 mil

62.10065.671

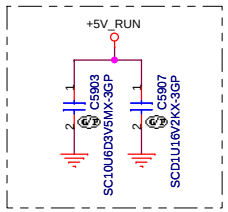
SSID = SATA

SATA HDD Connector

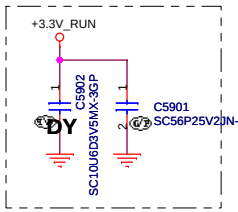


62.10065.911

Close to CONN 5V power pin



Close to CONN 3.3V power pin



<Core Design>

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

Title: HDD/ODD Connector

Size	Document Number	Rev
A3	Vostro Calpella	X01

Date: Monday, January 18, 2010 Sheet 59 of 91

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<Core Design>

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

Title

(Reserve)

Size	Document Number	Rev
Custom	*Vostro Calpella*	*X01*

Date: Monday, January 18, 2010 Sheet 60 of 91

(Blank)

<Core Design>

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

Title

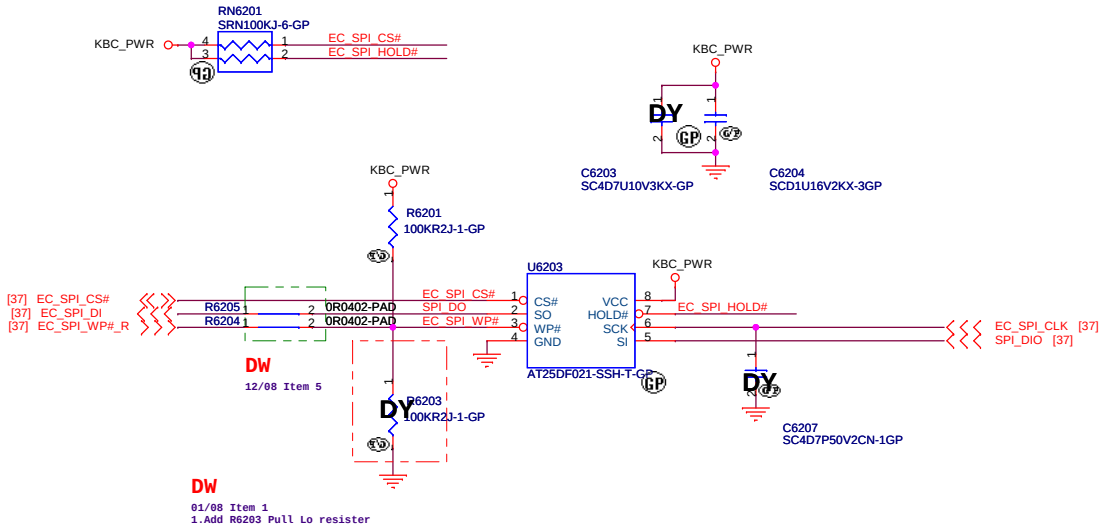
(Reserve)

Size	Document Number	Rev
Custom	***Vostro Calpella***	***X01***

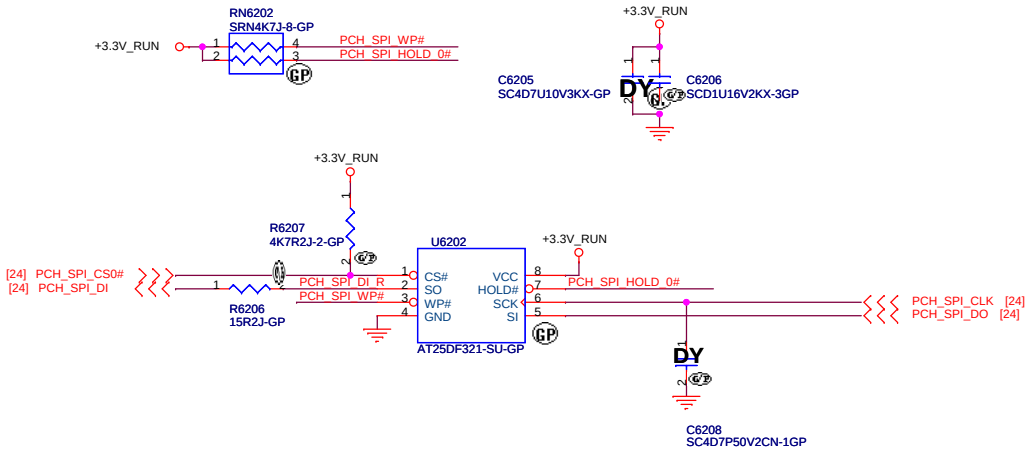
Date: Monday, January 18, 2010 Sheet 61 of 91

SSID = Flash.ROM

SPI FLASH ROM (256K bytes) for KBC

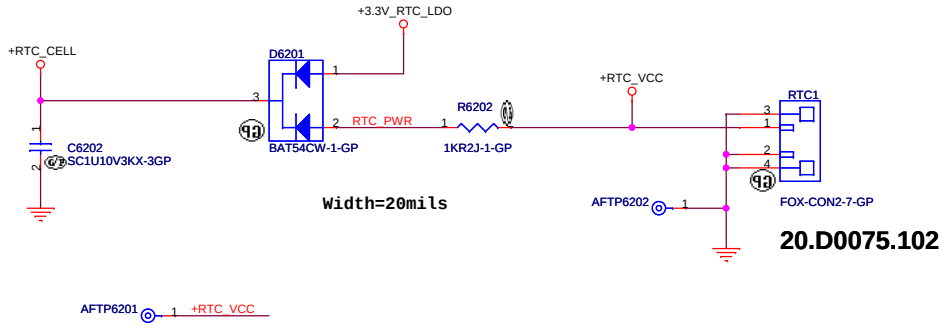


SPI FLASH ROM (4M bytes) for PCH



SSID = RBATT

RTC Connector



<Core Design>

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

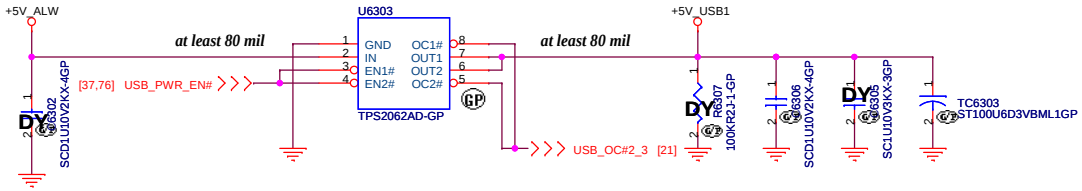
Title: EEPROM/RTC Connector

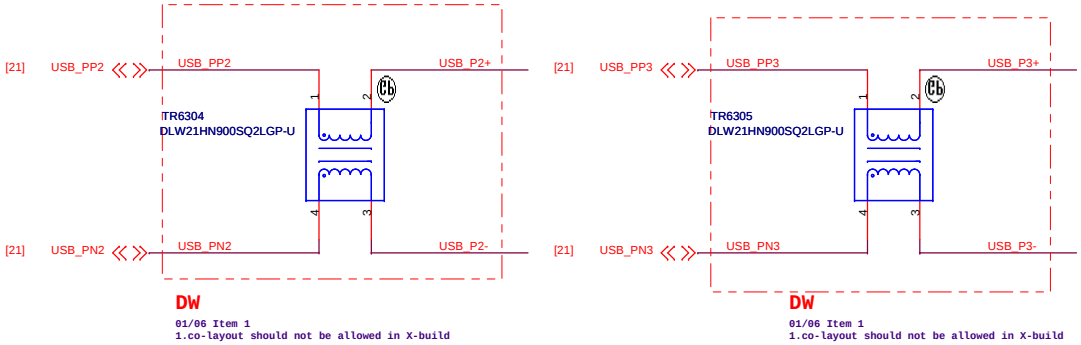
Size	Document Number	Rev
A3	Vostro Calpella	X01

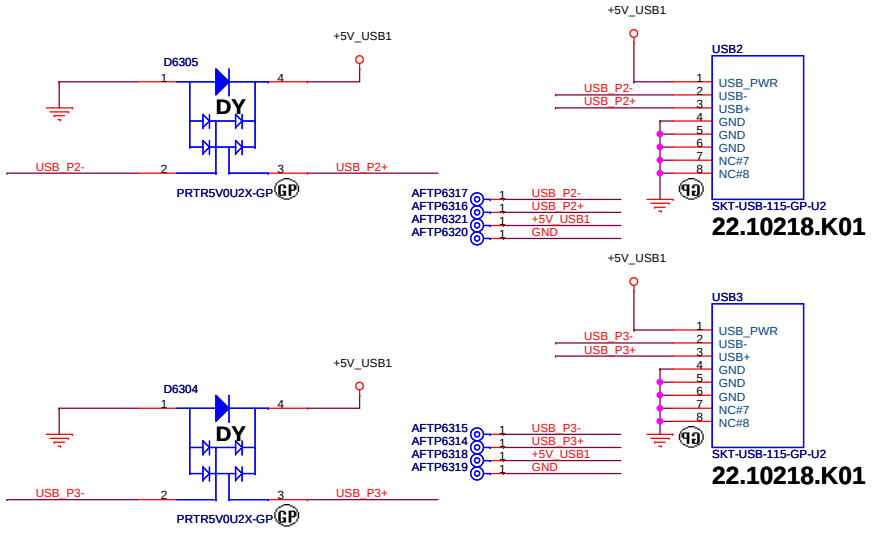
Date: Monday, January 18, 2010 Sheet 62 of 91

SSID = USB

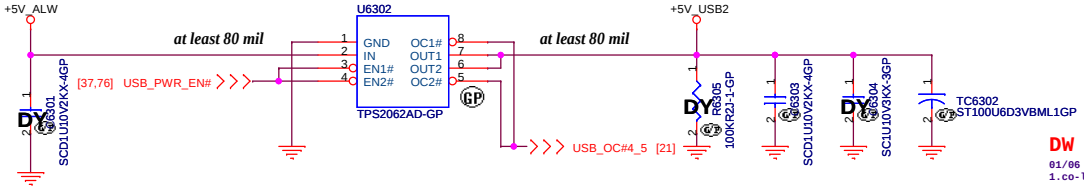
USB Power

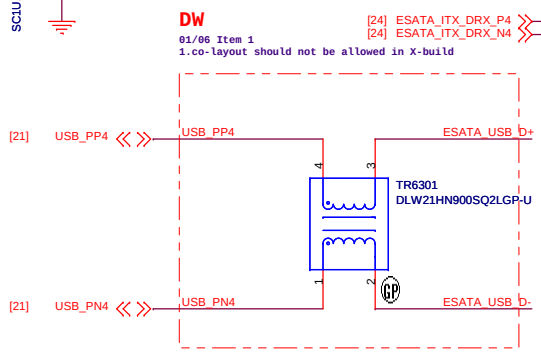


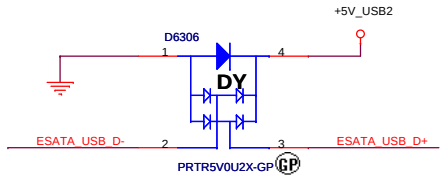


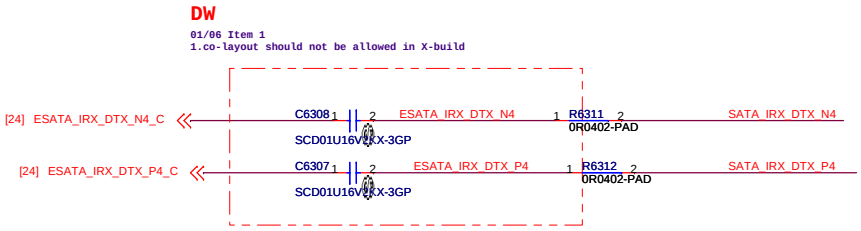


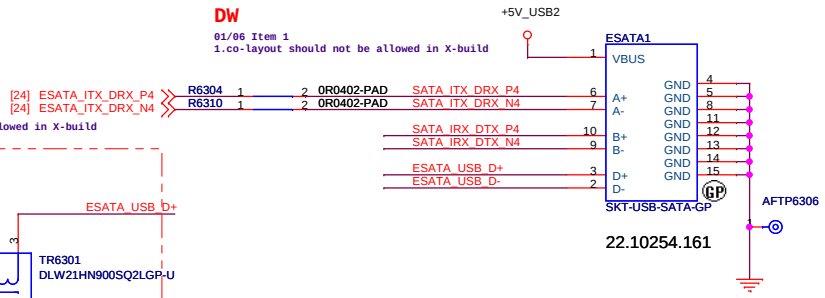
ESATA Power

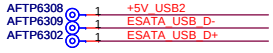












<Core Design>

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

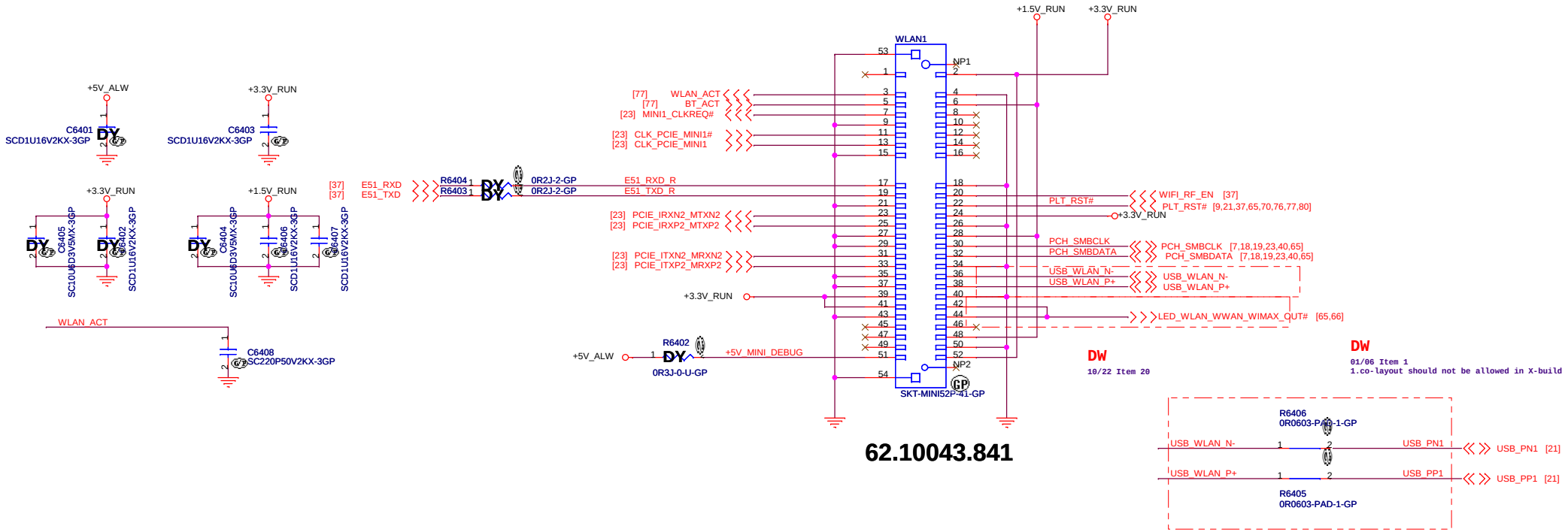
Title: USB /ESATA Port

Size: Custom | Document Number: Vostro Calpella | Rev: X01

Date: Monday, January 18, 2010 | Sheet 63 of 91

SSID = Wireless

Mini Card Connector(802.11a/b/g/n)



62.10043.841

DW
10/22 Item 20

DW
01/06 Item 1
1.co-layout should not be allowed in X-build

<Core Design>

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

Title: ***MINICARD(WLAN)/ITP CONN***

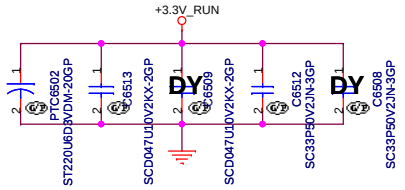
Size	Document Number	Rev
A3	*Vostro Calpella*	*X01*

Date: Monday, January 18, 2010 Sheet 64 of 91

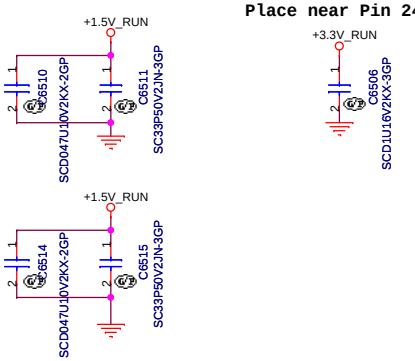
SSID = Wireless

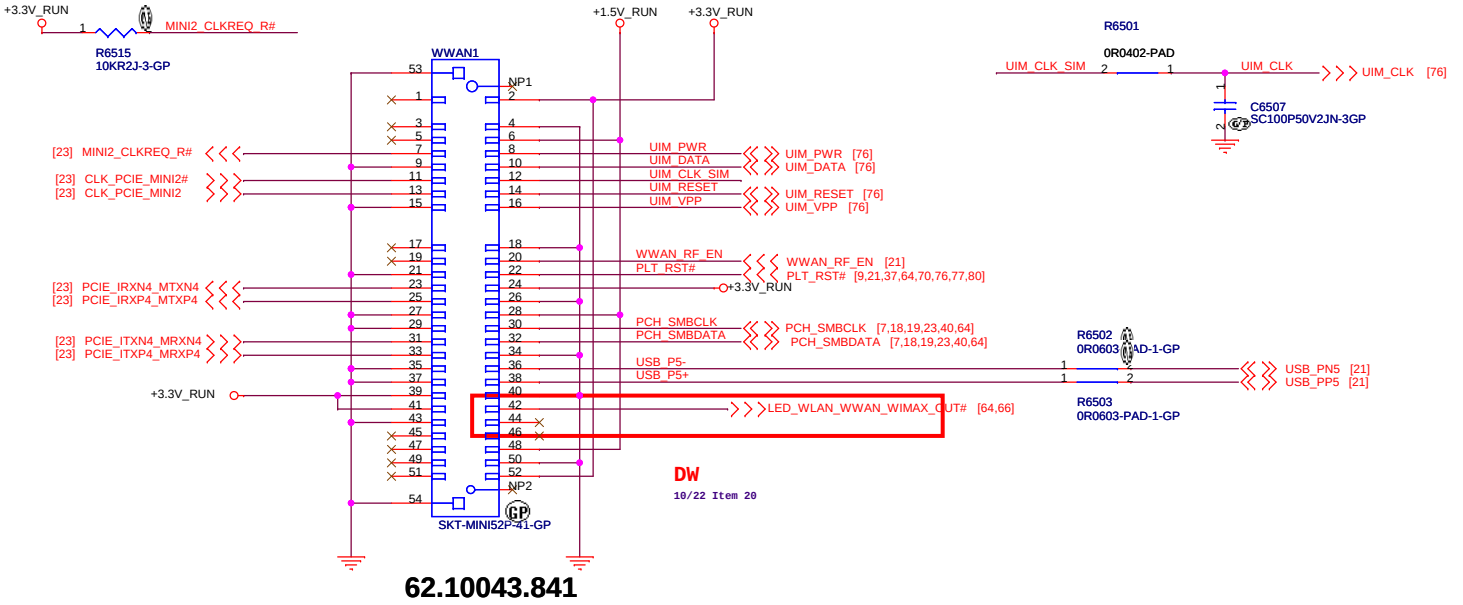
Mini Card Connector(WWAN)

Place near MINI Card CONN



Place near Pin 24





62.10043.841

<Core Design>

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

Title: ***WWAN Connector***

Size	Document Number	Rev
A3	***Vostro Calpella***	***X01***

Date: Monday, January 18, 2010 Sheet 65 of 91

For LED & Capacity board:

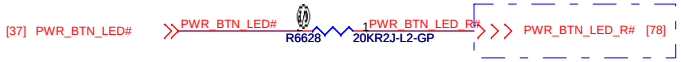
LED Type	Color	Power rail
SCRL LED	White	ALW
CAP LED	White	ALW
NUM LED	White	ALW
PWR BTN LED	White	ALW
SATA ACT LED1	White	RUN
BT ACT LED	White	RUN
WLAN WWAN WIMAX LED	White	RUN

For IO board

LED Type	Color	Power rail
PWR LED2	White(Multi-color)	ALW
BATTERY LED2	Amber(Multi-color)	ALW
	White(Multi-color)	ALW

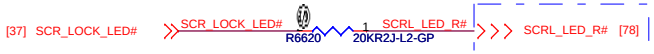
PWR BTN LED

For LED & Capacity board

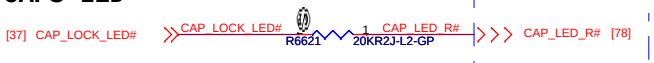


SCRLK LED

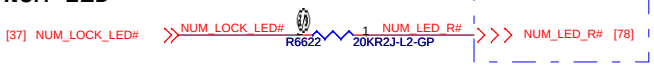
For LED & Capacity board:



CAPS LED



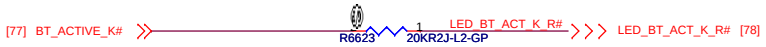
NUM LED



Remove BJT to daughetr board

Bluetooth LED

For LED & Capacity board:

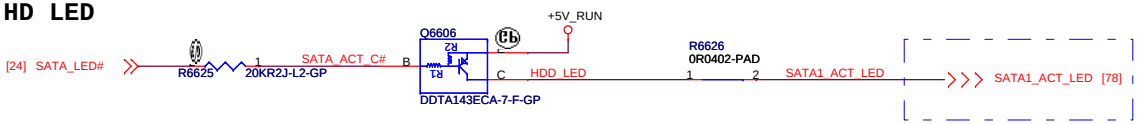


WLAN WWAN WIMAX LED

DW
10/22 Item 20

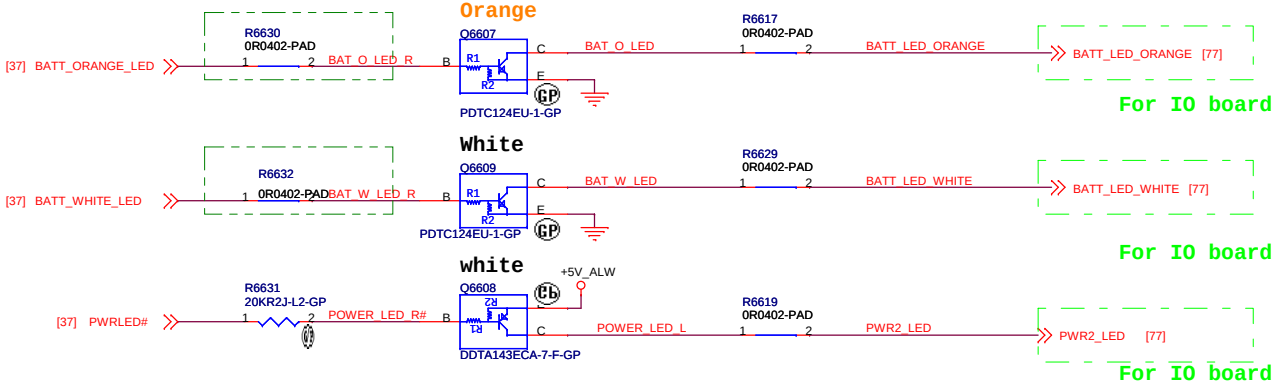
For LED&Capacity board:

HD LED



Battery & Power LED

DW
12/08 Item 5



<Core Design>

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

Title: LED

Size	Document Number	Rev
A3	Vostro Calpella	X01

Date: Monday, January 18, 2010 Sheet 66 of 91

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<Core Design>

Wistron Corporation
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Taipei Hsien 221, Taiwan, R.O.C.

Title

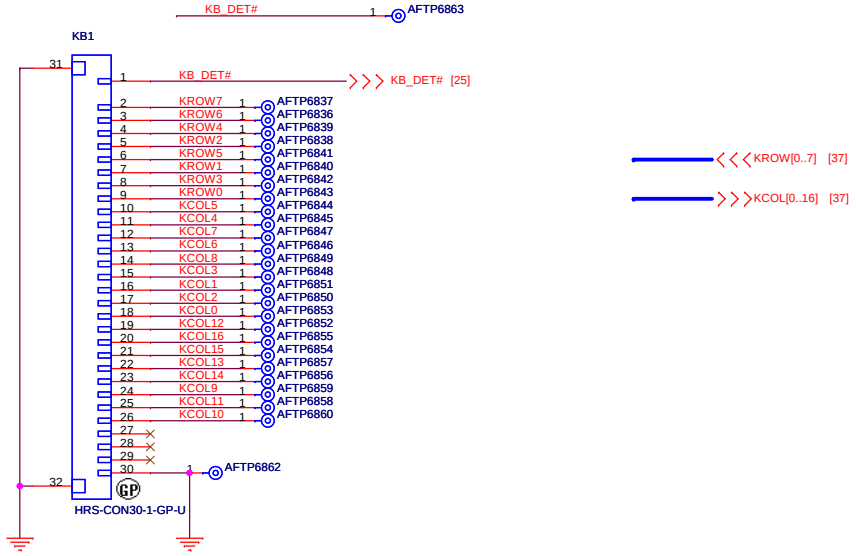
(Reserve)

Size	Document Number	Rev
Custom	*Vostro Calpella*	*X01*

Date: Monday, January 18, 2010 Sheet 67 of 91

SSID = KBC

Internal KeyBoard Connector

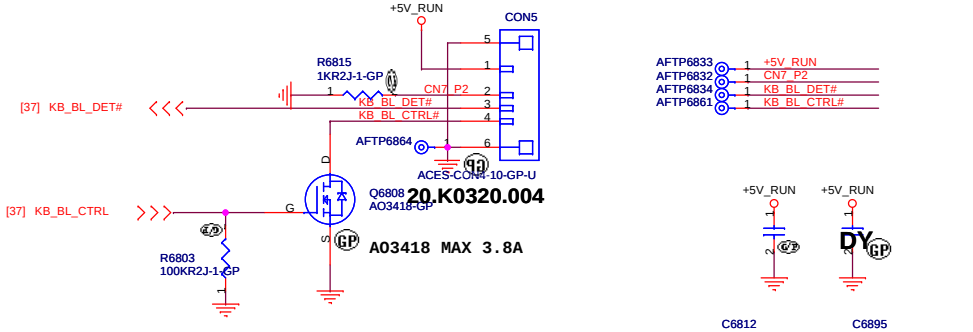


KROW[0..7] [37]

KCOL[0..16] [37]

20.K0259.030

KB Backlight CONN



AFTP6833 1 +5V_RUN
AFTP6832 1 CN7_P2
AFTP6834 1 KB_BL_DET#
AFTP6861 1 KB_BL_CTRL#

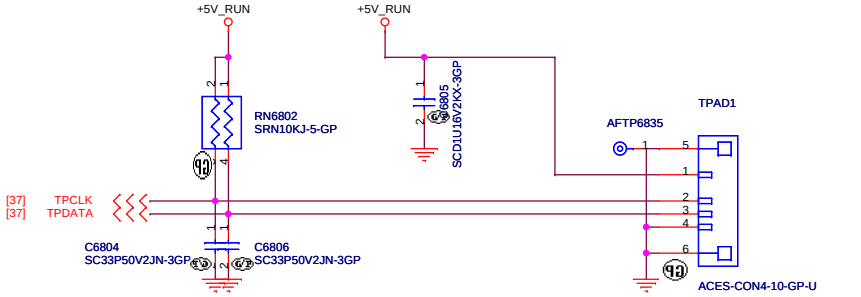
C6812 SCD1U25V2ZY-1GP

C6895 SC4D7U10V5KX-1GP

Place near CON5

SSID = Touch.Pad

TouchPad Connector



20.K0320.004

AFTP6815 1 +5V_RUN
AFTP6816 1 TPCLK
AFTP6817 1 TPDATA

<Core Design>

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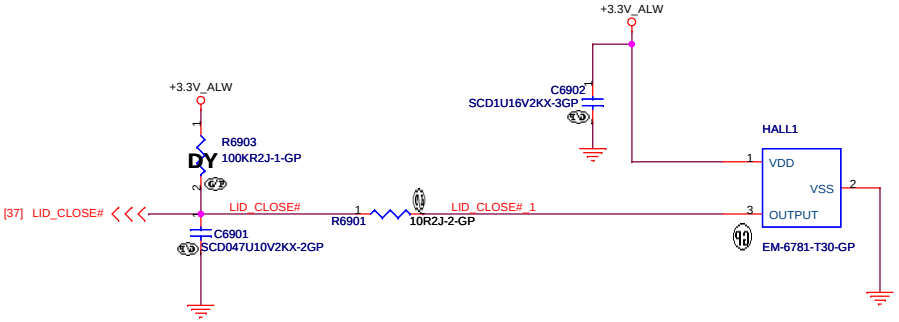
Taipei Hsien 221, Taiwan, R.O.C.

Title: Keyboard/Touch Pad

Size: Custom | Document Number: Vostro Calpella | Rev: X01

Date: Monday, January 18, 2010 | Sheet 68 of 91

Hall Sensor Connector



<Core Design>

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Title: Hall sensor

Size	Document Number	Rev
Custom	Vostro Calpella	X01

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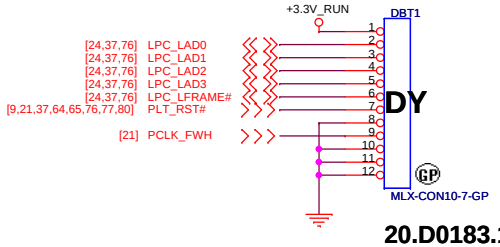
GOLDEN FINGER FOR DEBUG BOARD



20.D0183.110

<Core Design>

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Taipei Hsien 221, Taiwan, R.O.C.

Title	***Debug port***	
Size: Custom	Document Number: ***Vostro Calpella***	Rev: ***X01***
Date: Monday, January 18, 2010	Sheet 70 of 91	

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<Core Design>

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Taipei Hsien 221, Taiwan, R.O.C.

Title

(Reserve)

Size	Document Number	Rev
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(Blank)

<Core Design>

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Title

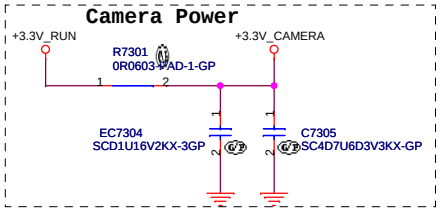
(Reserve)

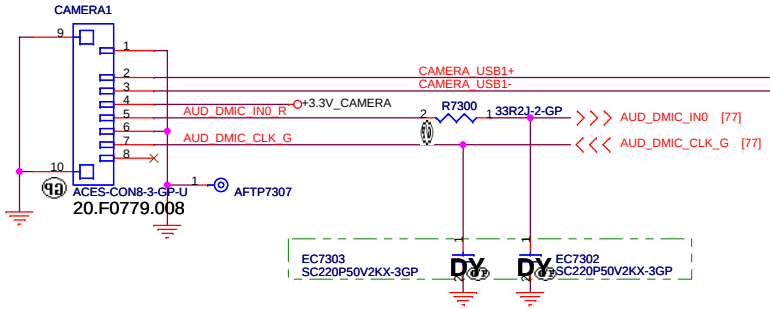
Size	Document Number	Rev
Custom	*Vostro Calpella*	*X01*

Date:	Sheet	of
Monday, January 18, 2010	72	91

SSID = User.Interface

Camera Connector

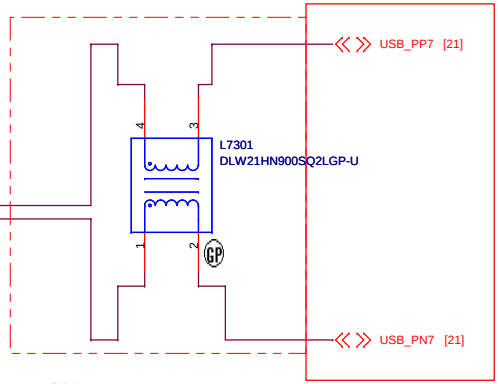




DW
12/08 Item 5

AFTP7303 1 AUD_DMIC_IN0_R
AFTP7304 1 +3.3V_CAMERA
AFTP7305 1 CAMERA_USB1-
AFTP7306 1 CAMERA_USB1+

For EMI



DW
01/06 Item 1
1.co-layout should not be allowed in X-build

DW
01/18 Item 1

<Core Design>

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
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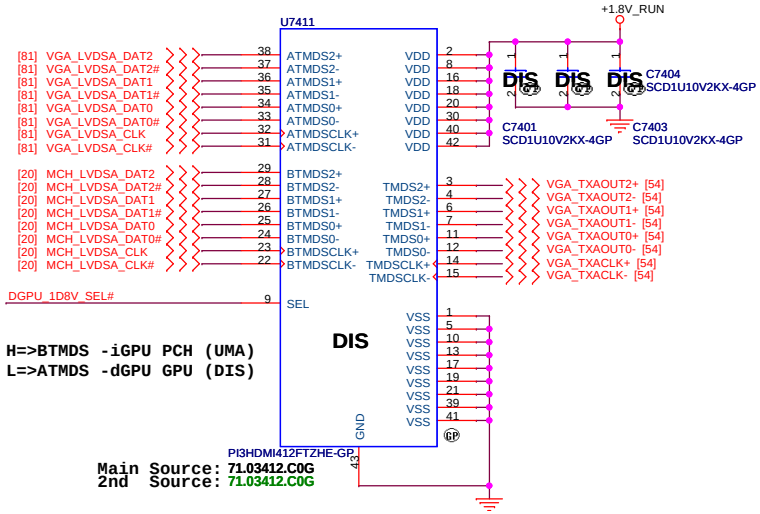
Title: Camera CONN		
Size: A3	Document Number: Vostro Montevina Discrete	Rev: X01
Date: Monday, January 18, 2010	Sheet 73 of 91	

UMA/DIS LVDS signal select circuit



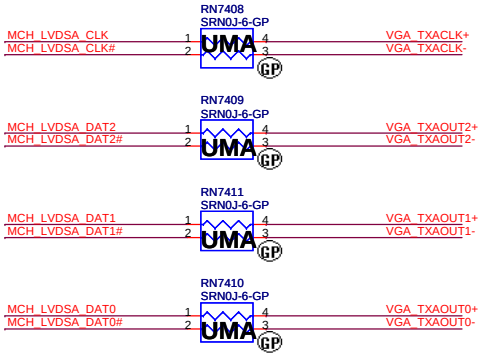
H=>BTMDS -iGPU PCH (UMA)
L=>ATMDS -dGPU GPU (DIS)

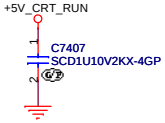
Main Source: 71.03412.C0G
2nd Source: 71.03412.C0G

FUNCTION TABLE

SEL	FUNCTION	OUTPUT
L	TMDSn+ = ATMDSn+ TMDSn- = ATMDSn- TMDSCLK+ = ATMDSCLK+ TMDSCLK- = ATMDSCLK- BTMDSn+ = High Impedance BTMDSn- = High Impedance BTMDSCLK+ = High Impedance BTMDSCLK- = High Impedance	TMDSn+ TMDSn- TMDSCLK+ TMDSCLK-
H	TMDSn+ = BTMDSn+ TMDSn- = BTMDSn- TMDSCLK+ = BTMDSCLK+ TMDSCLK- = BTMDSCLK- ATMDSn+ = High Impedance ATMDSn- = High Impedance ATMDSCLK+ = High Impedance ATMDSCLK- = High Impedance	TMDSn+ TMDSn- TMDSCLK+ TMDSCLK-

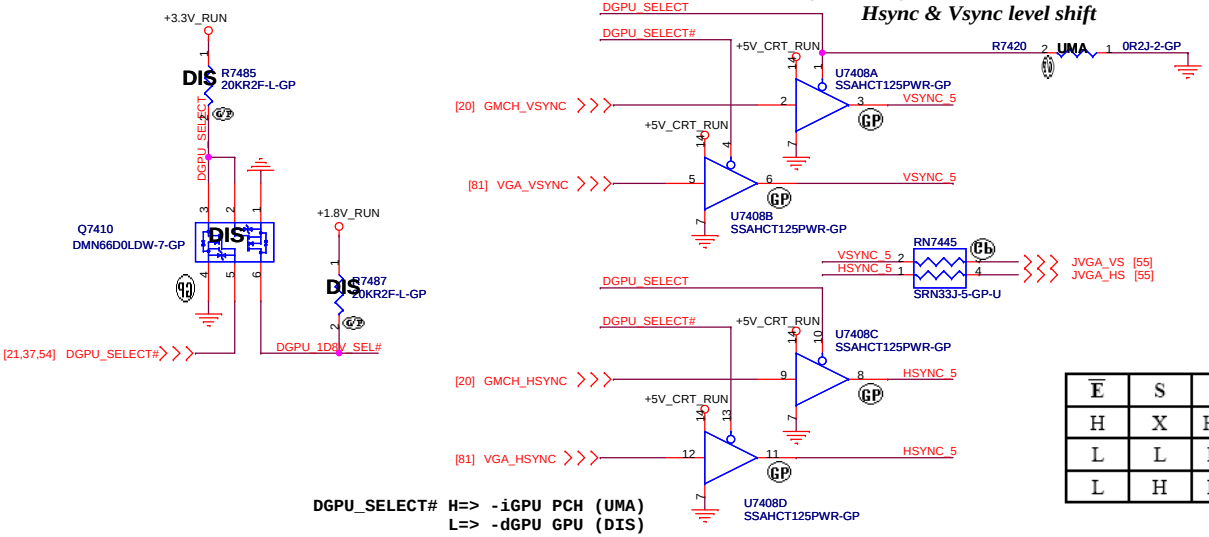
UMA LVDS signal circuit





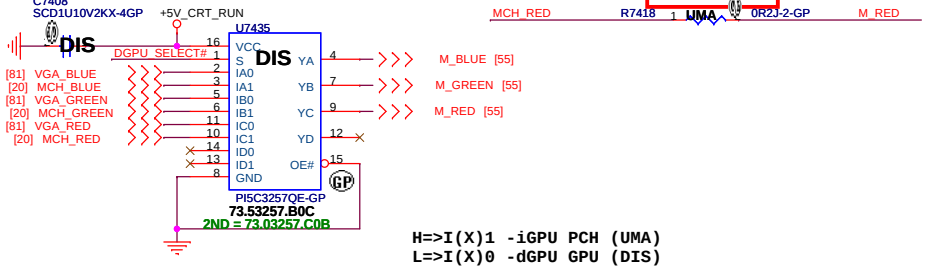
UMA/DIS CRT Hsync/Vsync select circuit

Hsync & Vsync level shift



DGPU_SELECT# H=> -iGPU PCH (UMA)
L=> -dGPU GPU (DIS)

UMA/DIS CRT signal select circuit



DW
10/23 Item 25

H=>I(X)1 -iGPU PCH (UMA)
L=>I(X)0 -dGPU GPU (DIS)

$\overline{E}$	S	YA	YB	YC	YD	Function
H	X	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Disable
L	L	IA0	IB0	IC0	ID0	S = 0
L	H	IA1	IB1	IC1	ID1	S = 1

<Core Design>

Wistron Corporation
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Taipei Hsien 221, Taiwan, R.O.C.

Title: Swith-1

Size: Custom | Document Number: Vostro Calpella | Rev: X01

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<Core Design>

Wistron Corporation
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Taipei Hsien 221, Taiwan, R.O.C.

Title: *Reserve*

Size: A3 | Document Number: *Vostro Calpella* | Rev: *X01*

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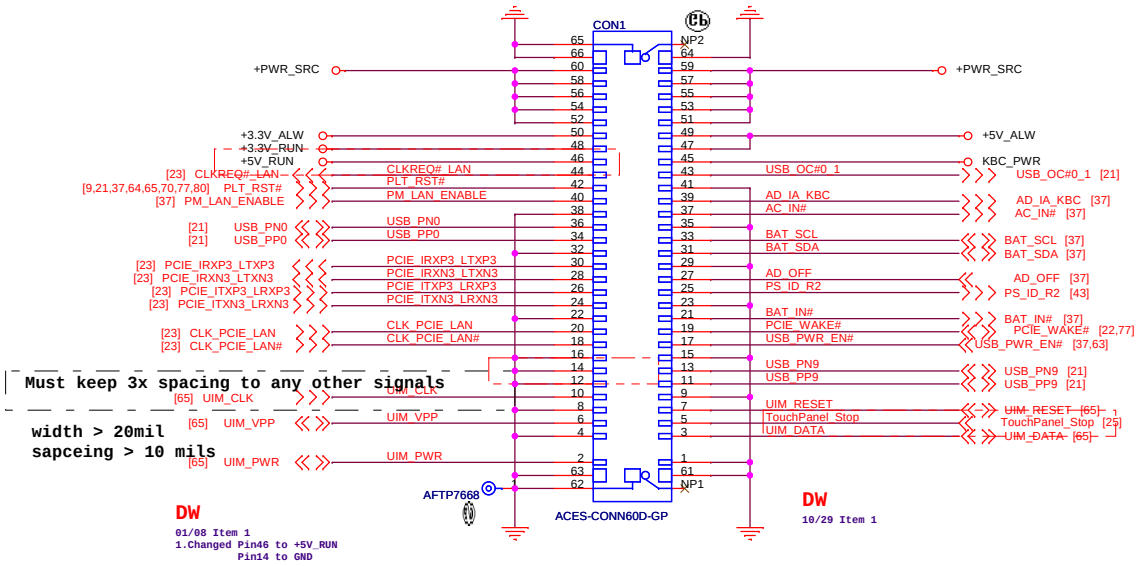
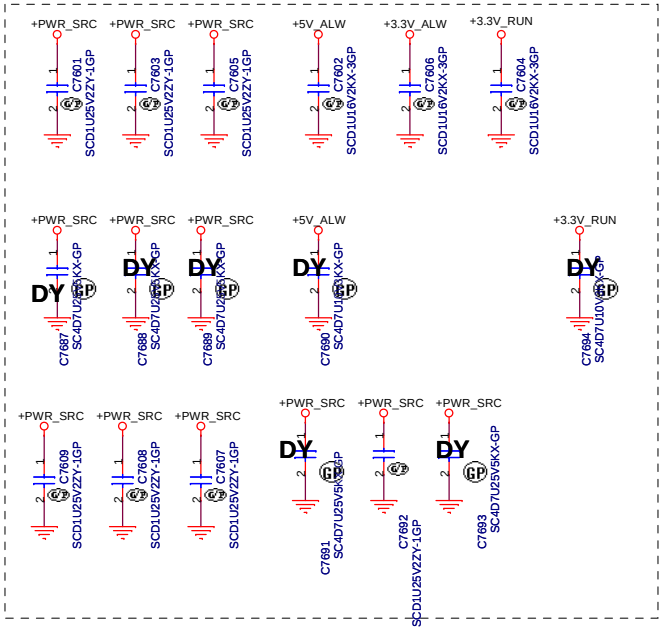
DC_IN board CON



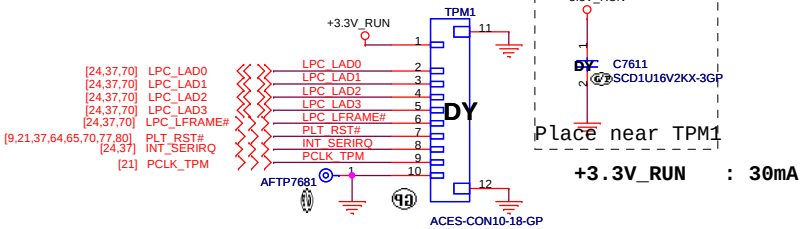
20.F1009.060

Place near CON1



+5V_ALW : 2000mA
+3.3V_ALW : 347mA
+3.3V_RUN/+5V_RUN:80mA (Touch Panel)
KBC_PWR : < 1mA
+PWR_SRC : Estimated by using battery 11.1V,85W

TPM board CON



20.K0315.010

+3.3V_RUN : 30mA

DW
01/08 Item 1
1.Remove DC-IN Board AFTP

<Core Design>

Wistron Corporation
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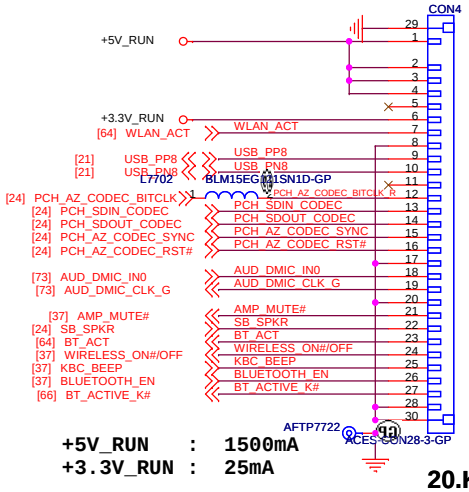
Title: DC_IN/TPM board CON		
Size: Custom	Document Number: Vostro Calpella	Rev: X01
Date: Monday, January 18, 2010	Sheet 76 of 91	

SSID = User.Interface

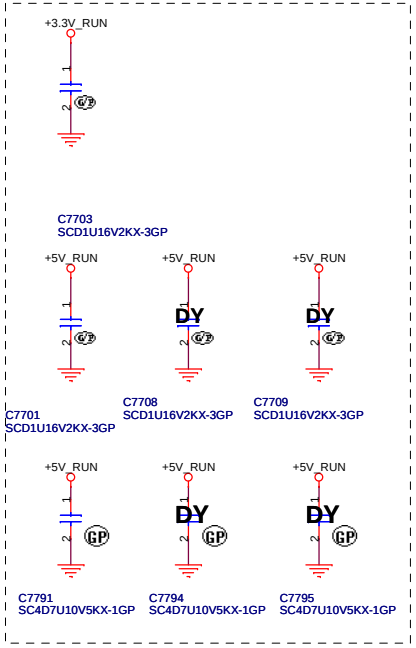
Audio board CON



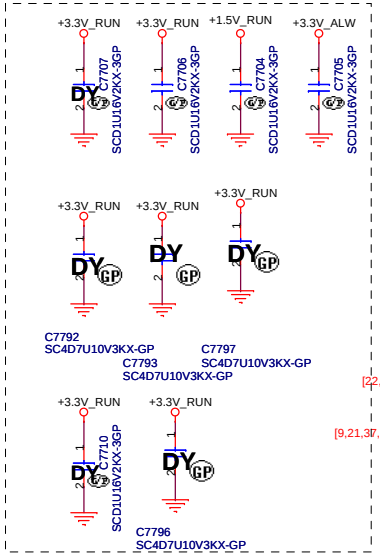
+5V_RUN : 1500mA
+3.3V_RUN : 25mA

20.K0315.028

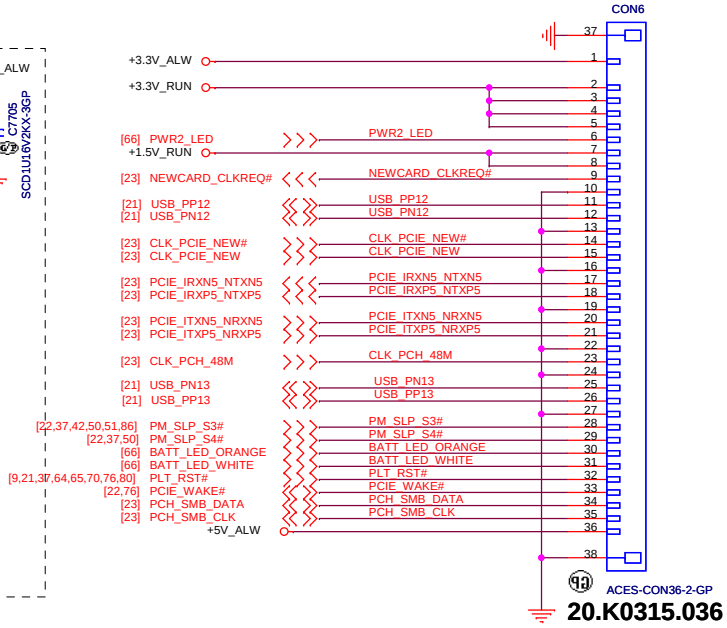
Place near CON4



Place near CON6



IO board CON



20.K0315.036

+1.5V_RUN : 650mA
+3.3V_RUN : 1775mA
+3.3V_ALW : 275mA
+5V_ALW: 60mA

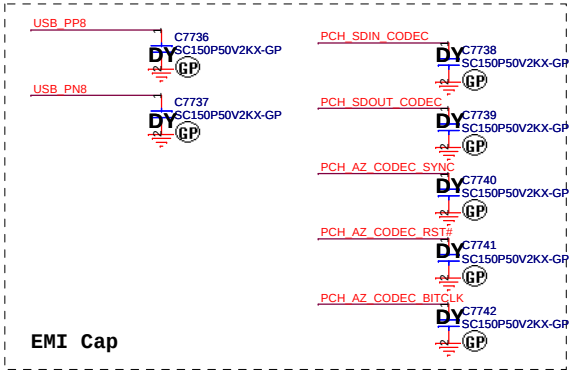
AFTP7710 +5V_RUN
AFTP7706 +3.3V_RUN
AFTP7709 WIRELESS_ON#/OFF

AFTP7702 WLAN_ACT
AFTP7703 BLUETOOTH_EN
AFTP7704 BT_ACTIVE_K#
AFTP7705 BT_ACT
AFTP7707 USB_PP8
AFTP7708 USB_PN8
AFTP7712 PCH_AZ_CODEC_BITCLK_R
AFTP7713 PCH_SDIN_CODEC
AFTP7714 PCH_SDOUT_CODEC
AFTP7715 PCH_AZ_CODEC_SYNC
AFTP7716 PCH_AZ_CODEC_RST#

AFTP7718 SB_SPKR
AFTP7719 KBC_BEEP
AFTP7720 AUD_DMIC_IN0
AFTP7721 AUD_DMIC_CLK_G
AFTP7723 AMP_MUTE#

AFTP7758 +3.3V_ALW
AFTP7757 +3.3V_RUN
AFTP7760 +1.5V_RUN
AFTP7762 USB_PN12
AFTP7759 USB_PP12
AFTP7769 NEWCARD_CLKREQ#
AFTP7768 PCH_SMB_CLK
AFTP7767 PCH_SMB_DATA
AFTP7777 PM_SLP_S3#
AFTP7776 PM_SLP_S4#
AFTP7773 BATT_LED_ORANGE
AFTP7772 PWR2_LED
AFTP7781 PLT_RST#
AFTP7785 BATT_LED_WHITE
AFTP7787 +5V_ALW
AFTP7771 CLK_PCIE_NEW#
AFTP7770 CLK_PCIE_NEW
AFTP7761 PCIE_IRXN5_NTXN5
AFTP7765 PCIE_IRXP5_NTXP5
AFTP7764 PCIE_ITXN5_NRXN5
AFTP7763 PCIE_ITXP5_NRXP5
AFTP7775 USB_PN13
AFTP7766 USB_PP13

AFTP7774 PCIE_WAKE#
AFTP7778 CLK_PCH_48M



<Core Design>

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

Title: Audio BD/IO BD CONN

Size: Custom | Document Number: Vostro Montevina Discrete | Rev: X01

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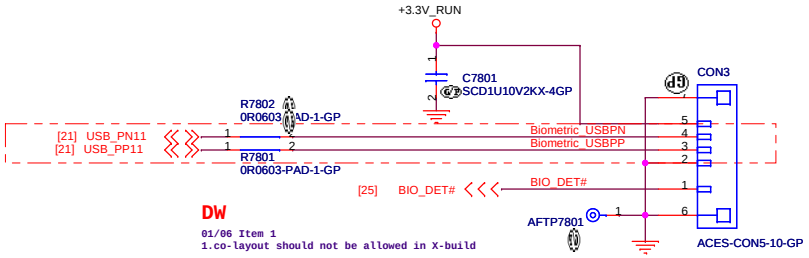
+3.3V_RUN : 3.5mA
+5V_RUN : 240mA
+5V_ALW : 80mA

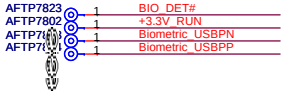
Finger Printer Connector



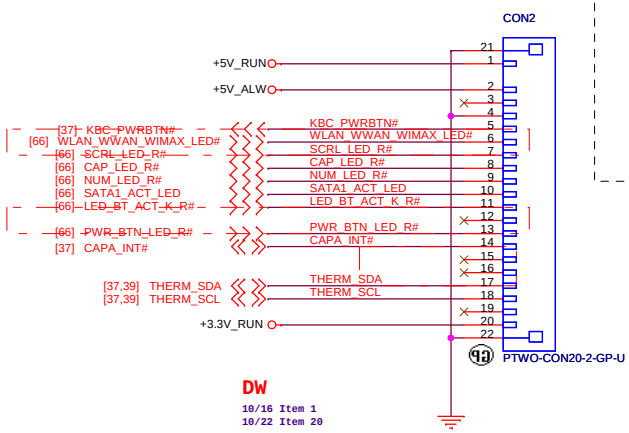
DW

01/06 Item 1
1.co-layout should not be allowed in X-build

20.K0315.005



LED&Capacity board CONN

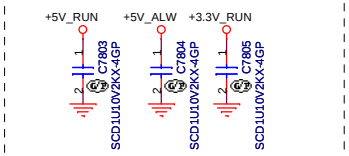


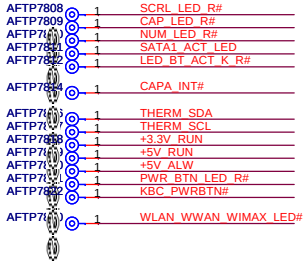
DW

10/16 Item 1
10/22 Item 20

20.K0392.020

Close to CON2





<Core Design>

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

Title: Finger Printer/Capacity

Size: Custom | Document Number: Vostro Calpella | Rev: X01

Date: Monday, January 18, 2010 | Sheet 78 of 91

SSID = Mechanical

BOSS:

DW
10/15 Item 7

Thermal

BOSS1	BOSS2	BOSS3	BOSS4
STF237R136H91-GP	STF256R89H178-GP	STF256R89H178-GP	STF256R50H172-GP
34.4ES32.001	34.4B417.001	34.4B417.001	34.4CQ02.101
On Bottom	On Bottom	On Bottom	On ??

H13
HOLE198R182
ZZ.ZZZZZ.ZZZ

For DMI

+1.05V_VTT +1.05V_VTT +1.05V_VTT
C7936 SCD1U25V2ZY-1GP
C7937 SCD1U25V2ZY-1GP
C7938 SCD1U25V2ZY-1GP

For RF Team

RFC02 SC33P50V2JN-3GP
RFC03 SC1KP50V2KX-1GP
RFC04 SC56P25V2JN-GP
RFC16 SCD1U25V2ZY-1GP
RFC17 SC56P25V2JN-GP
RFC18 SCD1U25V2ZY-1GP
RFC22 SC56P25V2JN-GP
RFC26 SC56P25V2JN-GP
RFC28 SC1KP50V2KX-1GP
RFC29 SC56P25V2JN-GP
RFC30 SC56P25V2JN-GP
RFC33 SC56P25V2JN-GP

DW
12/03 Item 5

HOLE:

H_HD1	H_HD2
SPRING-95-GP	SPRING-95-GP
34.4ES31.001	34.4ES31.001

HOLE1	HOLE2	HOLE3
HOLE355X355R126-GP	HTE10BE10R32-U-55-GP	HT95X95B95R32-GP
ZZ.00PAD.I71	ZZ.00PAD.K81	ZZ.00PAD.N81

HOLE4	HOLE5	HOLE6
HT95X95B95R32-GP	HTE10BE10R32-U-55-GP	HOLE355X355R126-GP
ZZ.00PAD.N81	ZZ.00PAD.K81	ZZ.00PAD.I71

HOLE7	HOLE8	HOLE9
HOLE355X355R126-GP	HTE95B85R32-U-475-GP	HOLE256R126-GP
ZZ.00PAD.I71	ZZ.00PAD.N91	ZZ.00PAD.J01

HOLE10	HOLE11	HOLE12
HOLE197R166-GP	HOLE197R166-GP	HOLE197R166-GP
34.4EM01.001	34.4EM01.001	34.4EM01.001

EMI Request

RFC44 RFC70 RFC68 SCD1U25V2ZY-1GP
RFC45 RFC46 RFC47 RFC48 RFC49 RFC50 SCD1U25V2ZY-1GP
RFC52 RFC51 SCD1U25V2ZY-1GP
RFC57 RFC53 RFC54 RFC55 RFC56 RFC58 SCD1U25V2ZY-1GP
RFC60 RFC59 SCD1U25V2ZY-1GP
RFC61 SCD1U25V2ZY-1GP
RFC64 RFC62 RFC63 RFC65 RFC66 SCD1U25V2ZY-1GP
RFC67 SCD1U25V2ZY-1GP
RFC69 SC56P25V2JN-GP
RFC71 RFC72 RFC73 SCD1U25V2ZY-1GP

EC7921 EC7934 EC7935 EC7936 EC7937 SCD1U25V2ZY-1GP
EC7942 EC7943 EC7944 EC7945 SC100P50V3JN-GP
EC7946 SCD1U25V2ZY-1GP
EC7938 EC7939 EC7940 EC7941 EC7947 SCD1U25V2ZY-1GP
EC7948 EC7949 SCD1U25V2ZY-1GP
EC7950 SCD1U25V2ZY-1GP

RFC07 RFC08 RFC19 RFC35 RFC32 RFC37 RFC36 SCD1U25V2ZY-1GP
RFC09 RFC10 SCD1U25V2ZY-1GP
RFC13 RFC14 RFC15 RFC38 RFC39 RFC40 SCD1U25V2ZY-1GP
RFC11 RFC12 SCD1U25V2ZY-1GP
RFC43 RFC41 RFC42 SCD1U25V2ZY-1GP
RFC27 RFC78 RFC79 RFC81 RFC80 RFC82 SCD1U25V2ZY-1GP
RFC76 RFC77 SCD1U25V2ZY-1GP

<Core Design>

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

Title: Miscellaneous Components
Size: Custom | Document Number: Vostro Calpella | Rev: X01
Date: Monday, January 18, 2010 | Sheet 79 of 91

SSID = VIDEO

PCIE_MTX_GRX_P[0..15] PCIE_MTX_GRX_P[0..15] [8]
PCIE_MTX_GRX_N[0..15] PCIE_MTX_GRX_N[0..15] [8]
PCIE_MRX_GTX_P[0..15] PCIE_MRX_GTX_P[0..15] [8]
PCIE_MRX_GTX_N[0..15] PCIE_MRX_GTX_N[0..15] [8]

U8001B 2 OF 7

PCIE_MTX_GRX_P0	AE12	PEX_RX0	PEX_TX0	AD10	PCIE_MRX_GTX_C_P0	C8033	SCD1U16V2KX-3GP PCIE_MRX_GTX_P0
PCIE_MTX_GRX_N0	AF12	PEX_RX0#	PEX_TX0#	AD11	PCIE_MRX_GTX_C_N0	C8034	SCD1U16V2KX-3GP PCIE_MRX_GTX_N0
PCIE_MTX_GRX_P1	AG12	PEX_RX1	PEX_TX1	AD12	PCIE_MRX_GTX_C_P1	C8035	SCD1U16V2KX-3GP PCIE_MRX_GTX_P1
PCIE_MTX_GRX_N1	AG13	PEX_RX1#	PEX_TX1#	AC12	PCIE_MRX_GTX_C_N1	C8036	SCD1U16V2KX-3GP PCIE_MRX_GTX_N1
PCIE_MTX_GRX_P2	AF13	PEX_RX2	PEX_TX2	AB11	PCIE_MRX_GTX_C_P2	C8037	SCD1U16V2KX-3GP PCIE_MRX_GTX_P2
PCIE_MTX_GRX_N2	AE13	PEX_RX2#	PEX_TX2#	AB12	PCIE_MRX_GTX_C_N2	C8038	SCD1U16V2KX-3GP PCIE_MRX_GTX_N2
PCIE_MTX_GRX_P3	AE15	PEX_RX3	PEX_TX3	AD13	PCIE_MRX_GTX_C_P3	C8039	SCD1U16V2KX-3GP PCIE_MRX_GTX_P3
PCIE_MTX_GRX_N3	AF15	PEX_RX3#	PEX_TX3#	AD14	PCIE_MRX_GTX_C_N3	C8040	SCD1U16V2KX-3GP PCIE_MRX_GTX_N3
PCIE_MTX_GRX_P4	AG15	PEX_RX4	PEX_TX4	AD15	PCIE_MRX_GTX_C_P4	C8042	SCD1U16V2KX-3GP PCIE_MRX_GTX_P4
PCIE_MTX_GRX_N4	AG16	PEX_RX4#	PEX_TX4#	AC15	PCIE_MRX_GTX_C_N4	C8043	SCD1U16V2KX-3GP PCIE_MRX_GTX_N4
PCIE_MTX_GRX_P5	AF16	PEX_RX5	PEX_TX5	AB14	PCIE_MRX_GTX_C_P5	C8044	SCD1U16V2KX-3GP PCIE_MRX_GTX_P5
PCIE_MTX_GRX_N5	AE16	PEX_RX5#	PEX_TX5#	AB15	PCIE_MRX_GTX_C_N5	C8045	SCD1U16V2KX-3GP PCIE_MRX_GTX_N5
PCIE_MTX_GRX_P6	AE18	PEX_RX6	PEX_TX6	AC16	PCIE_MRX_GTX_C_P6	C8047	SCD1U16V2KX-3GP PCIE_MRX_GTX_P6
PCIE_MTX_GRX_N6	AF18	PEX_RX6#	PEX_TX6#	AD16	PCIE_MRX_GTX_C_N6	C8048	SCD1U16V2KX-3GP PCIE_MRX_GTX_N6
PCIE_MTX_GRX_P7	AG18	PEX_RX7	PEX_TX7	AD17	PCIE_MRX_GTX_C_P7	C8050	SCD1U16V2KX-3GP PCIE_MRX_GTX_P7
PCIE_MTX_GRX_N7	AG19	PEX_RX7#	PEX_TX7#	AD18	PCIE_MRX_GTX_C_N7	C8051	SCD1U16V2KX-3GP PCIE_MRX_GTX_N7
PCIE_MTX_GRX_P8	AF19	PEX_RX8	PEX_TX8	AC18	PCIE_MRX_GTX_C_P8	C8052	SCD1U16V2KX-3GP PCIE_MRX_GTX_P8
PCIE_MTX_GRX_N8	AE19	PEX_RX8#	PEX_TX8#	AB18	PCIE_MRX_GTX_C_N8	C8053	SCD1U16V2KX-3GP PCIE_MRX_GTX_N8
PCIE_MTX_GRX_P9	AE21	PEX_RX9	PEX_TX9	AB19	PCIE_MRX_GTX_C_P9	C8054	SCD1U16V2KX-3GP PCIE_MRX_GTX_P9
PCIE_MTX_GRX_N9	AF21	PEX_RX9#	PEX_TX9#	AB20	PCIE_MRX_GTX_C_N9	C8055	SCD1U16V2KX-3GP PCIE_MRX_GTX_N9
PCIE_MTX_GRX_P10	AG21	PEX_RX10	PEX_TX10	AD19	PCIE_MRX_GTX_C_P10	C8056	SCD1U16V2KX-3GP PCIE_MRX_GTX_P10
PCIE_MTX_GRX_N10	AG22	PEX_RX10#	PEX_TX10#	AD20	PCIE_MRX_GTX_C_N10	C8057	SCD1U16V2KX-3GP PCIE_MRX_GTX_N10
PCIE_MTX_GRX_P11	AF22	PEX_RX11	PEX_TX11	AD21	PCIE_MRX_GTX_C_P11	C8058	SCD1U16V2KX-3GP PCIE_MRX_GTX_P11
PCIE_MTX_GRX_N11	AE22	PEX_RX11#	PEX_TX11#	AC21	PCIE_MRX_GTX_C_N11	C8077	SCD1U16V2KX-3GP PCIE_MRX_GTX_N11
PCIE_MTX_GRX_P12	AE24	PEX_RX12	PEX_TX12	AB21	PCIE_MRX_GTX_C_P12	C8078	SCD1U16V2KX-3GP PCIE_MRX_GTX_P12
PCIE_MTX_GRX_N12	AF24	PEX_RX12#	PEX_TX12#	AB22	PCIE_MRX_GTX_C_N12	C8079	SCD1U16V2KX-3GP PCIE_MRX_GTX_N12
PCIE_MTX_GRX_P13	AG24	PEX_RX13	PEX_TX13	AC22	PCIE_MRX_GTX_C_P13	C8080	SCD1U16V2KX-3GP PCIE_MRX_GTX_P13
PCIE_MTX_GRX_N13	AF25	PEX_RX13#	PEX_TX13#	AD22	PCIE_MRX_GTX_C_N13	C8081	SCD1U16V2KX-3GP PCIE_MRX_GTX_N13
PCIE_MTX_GRX_P14	AG25	PEX_RX14	PEX_TX14	AD23	PCIE_MRX_GTX_C_P14	C8082	SCD1U16V2KX-3GP PCIE_MRX_GTX_P14
PCIE_MTX_GRX_N14	AG26	PEX_RX14#	PEX_TX14#	AD24	PCIE_MRX_GTX_C_N14	C8083	SCD1U16V2KX-3GP PCIE_MRX_GTX_N14
PCIE_MTX_GRX_P15	AF27	PEX_RX15	PEX_TX15	AE25	PCIE_MRX_GTX_C_P15	C8084	SCD1U16V2KX-3GP PCIE_MRX_GTX_P15
PCIE_MTX_GRX_N15	AE27	PEX_RX15#	PEX_TX15#	AE26	PCIE_MRX_GTX_C_N15	C8085	SCD1U16V2KX-3GP PCIE_MRX_GTX_N15

N11M-GE1-S-A2-GP-U

IOVDD + IOVDDQ = 2200mA

+1.05V_GFX_PCIE

Place near GPU: SC10U8D3V5K-1GP C8069, SC10U8D3V5K-1GP C8074, SC4D7U6D3V3KX-GP C8064, SC1U10V2KX-1GP C8067, SC1U10V2KX-1GP C8068

Place under GPU: SCD1U16V2KX-3GP C8066, SCD1U16V2KX-3GP C8065

PEX_IOVDDQ: AB13, AB16, AB17, AB7, AB8, AB9, AC13, AC7, AD6, AE6, AE6, AG6

PEX_IOVDD: AC9, AD7, AD8, AE7, AE7, AG7

Place under GPU: SCD1U16V2KX-3GP C8059, SCD1U16V2KX-3GP C8060, C8063 SC1U6D3V2KX-GP, C8062 SC1U6D3V2KX-GP, C8061 SC1U10V3KX-3GP, C9073 SC10U6D3V5MX-3GP, C8041 SC10U6D3V5KX-1GP

Place near GPU: +1.05V_GFX_PCIE

PEX_REFCLK: AB10 CLK_PCIE_VGA [23]
PEX_REFCLK#: AC10 CLK_PCIE_VGA# [23]

PEX_TSTCLK_OUT: AF10 PEX_TEST_PLL_CLK_OUT
PEX_TSTCLK_OUT#: AF10 PEX_TEST_PLL_CLK_OUT# — 200R2F-L-GP DY R8002

+3.3V_RUN_GPU
R8004 10KR2J-3-GP

PEX_CLKREQ#: AE9 PEX_CLKREQ#
PEX_RST#: AD9 PEX_RST#

PEX_SVDD_3V3: AG9 — +3.3V_RUN_GPU

PEX_TERMP: AG10 PEX_TERMP — R8001 2K49R2F-GP

PEX_PLLVDD: AF9 — +PEX_PLLVDD
PLLVDD: K5 — +GPU_PLLVDD

C8087 SCD1U10V2KX-4GP

Place near GPU

Place under GPU: C8049 SCD1U10V2KX-4GP, +3.3V_RUN_GPU

+3.3V_RUN_GPU
DY R8034 2K2R2J-2-GP
Q8007_1
DY
PEG_CLKREQ# [23]
Q8007 MMBT3904-7-F-GP

[25] DGPU_HOLD_RST#
[9,21,37,64,65,70,76,77] PLT_RST#
PLT_RST# — DY C8086 SC1U6D3V2KX-GP
DW 10/28 Item 6

U8028 NL17SZ08DFT2G-GP (B, A, GND, VCC, Y)
+3.3V_RUN
PEX_RST# — DY R8016 100KR2J-1-GP

PEX_PLLVDD = 120mA

+PEX_PLLVDD — C8070 SC1U6D3V2KX-GP — C8046 SC4D7U6D3V3KX-GP — L8011 PBY160808T-121Y-GP — +1.05V_GFX_PCIE

100NH 0603
DCR= 0.13 ohm

Place under GPU (Per pin)
+GPU_PLLVDD — C8071 SCD1U16V2KX-3GP, C8072 SCD1U16V2KX-3GP

Place near GPU
+1.05V_GFX_PCIE — L8005 PBY160808T-121Y-GP — C8076 SC1U10V2KX-1GP — C8075 SC4D7U6D3V3KX-GP

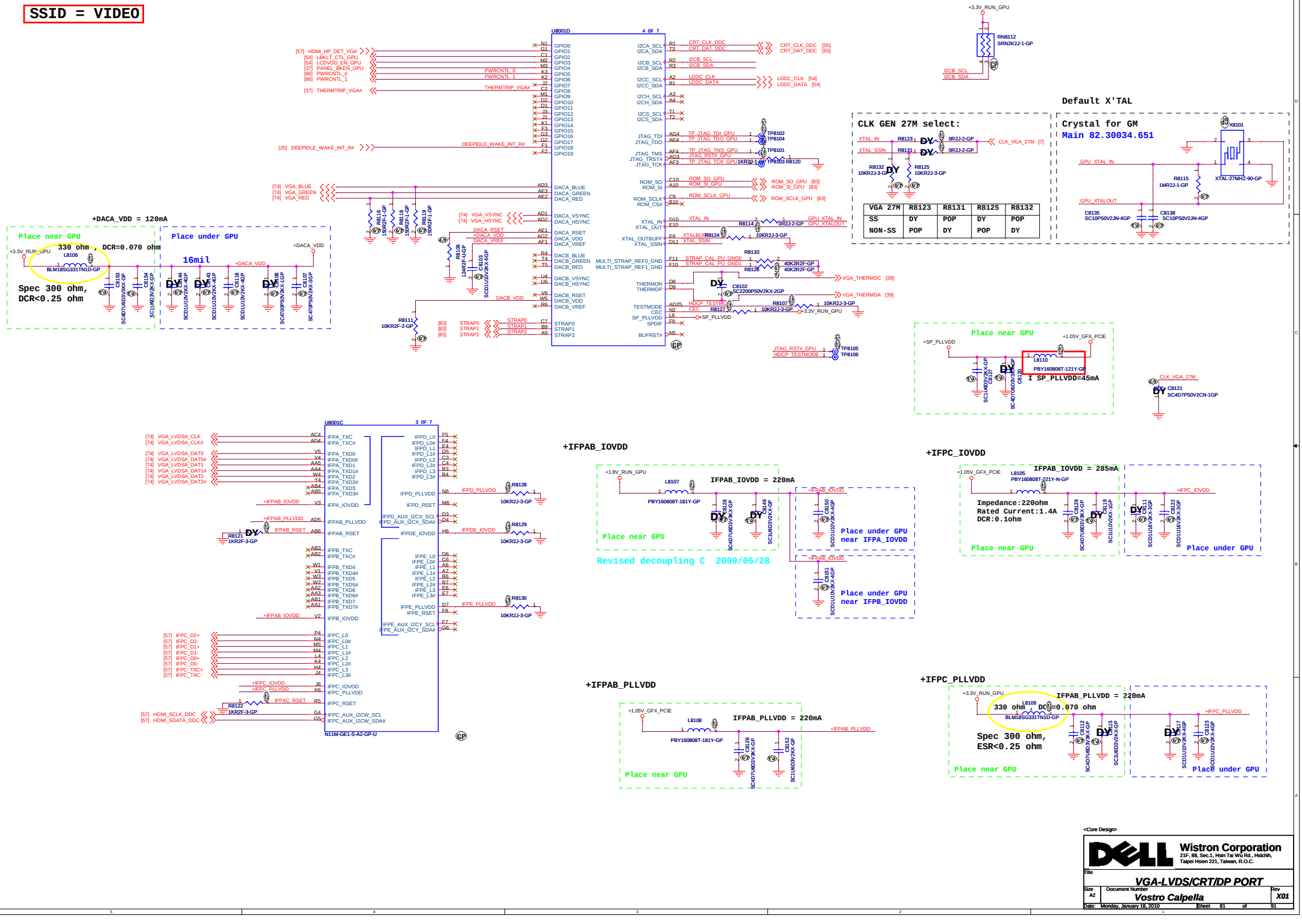
I SP_PLLVDD=45mA

<Core Design>

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

Title: VGA-PCIE/LVDS(1/4)
Size: A3 | Document Number: Vostro Calpella | Rev: X01
Date: Monday, January 18, 2010 | Sheet 80 of 91

SSID = VIDEO



<Core Design>

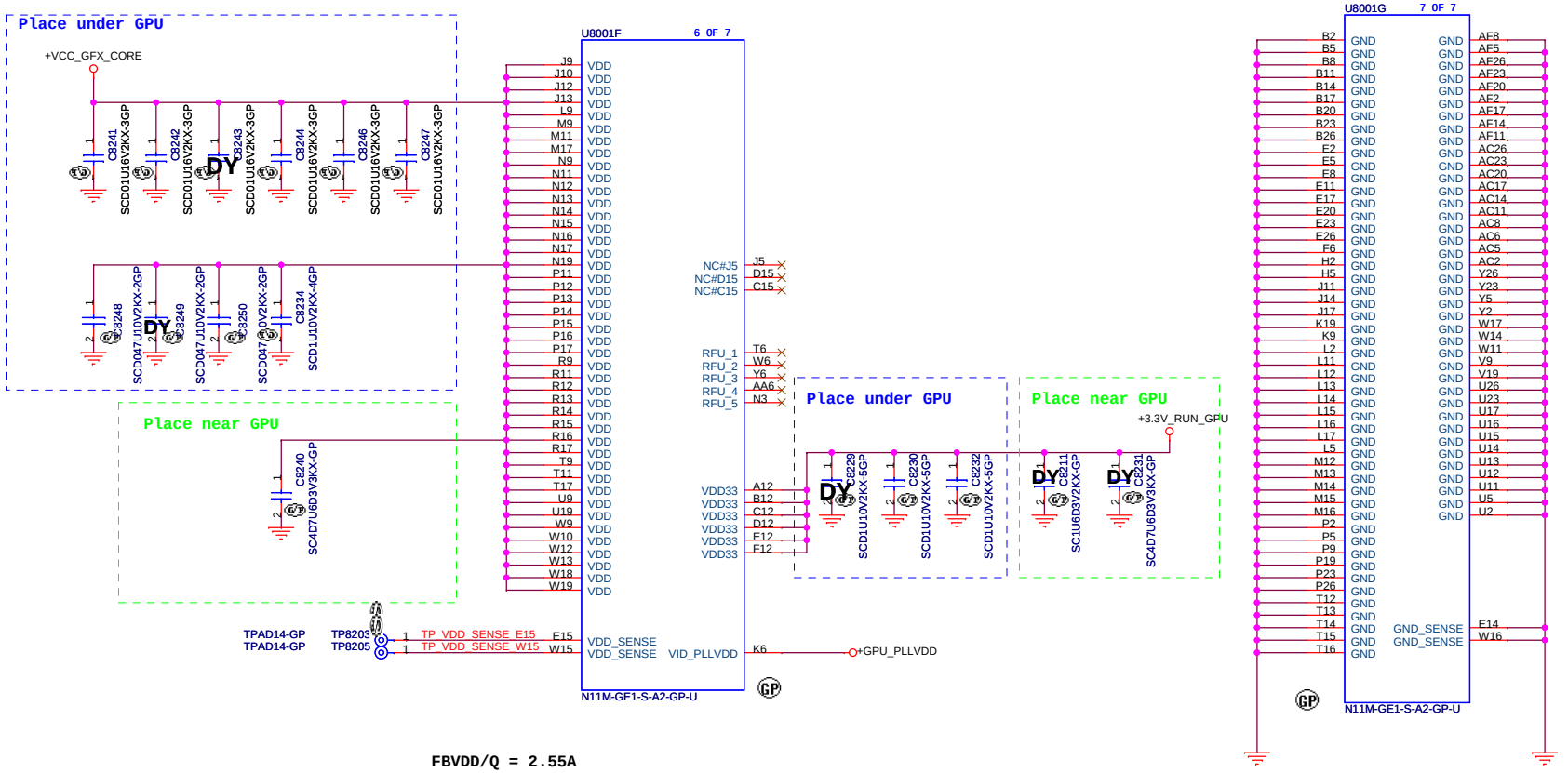
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: VGA-LVDS/CRT/DP PORT

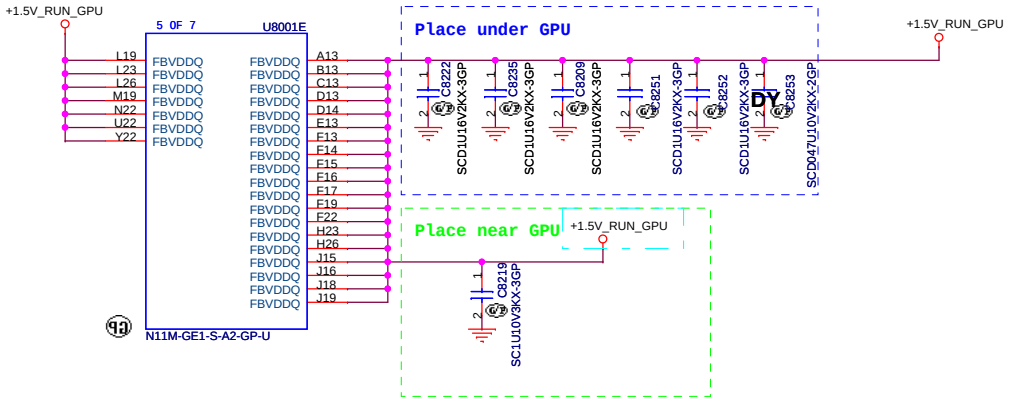
Size	Document Number	Rev
A2	Vostro Calpella	X01

Date: Monday, January 18, 2010 Sheet 81 of 91

SSID = VIDEO



FBVDD/Q = 2.55A



<Core Design>

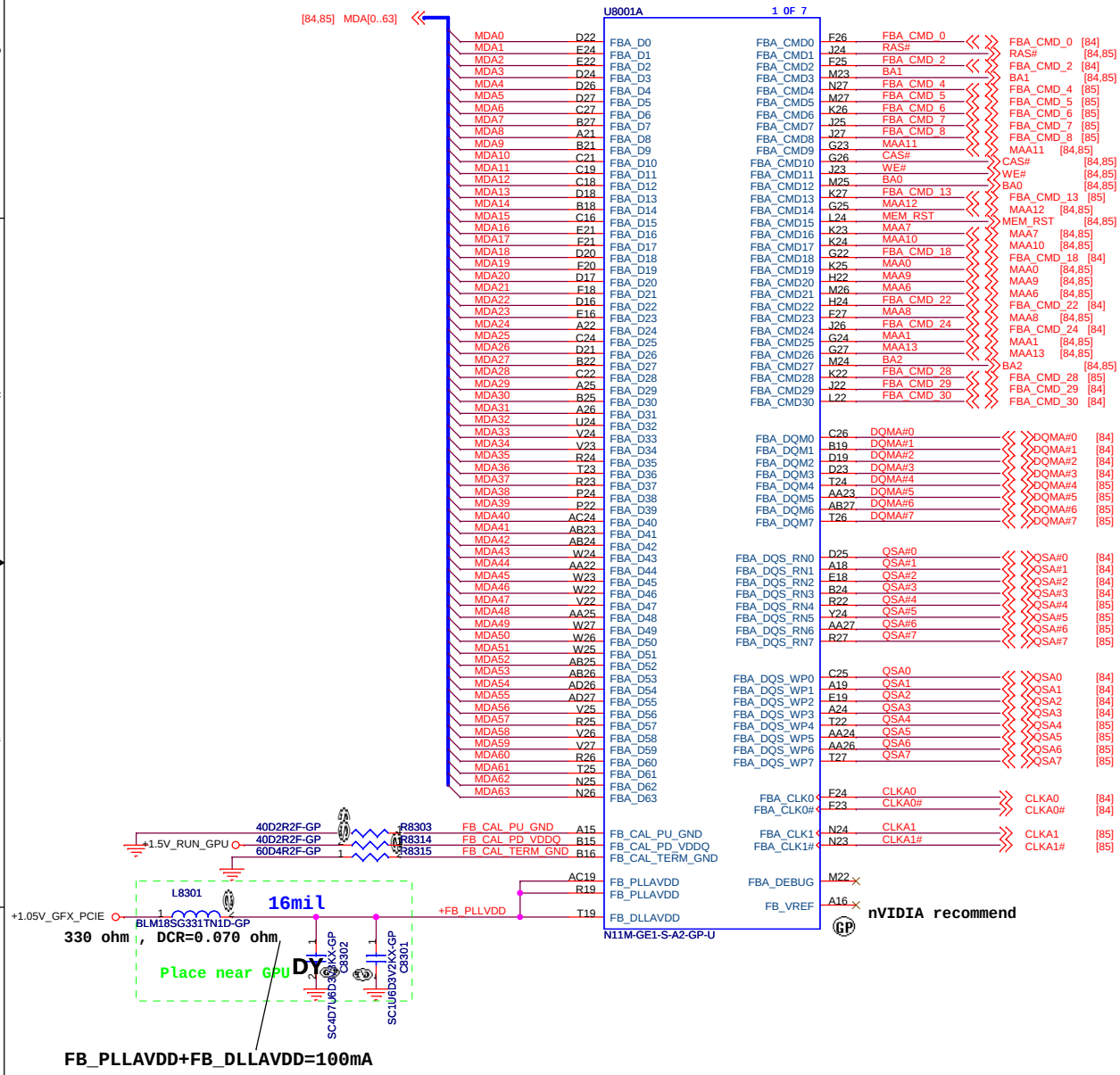
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: VGA-POWER/GND(3/4)

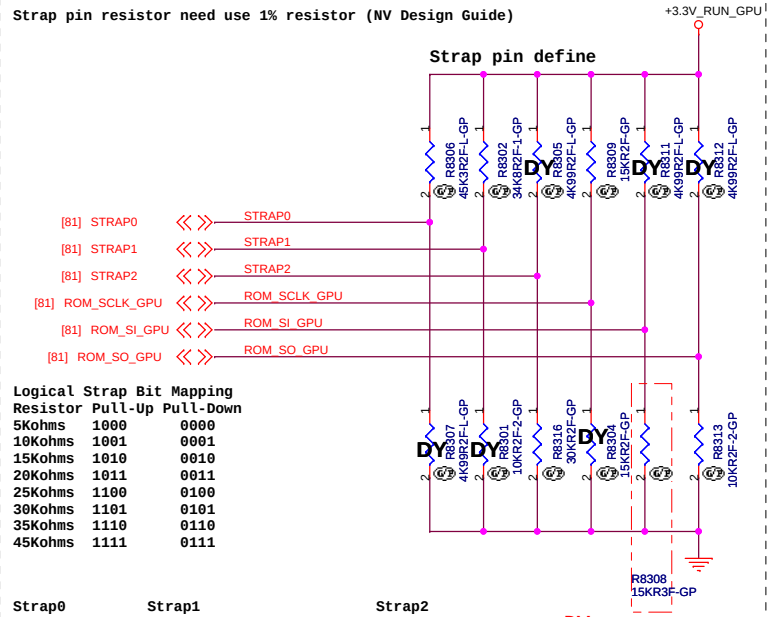
Size: A3 | Document Number: Vostro Calpella | Rev: X01

Date: Monday, January 18, 2010 | Sheet 82 of 91

SSID = VIDEO



Strap pin resistor need use 1% resistor (NV Design Guide)



Logical Strap Bit Mapping

Resistor	Pull-Up	Pull-Down
5Kohms	1000	0000
10Kohms	1001	0001
15Kohms	1010	0010
20Kohms	1011	0011
25Kohms	1100	0100
30Kohms	1101	0101
35Kohms	1110	0110
45Kohms	1111	0111

Strap0		Strap1		Strap2	
USER_BIT0	1	3GIO_PADCFG_LUT_ADR0	0	PCI_DEVID_0	1
USER_BIT1	1	3GIO_PADCFG_LUT_ADR1	1	PCI_DEVID_1	0
USER_BIT2	1	3GIO_PADCFG_LUT_ADR2	1	PCI_DEVID_2	1
USER_BIT3	1	3GIO_PADCFG_LUT_ADR3	1	PCI_DEVID_3	0
EDID is used		Reserved		N11M-GE1 GPU Device ID=0x0A75	

DW
01/15 Item 1

ROM_SI_GPU		ROM_SO_GPU		ROM_SCLK_GPU	
RAM_CFG0		VGA_DEVICE	1	PEX_PLL_EN_TERM	0
RAM_CFG1		SMB_ALT_ADDR	0	SLOT_CLK_CONFIG	1
RAM_CFG2		FB_0_BAR_SIZE	0	SUB_VENDOR	0
RAM_CFG3		XCLK_417	0	PCI_DEVID_4	1

Default setting: SAMSUNG sDDR3 64Mx16BIT-->20K pull down (0x0011)

RAM_CFG[3:0]	Config	FB_BUS Width	Definitions
0000			
0001			
0010	64MX16	DDR3 64Bit	Hynix
0011	64MX16	DDR3 64Bit	Samsung Default
0100			
0101			
0110			
0111			

If use Hynix sDDR3 64Mx16BIT(0x0010), R8308 change to 15K

SUB_VENDOR	XCLK_417	PEX_PLL_EN_TERM
0 No VBIOS ROM	0 277MHz(POR)	0 Disable (POR)
1 BIOS ROM present	1 Reserved	1 Enable

3GIO_PADCFG — **USER[3:0]**
0000 Desktop — 1111 Use EDID to detect panel settings
1110 Notebook (POR)

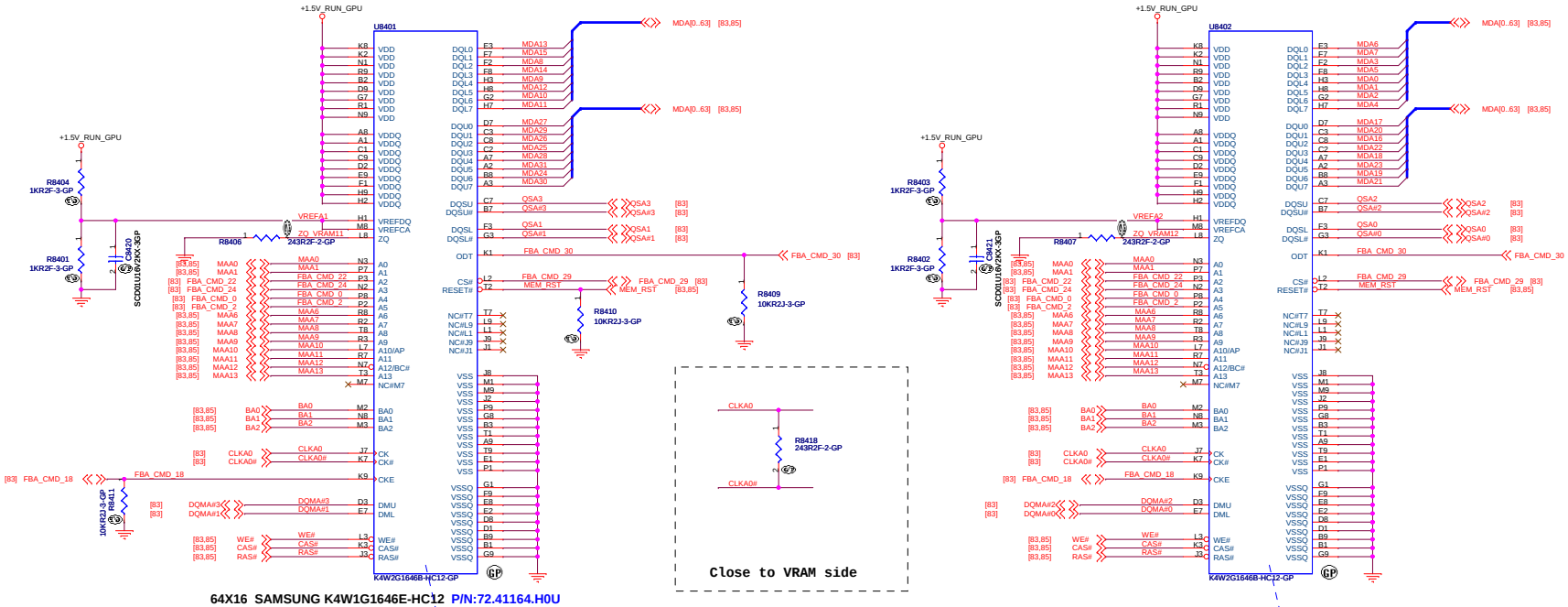
SLOT_CLOCK_CFG
0 GPU and MCH do not share a common reference clock
1 GPU and MCH share a common reference clock (POR)

<Core Design>

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

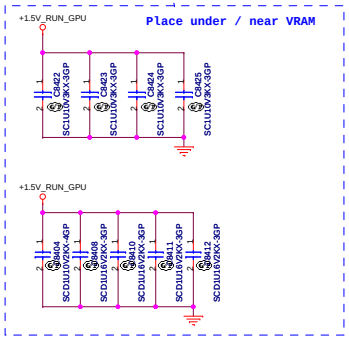
Title: VGA-MEMORY/STRAPS(4/4)
Size: A3 | Document Number: Vostro Calpella | Rev: X01
Date: Monday, January 18, 2010 | Sheet 83 of 91

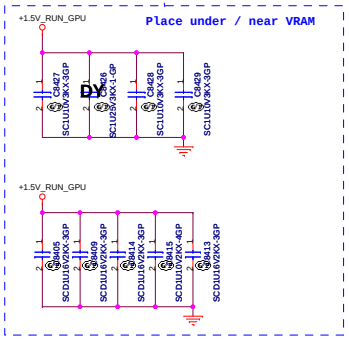
SSID = VIDEO



64X16 SAMSUNG K4W1G1646E-HC12 P/N:72.41164.H0U

64X16 HYNIX H5TQ1G63BFR-12C P/N:72.51G63.C0U





<Core Design>

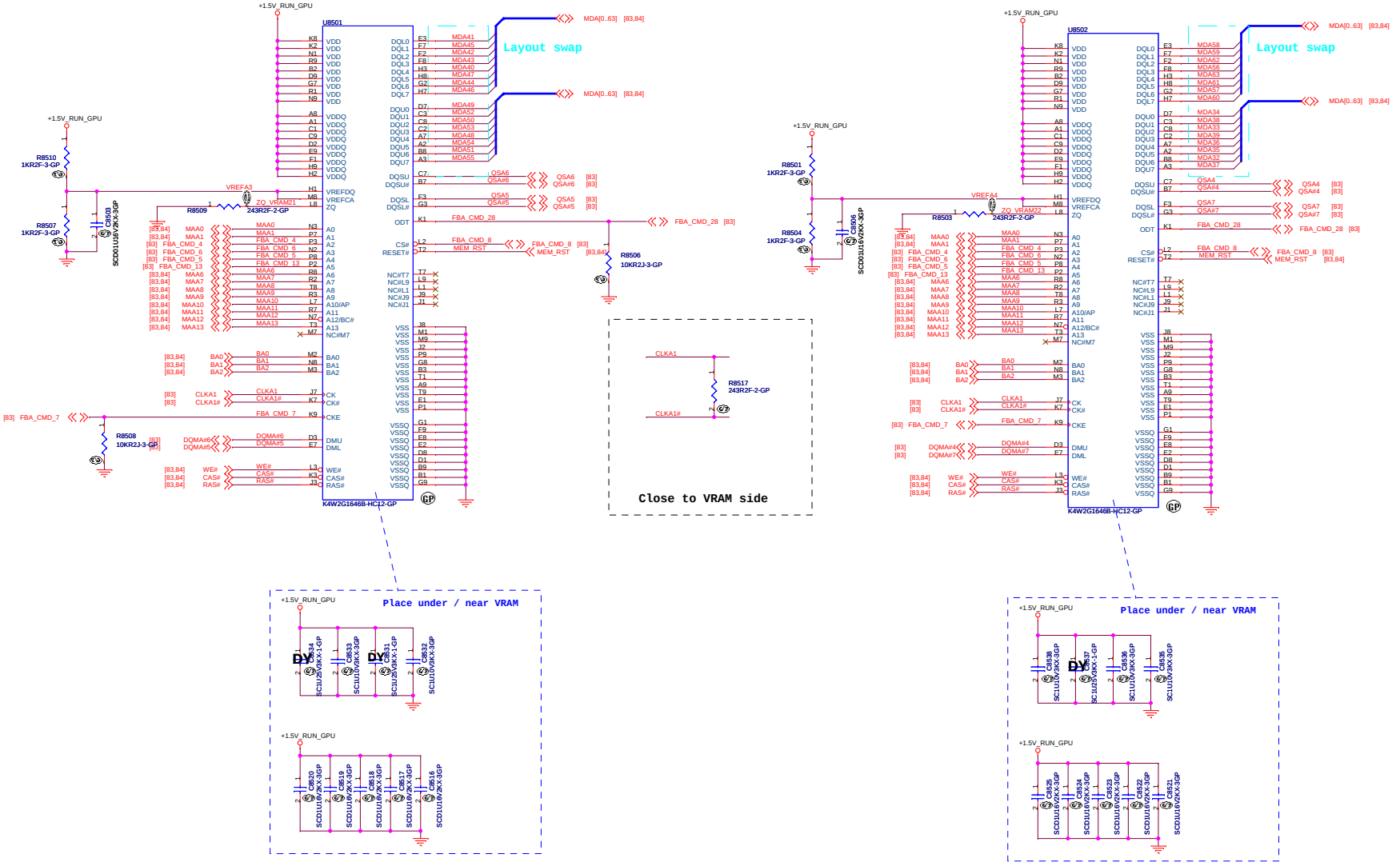
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: VRAM(1/2)

Size: A2 | Document Number: Vostro Calpella | Rev: X01

Date: Monday, January 18, 2010 | Sheet 84 of 91

SSID = VIDEO



<Core Design>

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

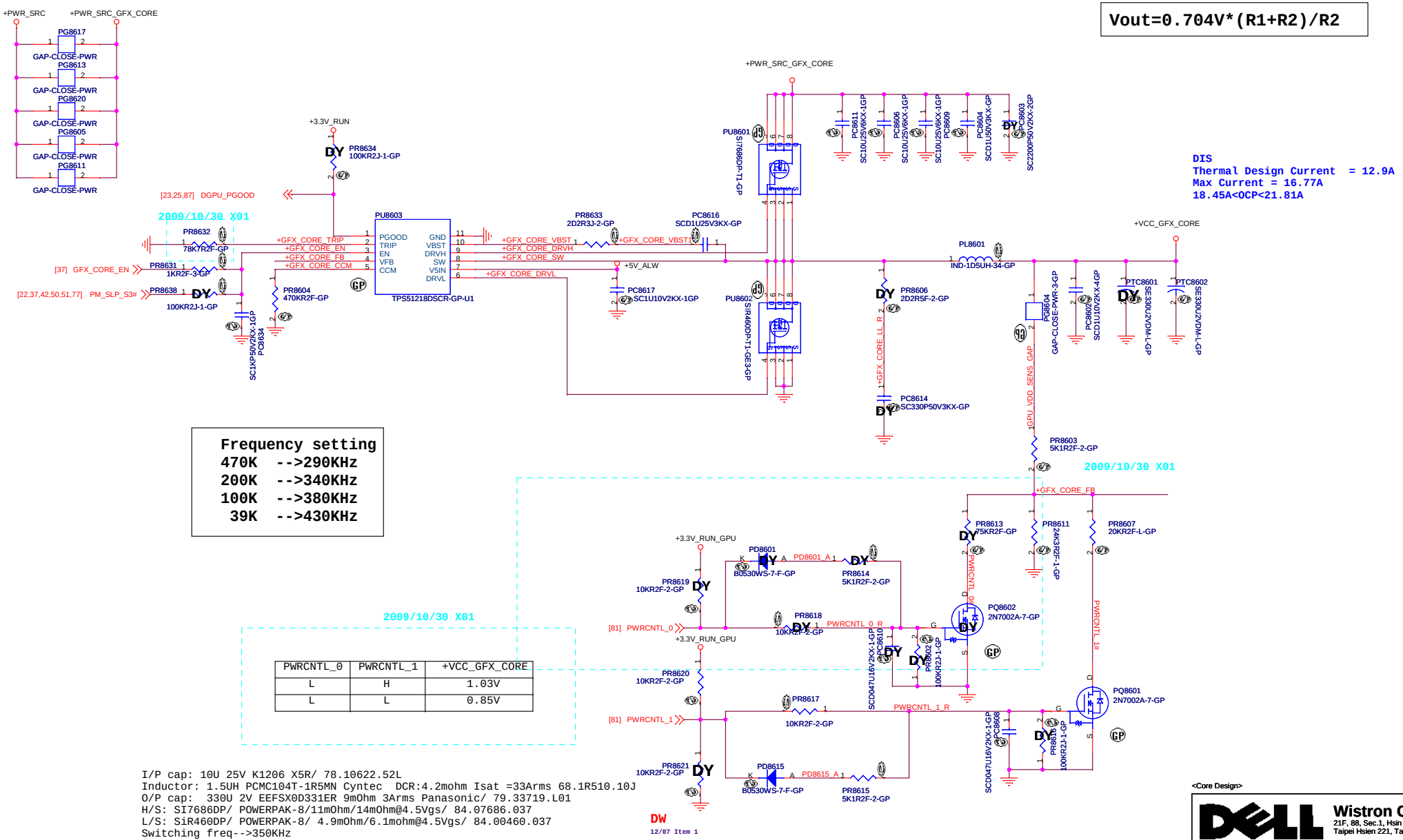
Title: VRAM

Size	Document Number	Rev
A2	Vostro Calpella	X01

Date: Monday, January 18, 2010 Sheet 85 of 91

SSID = PWR.Plane.Regulator_GFX

Vout=0.704V*(R1+R2)/R2



DIS
Thermal Design Current = 12.9A
Max Current = 16.77A
18.45A<OCP<21.81A

Frequency setting
470K -->290KHz
200K -->340KHz
100K -->380KHz
39K -->430KHz

2009/10/30 X01

PWRCNTL_0	PWRCNTL_1	+VCC_GFX_CORE
L	H	1.03V
L	L	0.85V

I/P cap: 10U 25V K1206 X5R/ 78.10622.52L
Inductor: 1.5UH PCMC104T-1R5MN Cyntec DCR:4.2mohm Isat =33Arms 68.1R510.10J
O/P cap: 330U 2V EEFSX0D331ER 9mOhm 3Arms Panasonic/ 79.33719.L01
H/S: SI7686DP/ POWERPAK-8/11mOhm/14mOhm@4.5Vgs/ 84.07686.037
L/S: SiR460DP/ POWERPAK-8/ 4.9mOhm/6.1mohm@4.5Vgs/ 84.00460.037
Switching freq-->350KHz

DW
12/07 Item 1

<Core Design>

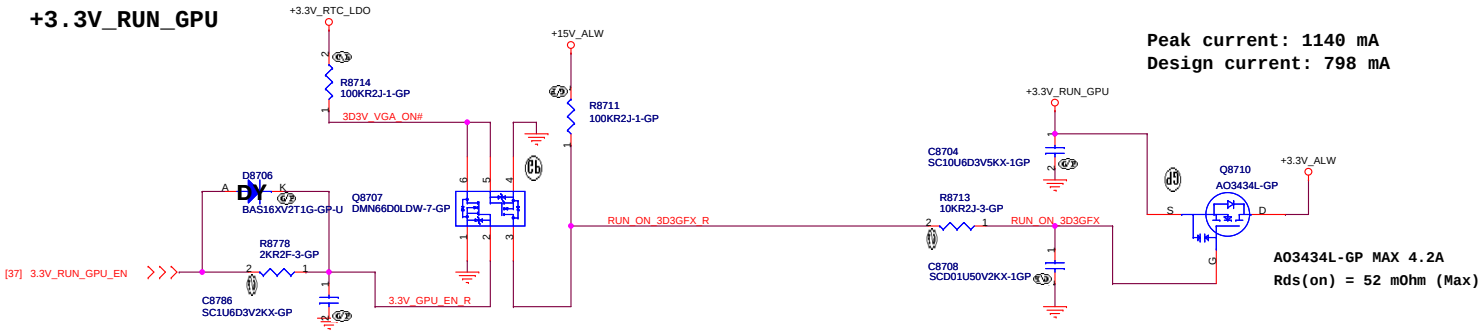
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: TPS51218 +VCC_GFX_CORE

Size	Document Number	Rev
Custom	Vostro Calpella (Discrete)	X01

Date: Monday, January 18, 2010 Sheet 86 of 91

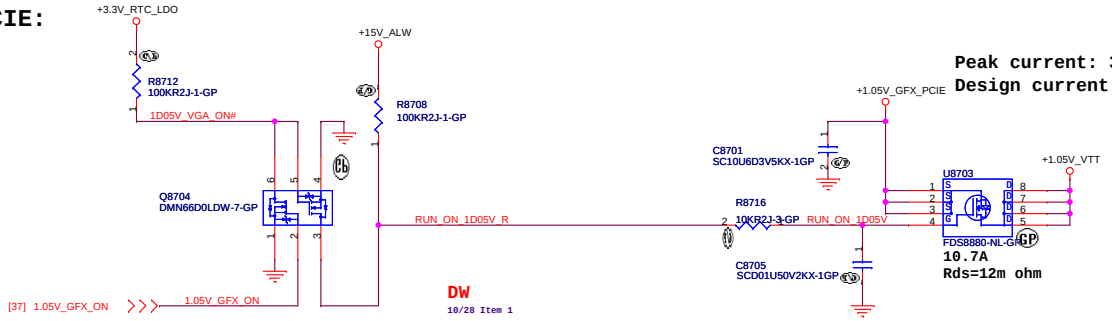
+3.3V_RUN_GPU



Peak current: 1140 mA
Design current: 798 mA

AO3434L-GP MAX 4.2A
Rds(on) = 52 mOhm (Max)

+1.05V_GFX_PCIE:



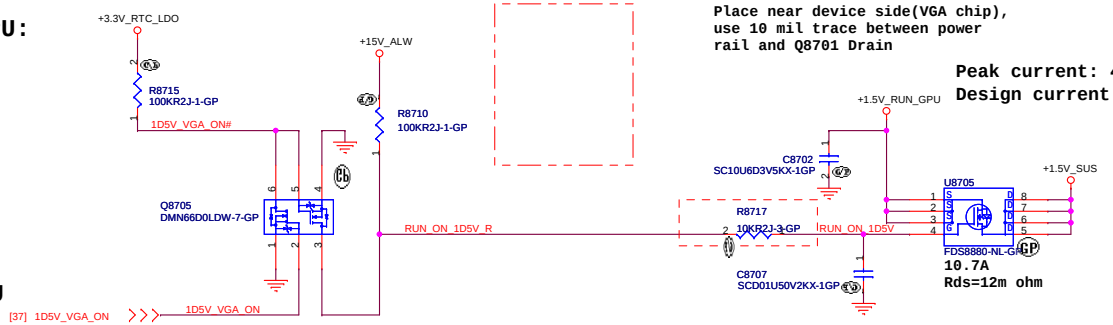
Peak current: 3550 mA
Design current: 2485 mA

10.7A
Rds=12m ohm

DW
10/28 Item 1

Place near device side(VGA chip), use 10 mil trace between power rail and Q8701 Drain

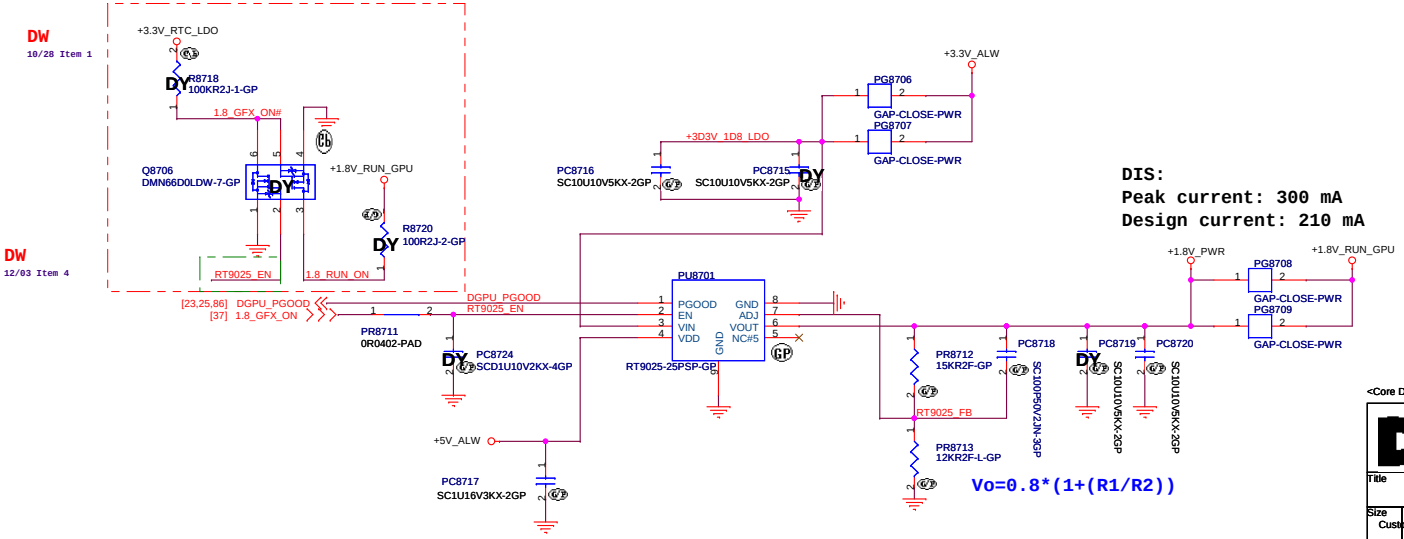
+1.5V_RUN_GPU:



Peak current: 4230 mA
Design current: 2961 mA

10.7A
Rds=12m ohm

+1.8V_RUN_GPU



DIS:
Peak current: 300 mA
Design current: 210 mA

Vo=0.8*(1+(R1/R2))

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Title	LDO 1.8V	
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DATE	VERSON	ITEM	PAGE	Modify List	Issue Description	OWNER
2009/10/15	X01	1	25	Swapped Q2515 C,E Pin	For correct.	EE
		2	All	Combine pull-up/down resistors from single to series resistor	For save more part counts	EE
		3	37	Update 10mW circuit.	For DC mode power consumption can be less than 10mW under S5.	EE
		4	22	Add U2213,R2221	Added 3v/5v S5 power good to control resume reset sequence circuit prevent RTC data loss.	EE
		5	51	stuffed PC5105 with 1uF	For power sequencing of +1.8V_RUN , Delay timing	EE
		6	23	Added 25M Crystal	For DCI (DisplayClock_Integration)	EE
		7	79	Added BOSS4	For Steady the thermal module	EE
		9	All	BOSS1 from 34.4W005.001 to 34.4CQ03.101 CON3 from 20.K0315.005 to 20.K0293.006 CON4 from 20.K0315.028 to 20.K0275.028 CON6 from 20.K0315.036 to 20.K0276.036 DM1 from 62.10017.U81 to 62.10017.P31 DM2 from 62.10017.U71 to 62.10017.Q31 HOLE1 from ZZ.00PAD.I71 to ZZ.00PAD.G51 HOLE2 from ZZ.00PAD.K81 to ZZ.00PAD.E11 HOLE3 from ZZ.00PAD.N81 to ZZ.00PAD.D71 HOLE4 from ZZ.00PAD.N81 to ZZ.00PAD.D71 HOLE5 from ZZ.00PAD.K11 to ZZ.00PAD.E11 HOLE6 from ZZ.00PAD.I71 to ZZ.00PAD.G51 HOLE7 from ZZ.00PAD.I71 to ZZ.00PAD.G51 HOLE8 from ZZ.00PAD.N91 to ZZ.00PAD.D31 HOLE9 from ZZ.00PAD.J01 to ZZ.00PAD.D11 LCD1 from 20.F1093.040 to 20.F1555.030 TPAD1 from 20.K0320.004 to 20.K0265.004	For ME request Changed connect PN:	ME
2009/10/16		1	37,87	Removed CAPA_RST# from Capacity board		EE
				Added Switch Baord Detection circuit	For software request.	EE
2009/10/19		1	77	Reversal CON6 Pin 36 <-> 1 ; 35 <-> 2	For new connect pin define.	EE
		2	9,27	Changed RN907,L2701,L2704	For update components	EE
		3	74	Swapped the RN7408,RN7409,RN7410,RN7411	For Layout request.	EE

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Title: *Change List - EE(1)*

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DATE	VERSON	ITEM	PAGE	Modify List	Issue Description	OWNER
2009/10/19	X01	1	21,23	Changed EDID_SELECT# pin from PCH_GPIO66 to PCH_GPIO5	For fixed gitch.	EE
2009/10/22		1	All	Swapped resistance	For Layout request.	EE
		2	64,65 66,78	Merge WWAN and WLAN LED	Update SPEC	EE
		3	All	DM1 from 62.10017.U81 to 62.10017.P31 DM2 from 62.10017.U71 to 62.10017.Q31 HOLE5 from ZZ.00PAD.K11 to ZZ.00PAD.K81 TPM1 from 20.K0238.010 to 20.K0315.010 WLAN1 from 20.F1286.052 to 62.10043.841 WWAN1 from 20.F1286.052 to 62.10043.841 Update H13 Footprint	For ME request Changed connect PN	ME
		4	24	X2401 from 82.30001.691 to 82.30001.A81	Update component	EE
		5	9,42 50	Stuff "S3 Power Reduction" circuit reserve component	Update schematic base on test result.	EE
2009/10/27		1	79	Add RFC7907 +5V_ALW to GND 33pF Cap		RF
				Add RFC7908 +5V_ALW to GND 0.1uF Cap		
				Add RFC7909 +3.3V_RUN to GND 0.1uF Cap		
		2	All	Changed power rail netname from +1.5V_CPU to +1.5V_RUN	Merge +1.5V_CPU to +1.5V_RUN ,For CosDown.	EE
			42	Del U4204,R4213,C4206,R4215,R4217,R4218		
2009/10/28		1	87	Del Q8701,R8709	Remove +1.5V_RUN_GPU discharge circuit,base on test result.	EE
				Add Q8706,R8718,R8720	Reserve +1.8V_RUN_GPU discharge circuit,base on test result.	
		2	26	Del U2601,C2629,C2628	Remove reserve circuit +3.3V_CRT_LDO Circuit for LDO Regulators,base on test result.	
		3	26	Del R2602	Remove reserve resistor,For save more part counts	
		4	25	Del R2517	Remove reserve pull-Hi resistors,For not use it	
		5	27	Del R2708	Remove reserve resistor,For save more part counts	
		6	80	Del R8039	Remove reserve resistor,For save more part counts	
		7	57	Add R5773 between +5V_HDMI_C and +5V_HDMI.	dummy D5703 Stuff R5773 ,For save more part counts base on test result.	
		8	37	Add SW1	Add mine switch to control PWR_BTN , Only on Sample stage	
2009/10/29		1	25,76	Assign PCH GPIO35 for TouchPanel_Stop..	Add TouchPanel Stop Pin to control ON/OFF by PCH GPIO35	EE
2009/12/03	SC	1	24,63 79	Rename RFC***, USBESATA1 Part Referse	Rename Part Referse Ex: USBESATA1 to ESATA1 for manufactory request	EE
		2	37	Add R3720 damping resistor.	Add damping resistor for signal improvement	EE
		3	37	Add R3703,U3703,C3705	Co-layout MUX and OR gate for BLON to solve white screen issue while iGPU to dGPU.	EE
		4	87	Changed Net Connect	Changed Q8706.2 from 1.8_GFX_ON to RT9025_EN ,For correct.	EE
		5	79	For ME request Changed below connect PN:	Change P/N of “HOLE5” from ZZ.00PAD.K81 to ZZ.00PAD.Q41.	ME
2009/12/08	SC	1	38	Add PR8621 Pull-Lo resistor.	Reserve for control. +VCC_GFX_CORE power rail default to 0.85.	EE
		2	42	Add Q4205,Q4206,R4220,R4221	Added discharge circuit for +5_RUN,+3_RUN.	EE
2010/01/11	X-Bulid	1	76	Del AFTP7634 ~ 7662; 7664~7667 ;7669;7672;7302	Del AFTP For saved more layout space.	EE
		2	51	PR5102 short ; replacing PC5105 by 10K resistor to GND	prevent PM_SLP_S3# signal rebound	EE
		3	All	Mount EMI CHOKE or Reserve colse Gap for Differential-Pair	Co-layout should not be allowed in X-build.	EE
		4	23	Del RN2327 , Reserve colse Gap	For saved more layout space.	EE
		5	37,62	Reserve threadhold 2.93V reset IC (74.00690.I7B) in PURE_HW_SHUTDOWN# pin Reserve Pull-Lo resistor for SPI_WP#.	Reserve For Flash ROM Damaged Issue.	EE
2010/01/18	X-Bulid	1	21,73	Swap Camera USB Port from Port-10 to Port-7	For Camera USB issue	EE

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Title: Change List - EE(2)

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DATE	VERSON	ITEM	PAGE	Modify List	Issue Description	OWNER
2009/10/19	X01	2	81	Remove R8149	For EMI team request	EMI
			21	PCLK_FWH、CLK_PCI_FB、PCLK_KBC、PCLK_TPM reserve by pass cap		
			23	CLK_PCH_48M reserve by pass cap		
			23	Romove R2350 and C2324		
			37	Romove R3726 and C3704		
			79	Reserve +PWR_SRC to GND cap		
2009/10/22		3	79	Add EC7934 0.1u in +VCC_CORE	For EMI team request	EMI
				Add EC7911 0.1u +1.5V_SUS to GND cap*1		
				Add EC7935,EC7936 0.1u +1.5V_SUS to GND cap*2		
				Add EC7937 0.1u +1.5V_SUS to GND cap*1		
				Add EC7938 0.1u +PWR_SRC to GND cap*1		
				Update TR6304,TR6305 p/n to 68.00201.141		
2009/10/23		4	73	Move EC7302	For EMI team request	EMI
			79	dummy 0.1u x 2 in green area 6135,195 ----EC7939,EC7940		
				dummy 0.1u cap in red area 1755,4435 -----EC7941		
				dummy 1000p in green area 5225,6950----EC7942		
				dummy 1000p in green area 3780,6180-----EC7943		
				dummy 104p and 1000p in green area 5385,7010--- EC7944,EC7945		
				dummy 0.1u in green area 3400,6300---EC7946		
				dummy 0.1u in green area 1240,4035--EC7947		
			55	add damping 33ohm on R,G,B Singel---R5594,R5595,R5596		
2009/12/08	SC	1	79	mount EC7948,EC7949,EC7934	For RF Team request	RF
2009/12/09	SC	1	73	mount LECM2012H-900QT-GP in L7301	For EMI team request	EMI
		2	24,77	change R2405 from 10 ohm to 56 ohm and mount 120 ohm bead bead p/n:BLM15EG121SN1 L7702		
		3	73	mount 220p cap on EC7302 and EC7303		
		4	79	Add EC7950		

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Title: Change List - EMI&RF

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DATE	VERSON	ITEM	PAGE	Modify List	Issue Description	OWNER
2009/10/22	X01	1	46	PR4604,PR4605 --> 4.7ohm for RT, 0 ohm for TI	Change PU4603 from TPS51125 to RT8205B	Power Team
				PR4622 --> 820k ohm for RT, DY for TI		
				PR4616 --> ASM for RT, DY for TI		
				PR4617 --> DY for RT, ASM for TI		
			53	PC5307 change to 68nF for Intel spec		
2009/10/29		2	50	Add 4.7uF at +PWR_SRC_1D5V	Improve Jitter issue	Power Team

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Title: Change List - Power

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