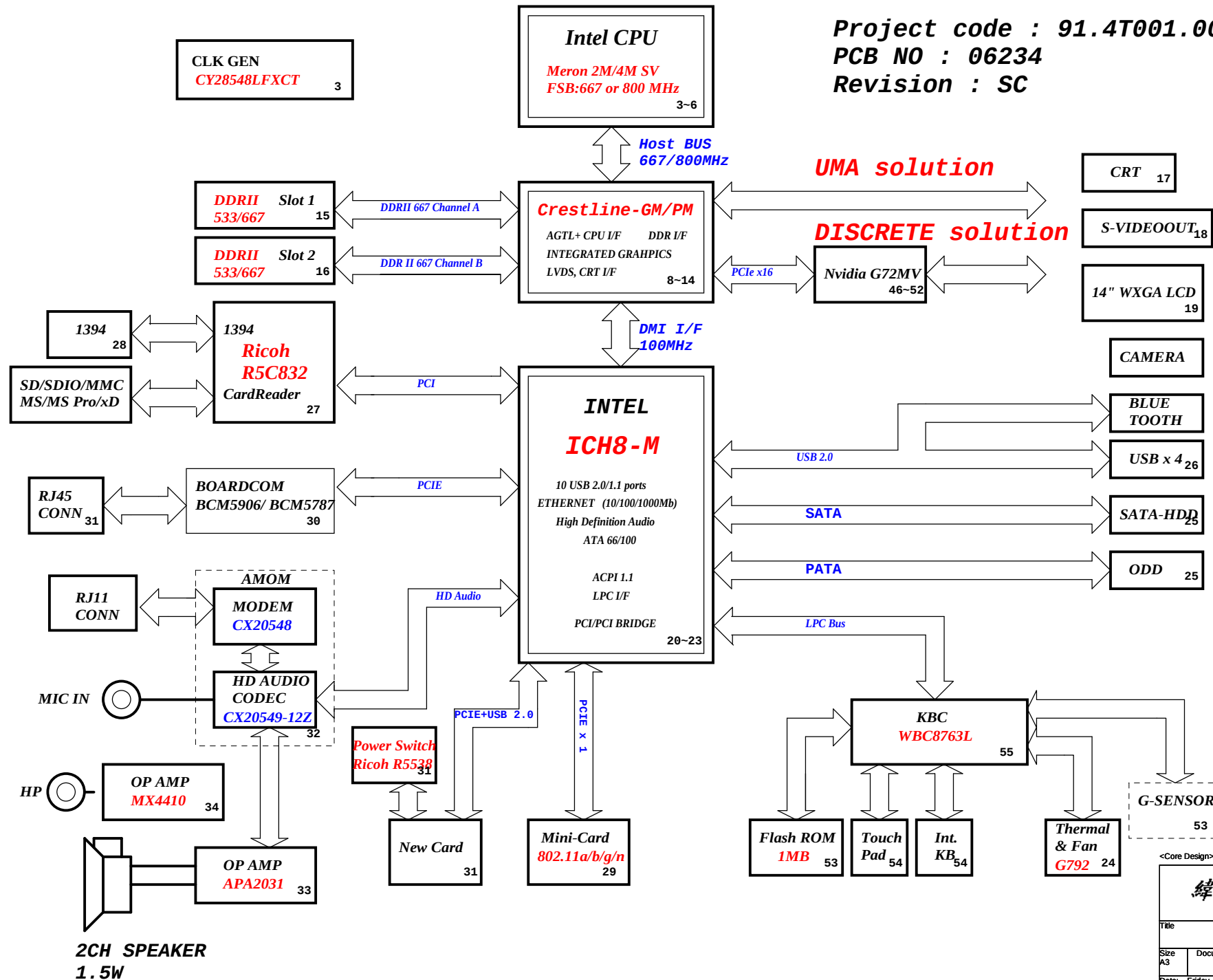


Anote2.0 Block Diagram

Project code : 91.4T001.001
PCB NO : 06234
Revision : SC



SYSTEM DC/D	
TPS51120	
INPUTS	OUTPUTS
DCBATOUT	5V_S3 3D3V_S
SYSTEM DC/D	
ISL6268CAZ	
INPUTS	OUTPUTS
DCBATOUT	1D05V_
SYSTEM DC/D	
TPS51116	
INPUTS	OUTPUTS
DCBATOUT	1D8V_S 0D9V_S
CHARGER	
ISL6255	
INPUTS	OUTPUTS
DCBATOUT	BT+ 20V_3 5V_10
CPU DC/DC	
ISL6262ACRZ	
INPUTS	OUTPUTS
DCBATOUT	VCC_C
PCB LAYER	
L1: Signal 1	
L2: VCC	
L3: Signal 2	
L4: Signal 3	
L5: GND	
L6: Signal 4	

INTEL ICH8-M STRAP PIN

Signal	Usage/When Sampled	Comment
HDA_SDOUT	XOR Chain Entrance/ PCIe Port Config 1 bit1, Rising Edge of PWROK	Allows entrance to XOR Chain testing when TP3 pulled low at rising edge of PWROK. When TP3 not pulled low at rising edge of PWROK, sets bit1 of RPC.PC(Config Registers:offset 224h)
HDA_SYNC	PCIe Port Config 1 bit0, Rising Edge of PWROK.	Sets bit0 of RPC.PC(Config Registers:Offset 224h)
GNT2#	PCIe Port Config 2 bit0, Rising Edge of PWROK.	Sets bit2 of RPC.PC(Config Registers:Offset 224h)
GPIO20	Reserved	Weak Internal PULL-DOWN.NOTE:This signal should not be pull HIGH.
GNT3#	Top-Block Swap Override. Rising Edge of PWROK.	Sampled low:Top-Block Swap mode(inverts A16 for all cycles targeting FWH BIOS space). Note: Software will not be able to clear the Top-Swap bit until the system is rebooted without GNT3# being pulled down.
GNT0# SPI_CS1#	Boot BIOS Destination Selection. Rising Edge of PWROK.	Controllable via Boot BIOS Destination bit (Config Registers:Offset 3410h:bit 11:10). GNT0# is MSB, 01-SPI, 10-PCI, 11-LPC.
INTVRMEN	Integrated VccSus1_05 VccSus1_5 and VccCL1_5 VRM Enable/Disable.Always sampled.	Enables integrated VccSus1_05,VccSus1_5 and VccCL1_5 VRM when sampled high
LAN100_SLP	Integrated VccLAN1_05 VccCL1_05 VRM enable /Disable. Always sampled.	Enables integrated VccLAN1_05,VccCL1_05 VRM when sampled high
SATALED#	PCIe LAN REVERSAL.Rising Edge of PWROK.	This signal has weak internal pull-up. set bit27 of MPC.LR(Device28:Function0:Offset D8)
SPKR	No Reboot. Rising Edge of PWROK.	If sampled high, the system is strapped to the "No Reboot" mode(ICH8M will disable the TCO Timer system reboot feature). The status is readable via the NO REBOOT bit.(Offset:3410h:bit5)
TP3	XOR Chain Entrance. Rising Edge of PWROK.	This signal should not be pull low unless using XOR Chain testing.
GPIO33/ HDA_DOCK_EN#	Flash Descriptor Security Override Strap Rising Edge of PWROK.	Internal Pull-Up.If sampled low,the Flash Descriptor Security will be overridden.if high,the Security measures defined in the Flash Descriptor will be in effect. This should only be used in manufacturing environments

XOR Chain Entrance Strap		
ICH_RSVD[3]	AZ_DOUT_ICH	Description
0	0	RSVD
0	1	Enter XOR Chain
1	0	Normal Operation(default)
1	1	Set PCIe port cofig bit1

A16 swap override strap		
PCI_GNT3#	low = A16 swap override enable	high = default
Boot BIOS Strap		
PCI_GNT0#	SPI_CS#1	BOOT BIOS Location
0	1	SPT
1	0	PCT
1	1	LPC(Default)

Integrated VccSus1_05,VccSus1_5,VccCL1_5		
SM_INTVRMEN	High=Enable	Low=Disable
Integrated VccLAN1_05VccCL1_05		
LAN100_SLP	High=Enable	Low=Disable

DEFAULE HIGH

No Reboot Strap	
SPKR	LOW = Defaule
	High=No Reboot

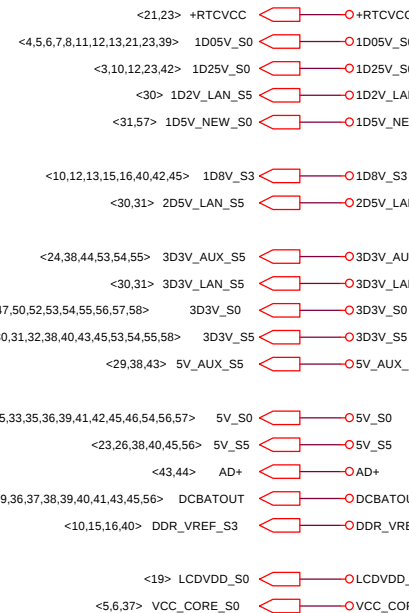
8.2K PULL HIGH

INTEL ICH8-M INTEGRATED PULL-UPS and PULL-DOWNS

SIGNAL	Resistor Type/Value
HDA_BIT_CLK	PULL-DOWN 20K
HDA_RST#	NONE
HDA_SDIN[3:0]	PULL-DOWN 20K
HDA_SDOUT	PULL-DOWN 20K
HDA_SYNC	PULL-DOWN 20K
GNT[3:0]	PULL-UP 20K
GPIO[20]	PULL-DOWN 20K
LDA[3:0]#/FWH[3:0]#	PULL-UP 20K
LAN_RXD[2:0]	PULL-UP 20K
LDRQ[0]	PULL-UP 20K
LDRQ[1]/GPIO23	PULL-UP 20K
PME#	PULL-UP 20K
PWRBTN#	PULL-UP 20K
SATALED#	PULL-UP 20K
SPI_CS1#	PULL-UP 20K
SPI_CLK	PULL-UP 20K
SPI_MOSI	PULL-UP 20K
SPI_MISO	PULL-UP 20K
TACH_[3:0]	PULL-UP 20K
SPKR	PULL-DOWN 20K
TP[3]	PULL-UP 20K
USB[9:0][P,N]	PULL-DOWN 15K
CL_RST#	TBD

INTEL CRESTLINE STRAP PIN

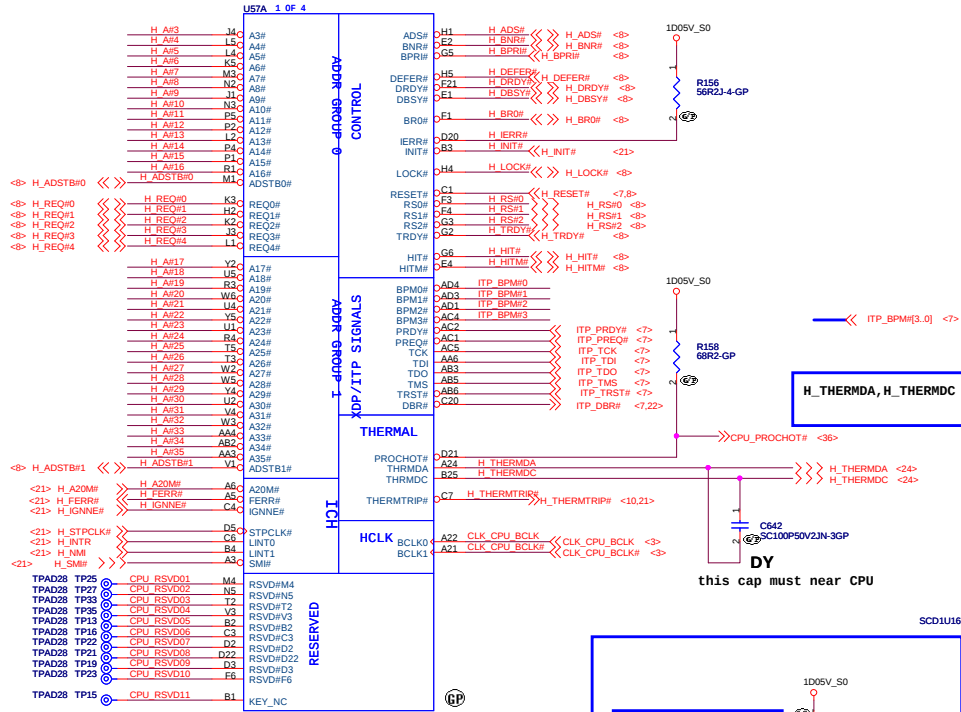
CFG Strap	LOW 0	HIGH 1
CFG 5	DMI X 2	DMI X 4 ★
CFG 8 Low Power PCI Express	Normal★	Low Power mode
CFG 9 PCI Express Graphics Lane Reversal	Lane Reversal	Normal Mode(Lanes number in order) ★
CFG 16 FSB Dynamic ODT	Disabled	Enabled ★
CFG 19 DMI Lane Reserved	Normal Operation ★	Reserved Lane
CFG 20 Concurrent SDVO/PCIE	Only PCIE or SDVO is operation ★	PCIE and SDVO are operation simultaneous
SDVO_CTRL_DATA SDVO Present	NO SDVO Card Present ★	SDVO Card Present
CFG 12	XOR/ALL-Z	
CFG 13	Reserved	
LH(01)	XOR Mode Enabled	
HL(10)	All Z Mode Enabled	
HH(11)	Normal Operation	



<Core Design>

<> H_A#3.35] <<<

layout note:Zo =55 ohm , 0.5" MAX for GTLREF



H_THERMDA, H_THERMDC are differential

this cap must near CPU

Close to CPU pin AD26
Zo=55 ohm
with in 500mils .

<> H_D#0.53] <<>

PLACE C173 close to the TEST4 PIN,
make sure TEST3,TEST4,TEST5 trace
routing is reference to GND and
away other noisy signals

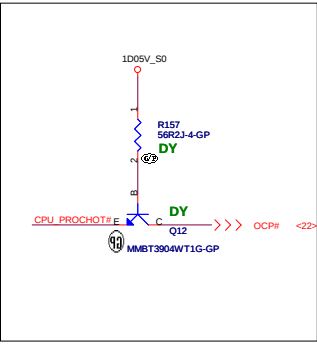
CPU_BSEL	CPU_BSEL2	CPU_BSEL1	CPU_BSEL0
166	0	1	1
200	0	1	0

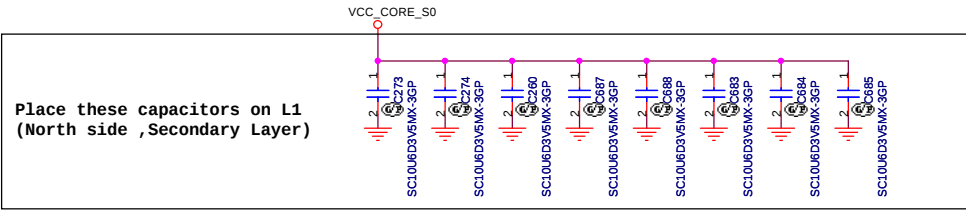
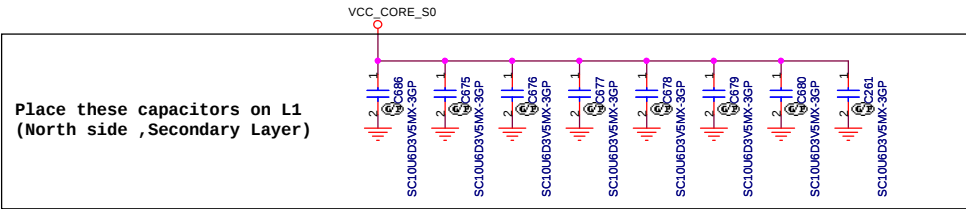
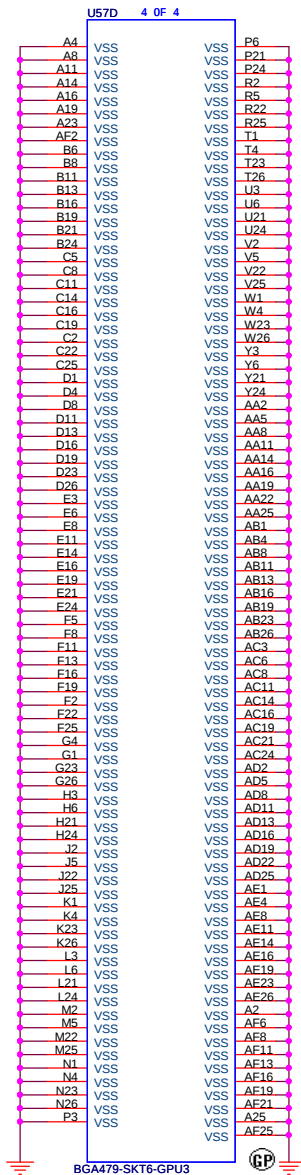
USTB 2 OF 4

BGA479-SKT6-GPLUS

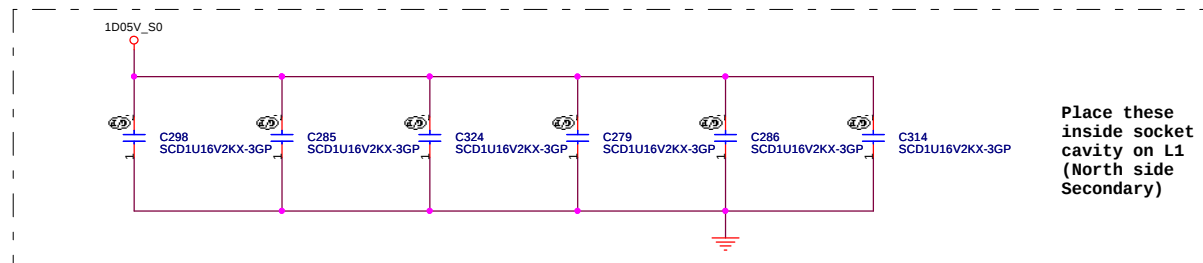
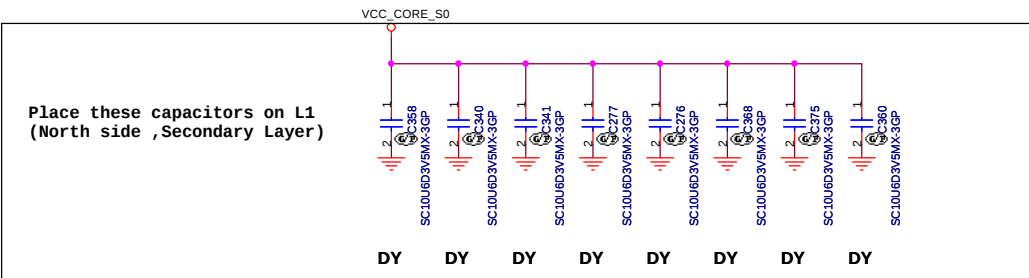
62.10079.001

Resistor Placed
within 0.5" of CPU
pin. Trace should
be at least 25 mils
away from any other
toggling signal .
COMP[0,2] trace
width is 18 mils.
COMP[1,3] trace
width is 4 mils .





Mid Freqenced
Decoupling



<Core Design>

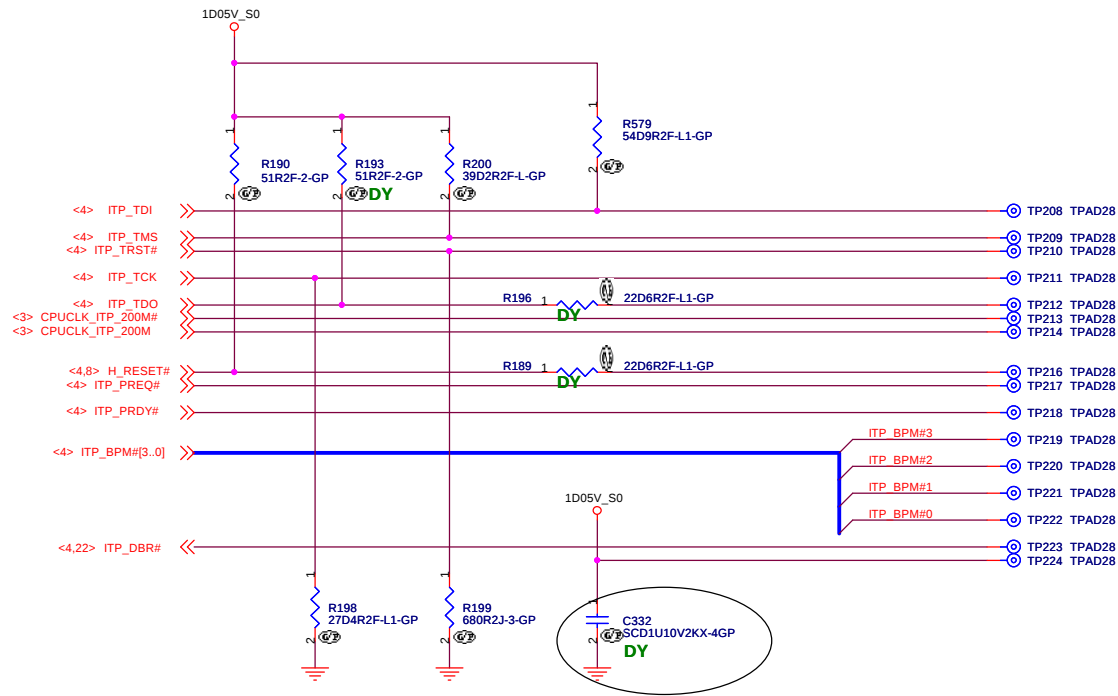
緯創資通 Wistron Corp
21F, 88, Sec.1, Hsin Tai Wu Rd.
Taipei Hsien 221, Taiwan, R.O.C.

Title
Size A3
Date: Friday, January 12, 2007

Document Number
Anote2.0 INTEL

Sheet 6 of 1

ITP Connector



<Core Design>

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

Title

Merom(3/3)-GND&Bypass

Size
A3

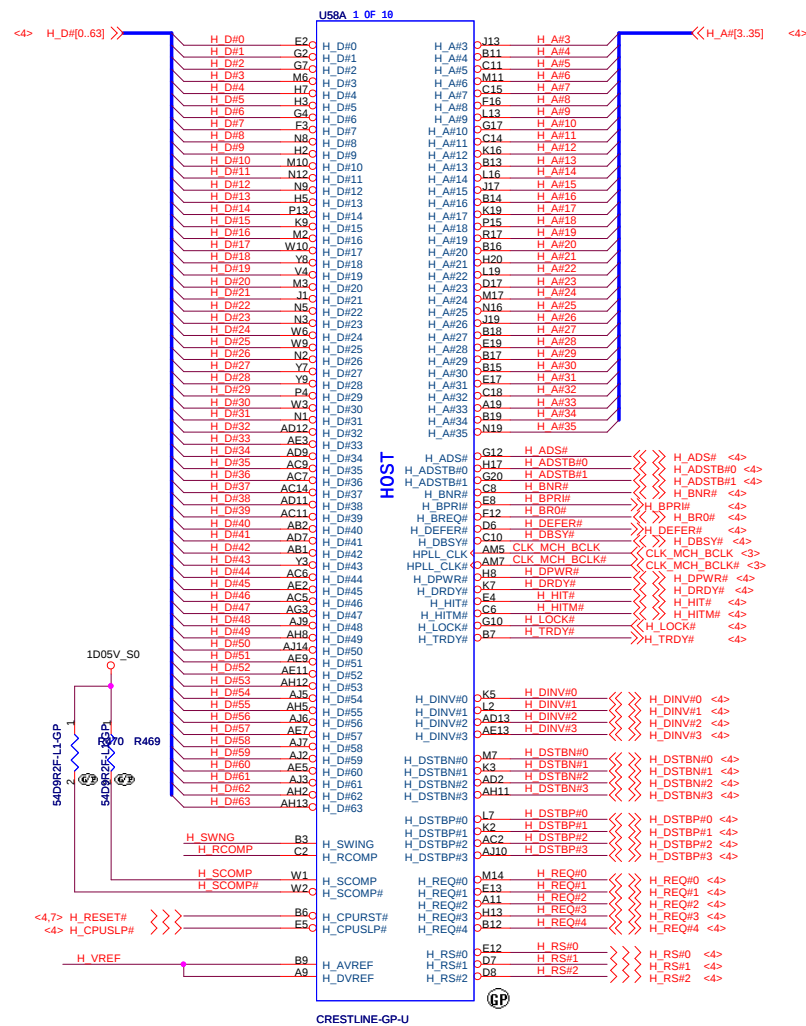
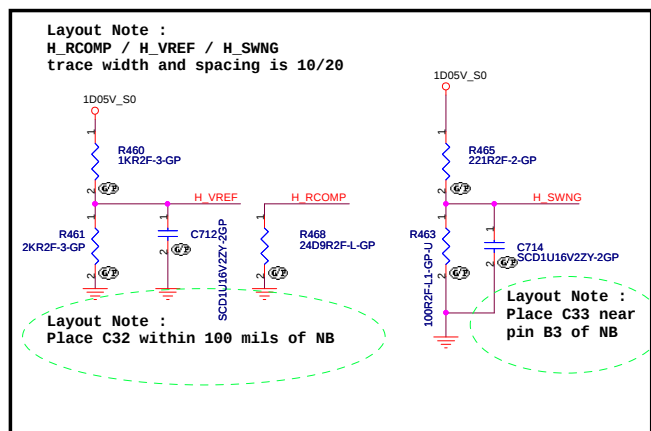
Document Number

Anote2.0 INTEL

Date: Friday, January 12, 2007

Sheet 7 of 7

Layout Note :
H_RCOMP / H_VREF / H_SWNG
trace width and spacing is 10/20



<Core Design>

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

Title

CRESTLINE(1/7)-AGTL+/DMI/DDR2

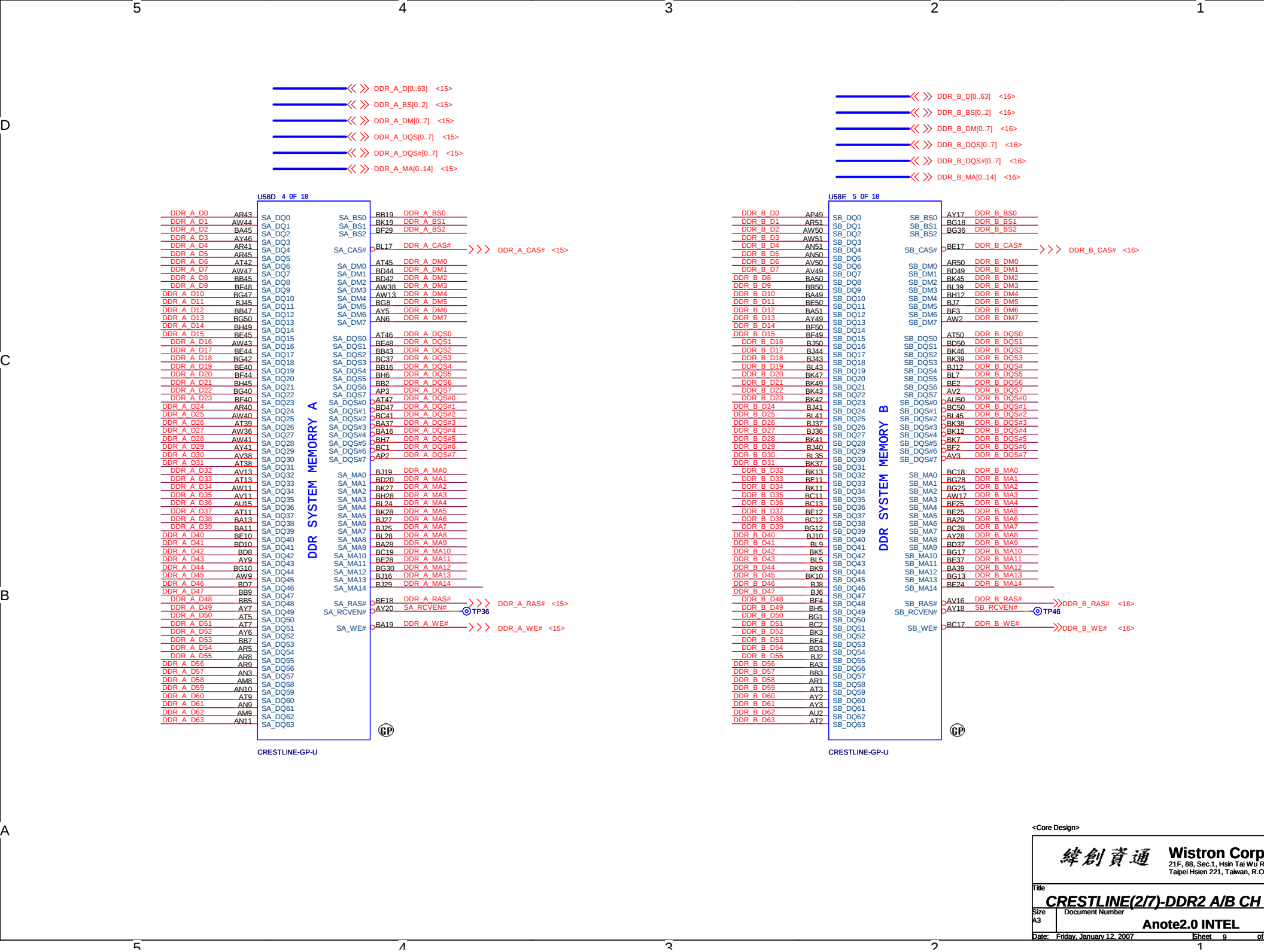
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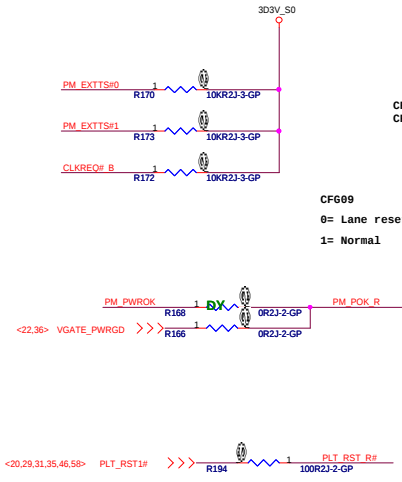
Anote2.0 INTEL

Rev	2
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Date: Friday, January 12, 2007

1





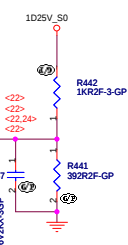
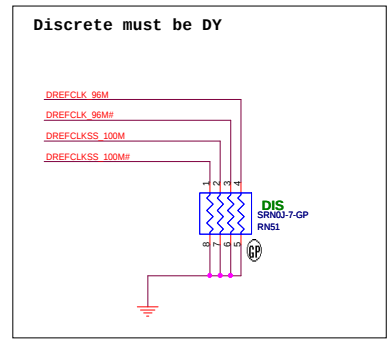
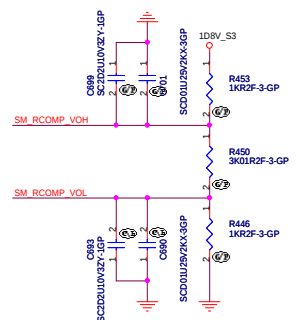
CF6[17:13] have internal pull up
CF6[19:18] have internal pull down
From Astro demo schematic

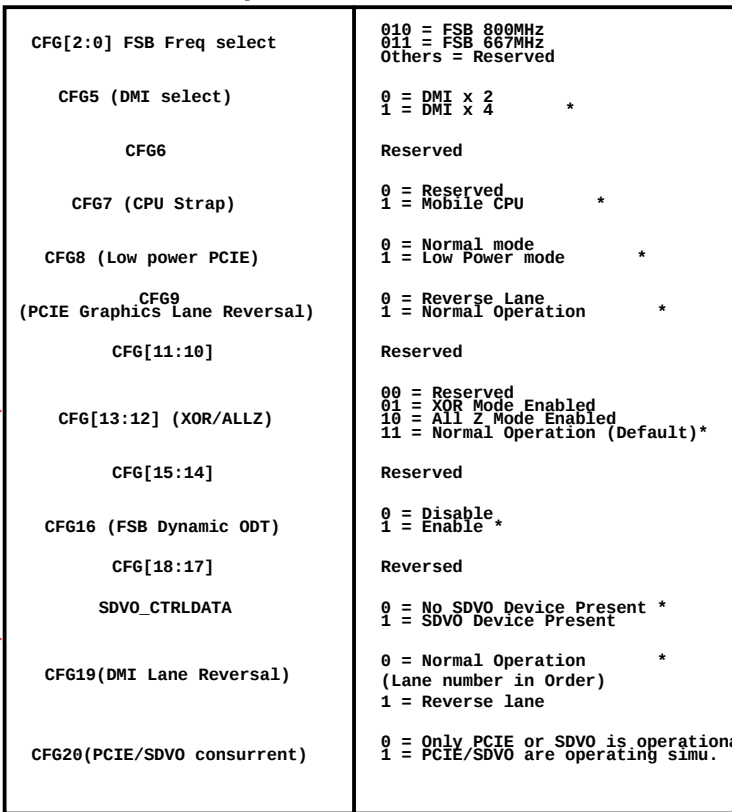
CF609
0= Lane reserved
1= Normal

US88 2 OF 10

P36	RSVDHP36	RSVDHP36	RSVDHP36
P37	RSVDHP37	RSVDHP37	RSVDHP37
P38	RSVDHP38	RSVDHP38	RSVDHP38
P39	RSVDHP39	RSVDHP39	RSVDHP39
P40	RSVDHP40	RSVDHP40	RSVDHP40
P41	RSVDHP41	RSVDHP41	RSVDHP41
P42	RSVDHP42	RSVDHP42	RSVDHP42
P43	RSVDHP43	RSVDHP43	RSVDHP43
P44	RSVDHP44	RSVDHP44	RSVDHP44
P45	RSVDHP45	RSVDHP45	RSVDHP45
P46	RSVDHP46	RSVDHP46	RSVDHP46
P47	RSVDHP47	RSVDHP47	RSVDHP47
P48	RSVDHP48	RSVDHP48	RSVDHP48
P49	RSVDHP49	RSVDHP49	RSVDHP49
P50	RSVDHP50	RSVDHP50	RSVDHP50
P51	RSVDHP51	RSVDHP51	RSVDHP51
P52	RSVDHP52	RSVDHP52	RSVDHP52
P53	RSVDHP53	RSVDHP53	RSVDHP53
P54	RSVDHP54	RSVDHP54	RSVDHP54
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P57	RSVDHP57	RSVDHP57	RSVDHP57
P58	RSVDHP58	RSVDHP58	RSVDHP58
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P69	RSVDHP69	RSVDHP69	RSVDHP69
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P71	RSVDHP71	RSVDHP71	RSVDHP71
P72	RSVDHP72	RSVDHP72	RSVDHP72
P73	RSVDHP73	RSVDHP73	RSVDHP73
P74	RSVDHP74	RSVDHP74	RSVDHP74
P75	RSVDHP75	RSVDHP75	RSVDHP75
P76	RSVDHP76	RSVDHP76	RSVDHP76
P77	RSVDHP77	RSVDHP77	RSVDHP77
P78	RSVDHP78	RSVDHP78	RSVDHP78
P79	RSVDHP79	RSVDHP79	RSVDHP79
P80	RSVDHP80	RSVDHP80	RSVDHP80
P81	RSVDHP81	RSVDHP81	RSVDHP81
P82	RSVDHP82	RSVDHP82	RSVDHP82
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P88	RSVDHP88	RSVDHP88	RSVDHP88
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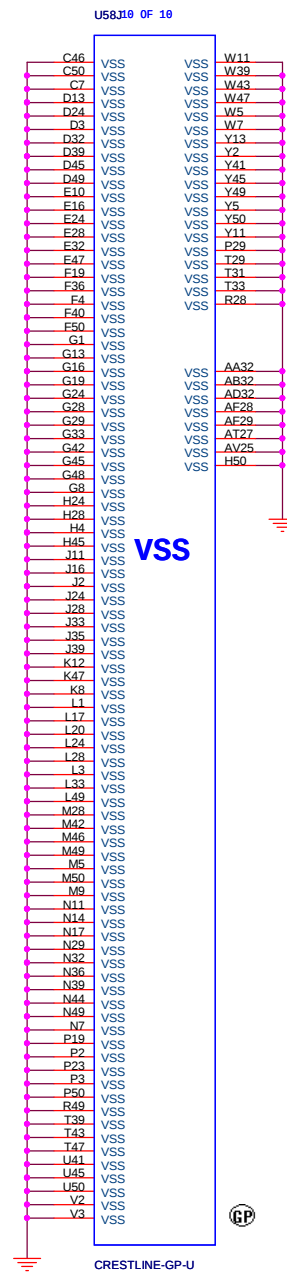
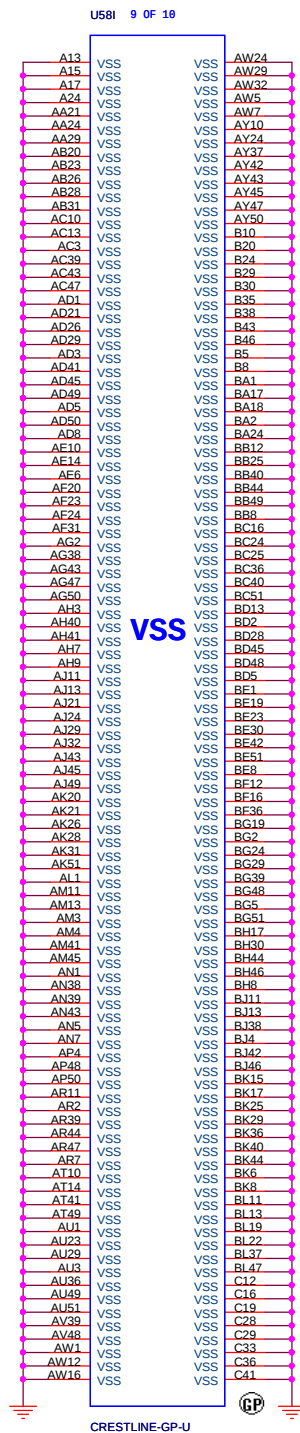
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	B823 M_CLK_DDR1	M_CLK_DDR1	<15>
	B825 M_CLK_DDR2	M_CLK_DDR2	<16>
	AV23 M_CLK_DDR3	M_CLK_DDR3	<16>
	AW30 M_CLK_DDR0#	M_CLK_DDR0#	<15>
	B823 M_CLK_DDR1#	M_CLK_DDR1#	<15>
	AW26 M_CLK_DDR2#	M_CLK_DDR2#	<16>
	AW23 M_CLK_DDR3#	M_CLK_DDR3#	<16>
	BE29 DDR_CKE0_DIMMA	DDR_CKE0_DIMMA	<15>
	AY32 DDR_CKE1_DIMMA	DDR_CKE1_DIMMA	<15>
	BD39 DDR_CKE2_DIMMB	DDR_CKE2_DIMMB	<16>
	BQ37 DDR_CKE3_DIMMB	DDR_CKE3_DIMMB	<16>
	BG20 DDR_CS0_DIMMA#	DDR_CS0_DIMMA#	<15>
	BK16 DDR_CS1_DIMMA#	DDR_CS1_DIMMA#	<15>
	BC16 DDR_CS2_DIMMB#	DDR_CS2_DIMMB#	<15>
	BE13 DDR_CS3_DIMMB#	DDR_CS3_DIMMB#	<16>
	BH18 M_ODT0	M_ODT0	<15>
	R115 M_ODT1	M_ODT1	<15>
	R114 M_ODT2	M_ODT2	<16>
	BE16 M_ODT3	M_ODT3	<16>
	BK31 SM_RCOMP_VOH	SM_RCOMP_VOH	
	BL31 SM_RCOMP_VOL	SM_RCOMP_VOL	
	BL15 SM_RCOMP	SM_RCOMP	
	BK14 SM_RCOMP#	SM_RCOMP#	
	AR49 DDR_VREF_S3	DDR_VREF_S3	
	AW4	DDR_VREF_S3	
CLK	B42 DPLL_REF_CLK	DREFCLK_96M	<3>
	C42 DPLL_REF_CLK	DREFCLK_96M#	<3>
	H48 DPLL_REF_SSCLK	DREFCLKSS_100M	<3>
	H47 DPLL_REF_SSCLK#	DREFCLKSS_100M#	<3>
	K44 CLK_MCH_3GPLL	CLK_MCH_3GPLL	<3>
	K45 CLK_MCH_3GPLL#	CLK_MCH_3GPLL#	<3>
DMI	AM17 DMI_TXN0	DMI_TXN0	<22>
	AJ38 DMI_TXN1	DMI_TXN1	<22>
	AN42 DMI_TXN2	DMI_TXN2	<22>
	AN86 DMI_TXN3	DMI_TXN3	<22>
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	AJ39 DMI_TXP1	DMI_TXP1	<22>
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	AM44 DMI_RXN3	DMI_RXN3	<22>
	AJ47 DMI_RXP0	DMI_RXP0	<22>
	AJ42 DMI_RXP1	DMI_RXP1	<22>
	AM39 DMI_RXP2	DMI_RXP2	<22>
	AM43 DMI_RXP3	DMI_RXP3	<22>
GRAPHICS VID	E35 DFGT_VID0	DP29	
	A39 DFGT_VID1	DP86	
	B30 DFGT_VID3	DP87	
	E36 DFGT_VR_EN	DP85	
		DP30	
ME	AM49 CL_CLK	CL_CLK	<22>
	AK50 CL_DATA	CL_DATA	<22>
	AT43 CLPWROK_MCH	CL_PWROK	<22,24>
	AM49 CL_RST#	CL_RST#	<22>
	AM50 CL_VREF	CL_VREF	<22>
MISC	H35 ICH_SDVO_CLK	TP31	
	K36 ICH_SDVO_DATA	TP26	
	G39 CLKREQ#_B	CLKREQ#_B	<3>
	G40 MCH_ICH_SYNC#	MCH_ICH_SYNC#	<22>
	A37 TEST1_GMCH	TEST1_GMCH	
	B32 TEST2_GMCH	TEST2_GMCH	

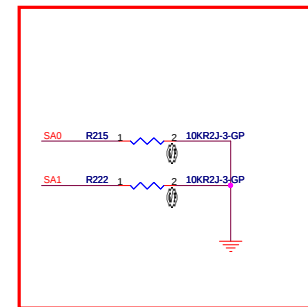
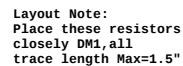
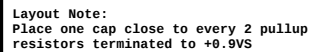
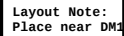




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Taipei Hsien 221, Taiwan, R.O.C.

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Size A3	Document Number		Anote2.0 INTEL
Date:	Friday, January 12, 2007	Sheet	11 of

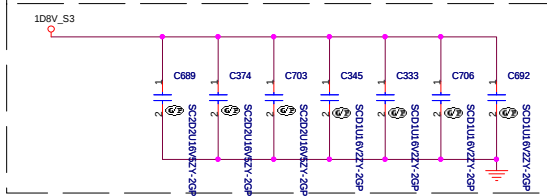




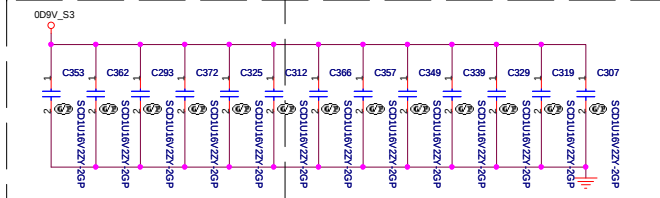
<Core Design>

<9> DDR_B_DQS# [0..7] <<>>
 <9> DDR_B_DQ [0..63] <<>>
 <9> DDR_B_DM [0..7] <<>>
 <9> DDR_B_DQS [0..7] <<>>
 <9> DDR_B_MA [0..14] <<>>
 <9> DDR_B_BS [0..2] <<>>

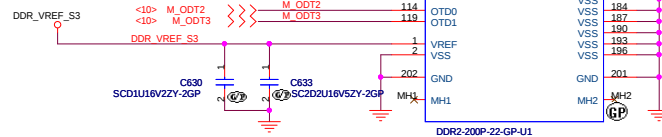
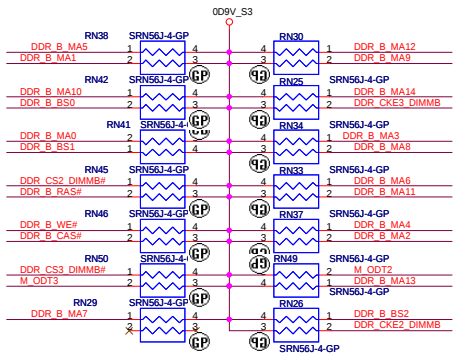
Layout Note:
Place near DM2



Layout Note:
Place one cap close to every 2 pullup resistors terminated to +0.9VS



Layout Note:
Place these resistors closely DM2, all trace length Max=1.5"



CN20

DDR_B_MA0 102 A0
 DDR_B_MA1 101 A1
 DDR_B_MA2 100 A2
 DDR_B_MA3 99 A3
 DDR_B_MA4 98 A4
 DDR_B_MA5 97 A5
 DDR_B_MA6 96 A6
 DDR_B_MA7 95 A7
 DDR_B_MA8 94 A8
 DDR_B_MA9 93 A9
 DDR_B_MA10 92 A10
 DDR_B_MA11 91 A11
 DDR_B_MA12 90 A12
 DDR_B_MA13 89 A13
 DDR_B_MA14 88 A14
 DDR_B_BS2 87 A15
 DDR_B_BS1 86 A16/BA2

DDR_B_D0 5 DQ0
 DDR_B_D1 7 DQ1
 DDR_B_D2 17 DQ2
 DDR_B_D3 19 DQ3
 DDR_B_D4 4 DQ4
 DDR_B_D5 14 DQ5
 DDR_B_D6 16 DQ6
 DDR_B_D7 22 DQ7
 DDR_B_D8 24 DQ8
 DDR_B_D9 26 DQ9
 DDR_B_D10 36 DQ10
 DDR_B_D11 37 DQ11
 DDR_B_D12 20 DQ12
 DDR_B_D13 22 DQ13
 DDR_B_D14 36 DQ14
 DDR_B_D15 38 DQ15
 DDR_B_D16 43 DQ16
 DDR_B_D17 45 DQ17
 DDR_B_D18 56 DQ18
 DDR_B_D19 57 DQ19
 DDR_B_D20 44 DQ20
 DDR_B_D21 46 DQ21
 DDR_B_D22 56 DQ22
 DDR_B_D23 58 DQ23
 DDR_B_D24 61 DQ24
 DDR_B_D25 63 DQ25
 DDR_B_D26 73 DQ26
 DDR_B_D27 75 DQ27
 DDR_B_D28 82 DQ28
 DDR_B_D29 64 DQ29
 DDR_B_D30 74 DQ30
 DDR_B_D31 16 DQ31
 DDR_B_D32 123 DQ32
 DDR_B_D33 125 DQ33
 DDR_B_D34 136 DQ34
 DDR_B_D35 137 DQ35
 DDR_B_D36 124 DQ36
 DDR_B_D37 126 DQ37
 DDR_B_D38 134 DQ38
 DDR_B_D39 136 DQ39
 DDR_B_D40 141 DQ40
 DDR_B_D41 143 DQ41
 DDR_B_D42 151 DQ42
 DDR_B_D43 153 DQ43
 DDR_B_D44 140 DQ44
 DDR_B_D45 142 DQ45
 DDR_B_D46 152 DQ46
 DDR_B_D47 154 DQ47
 DDR_B_D48 157 DQ48
 DDR_B_D49 159 DQ49
 DDR_B_D50 173 DQ50
 DDR_B_D51 175 DQ51
 DDR_B_D52 158 DQ52
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 DDR_B_D60 180 DQ60
 DDR_B_D61 182 DQ61
 DDR_B_D62 192 DQ62
 DDR_B_D63 194 DQ63

DDR_B_DQS#0 11 DQS0#
 DDR_B_DQS#1 29 DQS1#
 DDR_B_DQS#2 49 DQS2#
 DDR_B_DQS#3 66 DQS3#
 DDR_B_DQS#4 129 DQS4#
 DDR_B_DQS#5 146 DQS5#
 DDR_B_DQS#6 167 DQS6#
 DDR_B_DQS#7 186 DQS7#
 DDR_B_DQS0 13 DQS0#
 DDR_B_DQS1 31 DQS1#
 DDR_B_DQS2 51 DQS2#
 DDR_B_DQS3 70 DQS3#
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 DDR_B_DQS5 148 DQS5#
 DDR_B_DQS6 169 DQS6#
 DDR_B_DQS7 188 DQS7#

DDR_B_DQS#0 11 DQS0#
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 DDR_B_DQS#2 49 DQS2#
 DDR_B_DQS#3 66 DQS3#
 DDR_B_DQS#4 129 DQS4#
 DDR_B_DQS#5 146 DQS5#
 DDR_B_DQS#6 167 DQS6#
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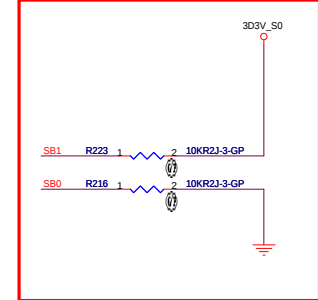
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 DDR_B_DQS#3 66 DQS3#
 DDR_B_DQS#4 129 DQS4#
 DDR_B_DQS#5 146 DQS5#
 DDR_B_DQS#6 167 DQS6#
 DDR_B_DQS#7 186 DQS7#
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 DDR_B_DQS1 31 DQS1#
 DDR_B_DQS2 51 DQS2#
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 DDR_B_DQS4 131 DQS4#
 DDR_B_DQS5 148 DQS5#
 DDR_B_DQS6 169 DQS6#
 DDR_B_DQS7 188 DQS7#

62.10017.A61

High 9.2mm
2nd source: 62.10017.A61

RAS# 108 DDR_B_RAS# <<>> DDR_B_RAS# <9>
 WE# 109 DDR_B_WE# <9>
 CAS# 113 DDR_B_CAS# <9>
 CS0# 110 DDR_CS2_DIMMB# <<>> DDR_CS2_DIMMB# <10>
 CS1# 115 DDR_CS3_DIMMB# <<>> DDR_CS3_DIMMB# <10>
 CKE0 78 DDR_CKE2_DIMMB# <<>> DDR_CKE2_DIMMB# <10>
 CKE1 80 DDR_CKE3_DIMMB# <<>> DDR_CKE3_DIMMB# <10>
 CK0 30 M_CLK_DDR2 <<>> M_CLK_DDR2 <10>
 CK0# 32 M_CLK_DDR#2 <<>> M_CLK_DDR#2 <10>
 CK1 164 M_CLK_DDR3 <<>> M_CLK_DDR3 <10>
 CK1# 166 M_CLK_DDR#3 <<>> M_CLK_DDR#3 <10>

DM0 10 DDR_B_DM0
 DM1 52 DDR_B_DM1
 DM2 67 DDR_B_DM2
 DM3 67 DDR_B_DM3
 DM4 130 DDR_B_DM4
 DM5 147 DDR_B_DM5
 DM6 170 DDR_B_DM6
 DM7 185 DDR_B_DM7
 SDA 195 ICH_SMBDATA <<>> ICH_SMBDATA <3,15,22>
 SCL 197 ICH_SMBCLK <<>> ICH_SMBCLK <3,15,22>
 VDDSPD 199
 SA0 198 SB0
 SA1 200 SB1
 NC#90 50 <<< PM_EXTTS#0 <10> SCD1U16V2Z-2GP
 NC#99 69 X
 NC#83 83 X
 NC#120 120 X
 NC#163 163 X
 VDD 81
 VDD 82
 VDD 87
 VDD 88
 VDD 92
 VDD 95
 VDD 96
 VDD 103
 VDD 104
 VDD 111
 VDD 112
 VDD 117
 VDD 118
 VSS 3
 VSS 8
 VSS 9
 VSS 12
 VSS 15
 VSS 18
 VSS 21
 VSS 24
 VSS 27
 VSS 28
 VSS 34
 VSS 39
 VSS 40
 VSS 41
 VSS 42
 VSS 47
 VSS 48
 VSS 53
 VSS 54
 VSS 59
 VSS 60
 VSS 66
 VSS 71
 VSS 72
 VSS 77
 VSS 78
 VSS 121
 VSS 122
 VSS 127
 VSS 128
 VSS 132
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 VSS 156
 VSS 161
 VSS 162
 VSS 165
 VSS 168
 VSS 171
 VSS 172
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 VSS 183
 VSS 184
 VSS 187
 VSS 190
 VSS 193
 VSS 196
 GND 201
 M#1
 M#2



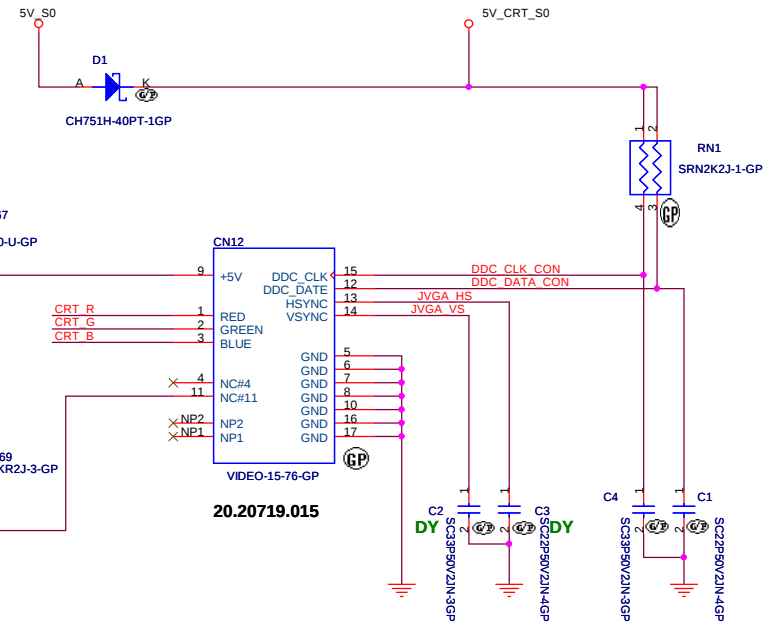
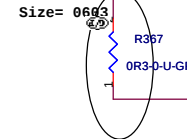
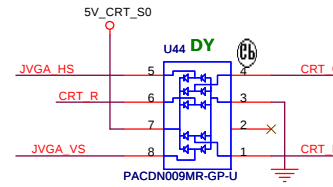
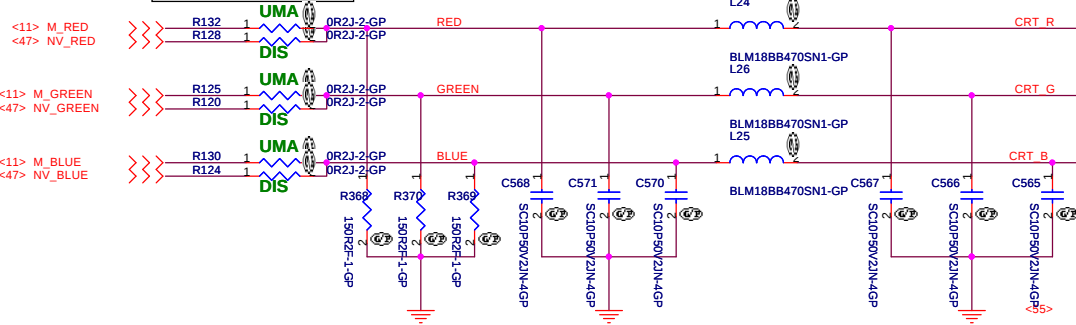
<Core Design>

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

Title		DDR2-20P-22-GP-U1	
Size		Document Number	
Custom		Anote2.0 INTEL	
Date		Friday, January 12, 2007	
Sheet		16 of 58	
Rev		SC	

CRT I/F & CONNECTOR

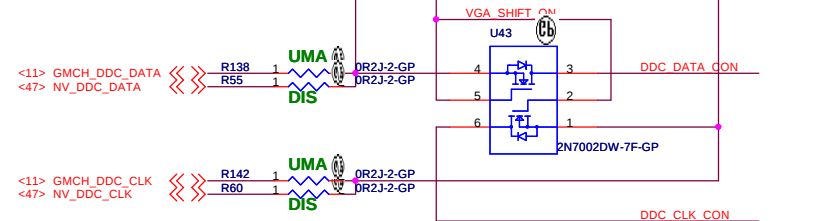
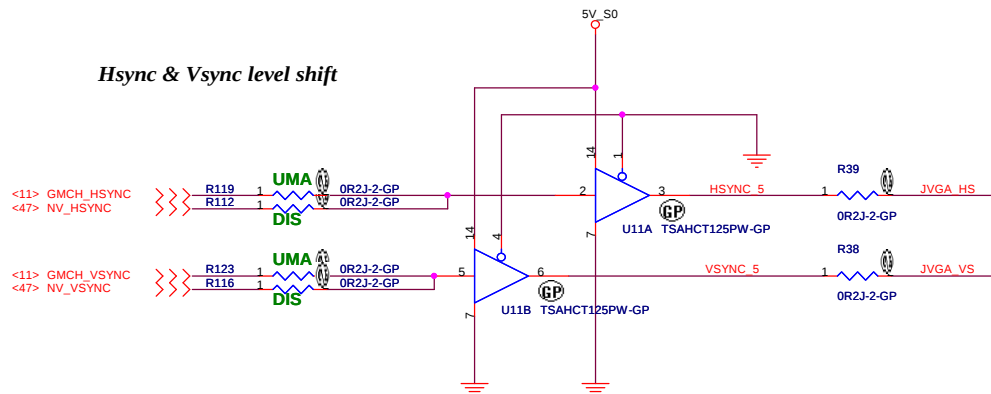
Layout Note:
Place these resistors
close to the CRT-out
connector



Layout Note:

* Must be a ground return path between this ground and the ground on the VGA connector.
Pi-filter & 150 Ohm pull-down resistors should be as close as to CRT CONN. RGB will hit 75 Ohm first, pi-filter, then CRT CONN.

Hsync & Vsync level shift



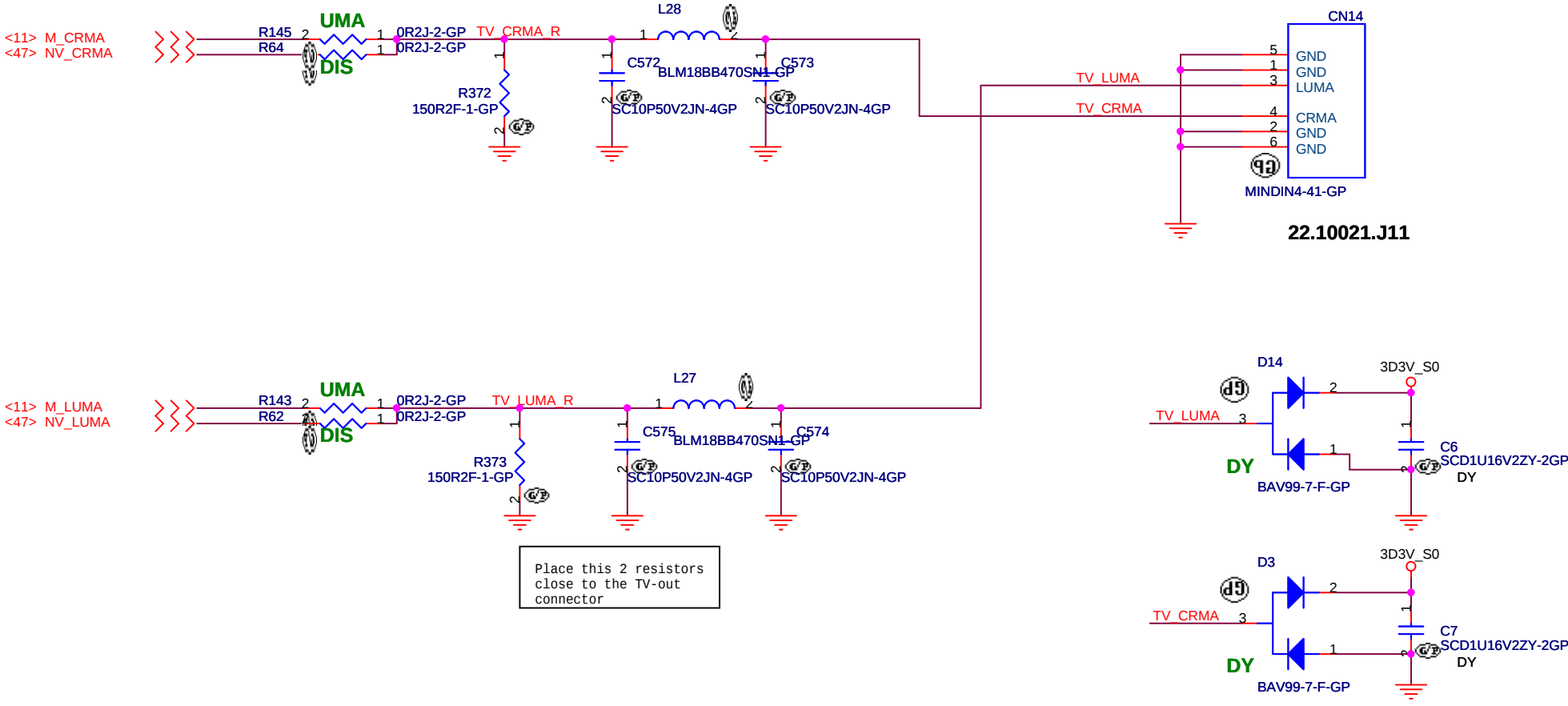
<Core Design>

緯創資通

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

Title	
CRT Connector	
Size A3	Document Number
Anote2.0 INTEL	
Date: Friday, January 12, 2007	Sheet 17 of

TV OUT PORT



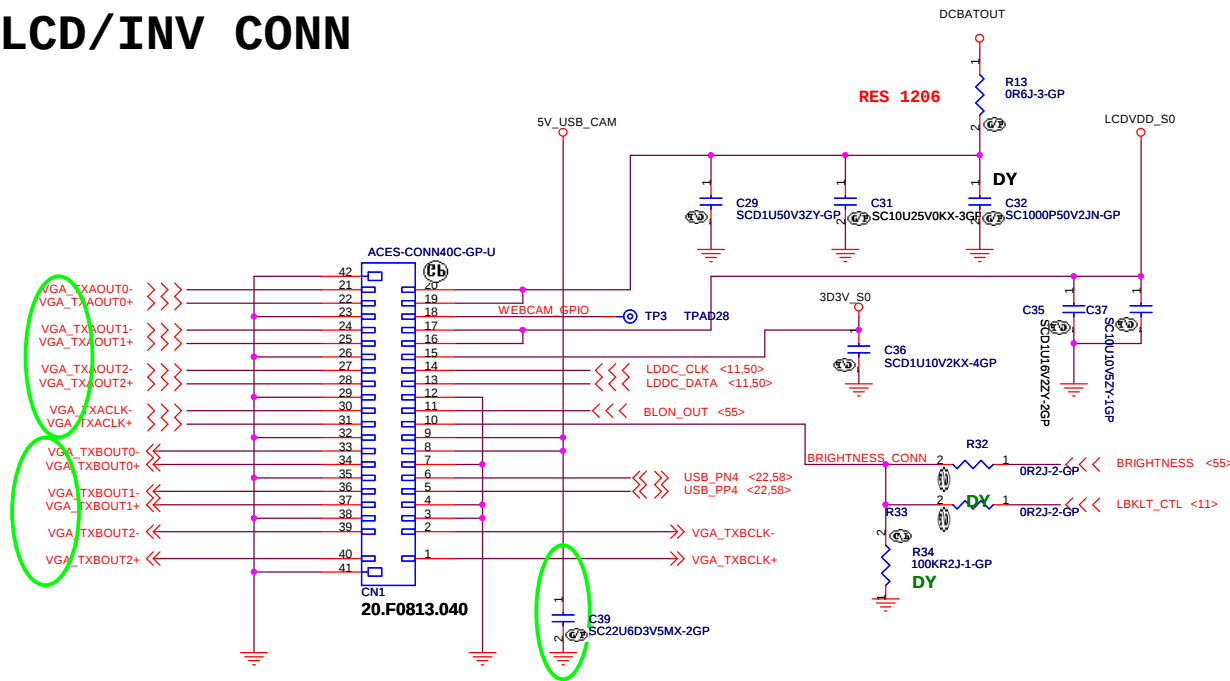
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緯創資通 Wistron Corpor	
21F, 88, Sec.1, Hsin Tai Wu Rd., H Taipei Hsien 221, Taiwan, R.O.C.	
Title	
TV Connector	
Size	Document Number
A4	Anote2.0 INTEL
Date:	Friday, January 12, 2007
Sheet	18 of

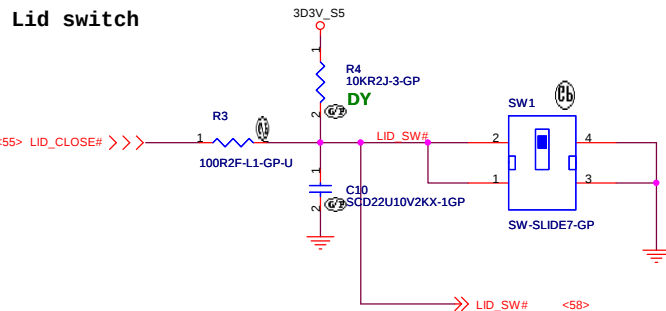
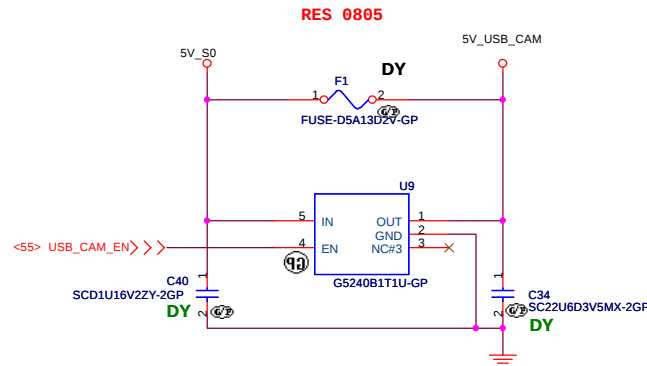
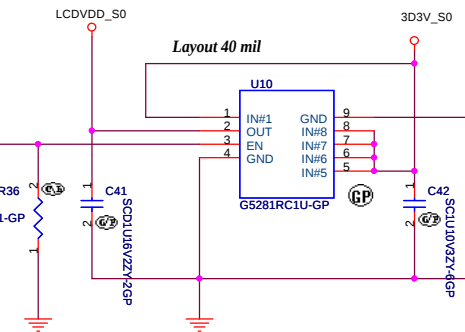
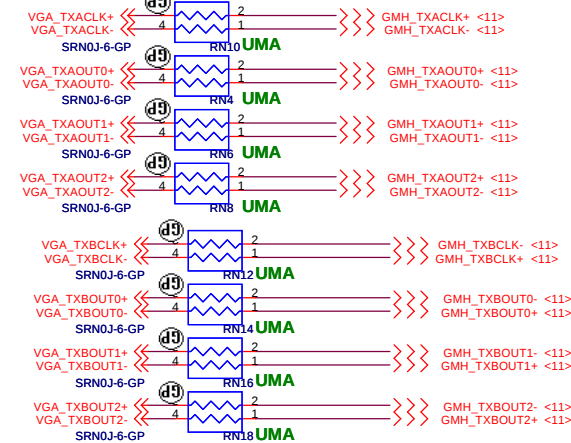
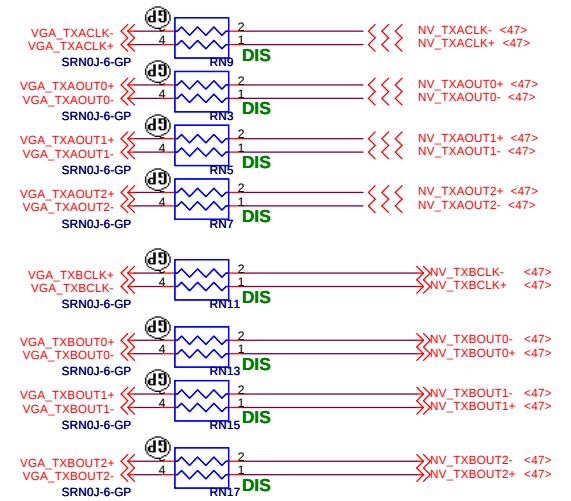
LED / INVERTER INTERFACE

LCD/INV CONN

ATI LVDS INTERFACE



UMA LVDS INTERFACE



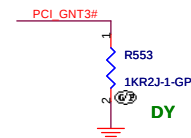
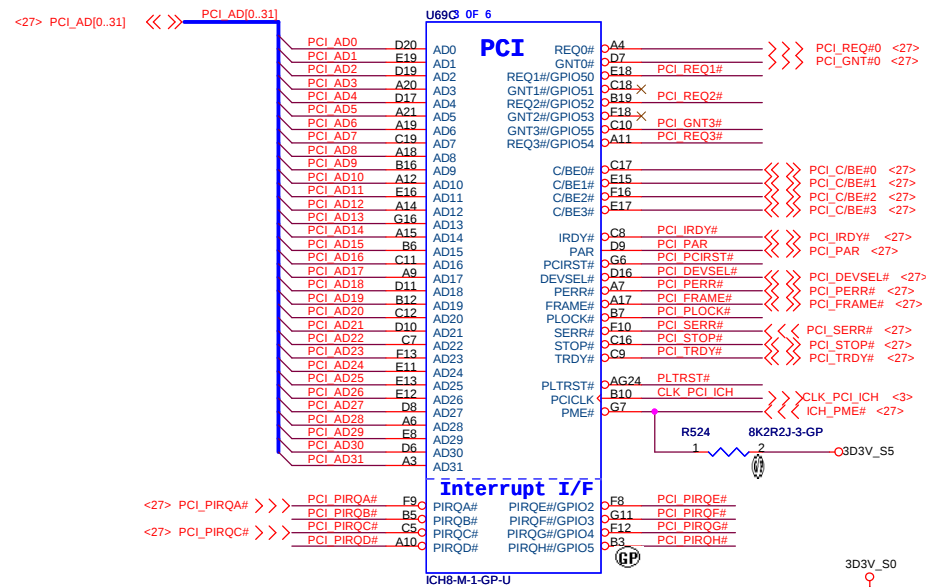
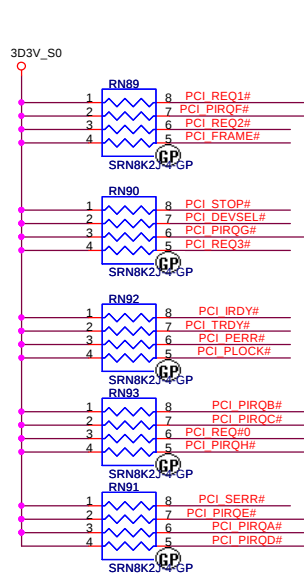
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緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., H
Taipei Hsien 221, Taiwan, R.O.C.

Title
Size A3
Date: Friday, January 12, 2007

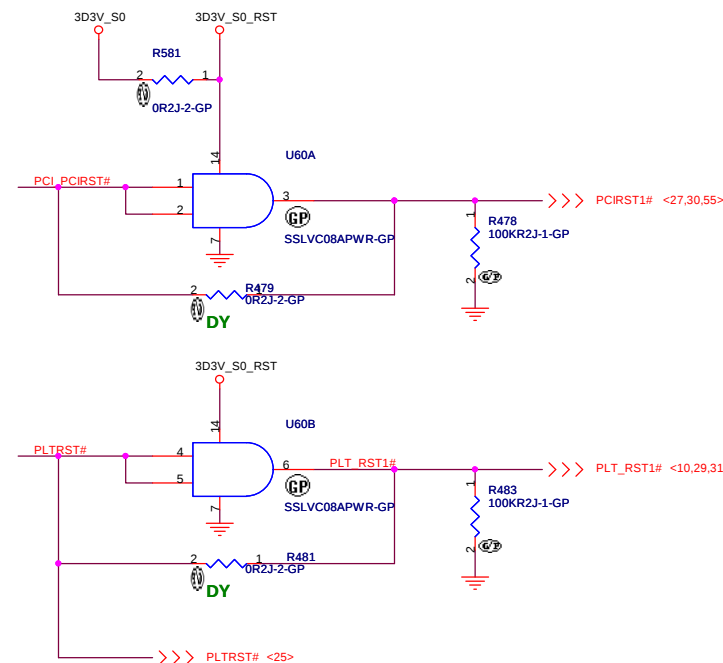
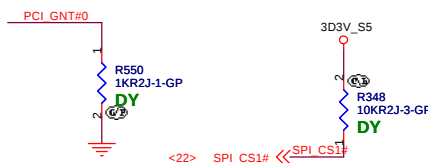
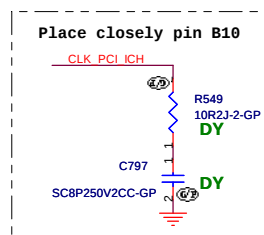
Document Number
LCD/Inverter Connector
Anot2.0 INTEL

Sheet 19 of



A16 swap override Strap	
PCI_GNT3#	Low= A16 swap override E High= Default *

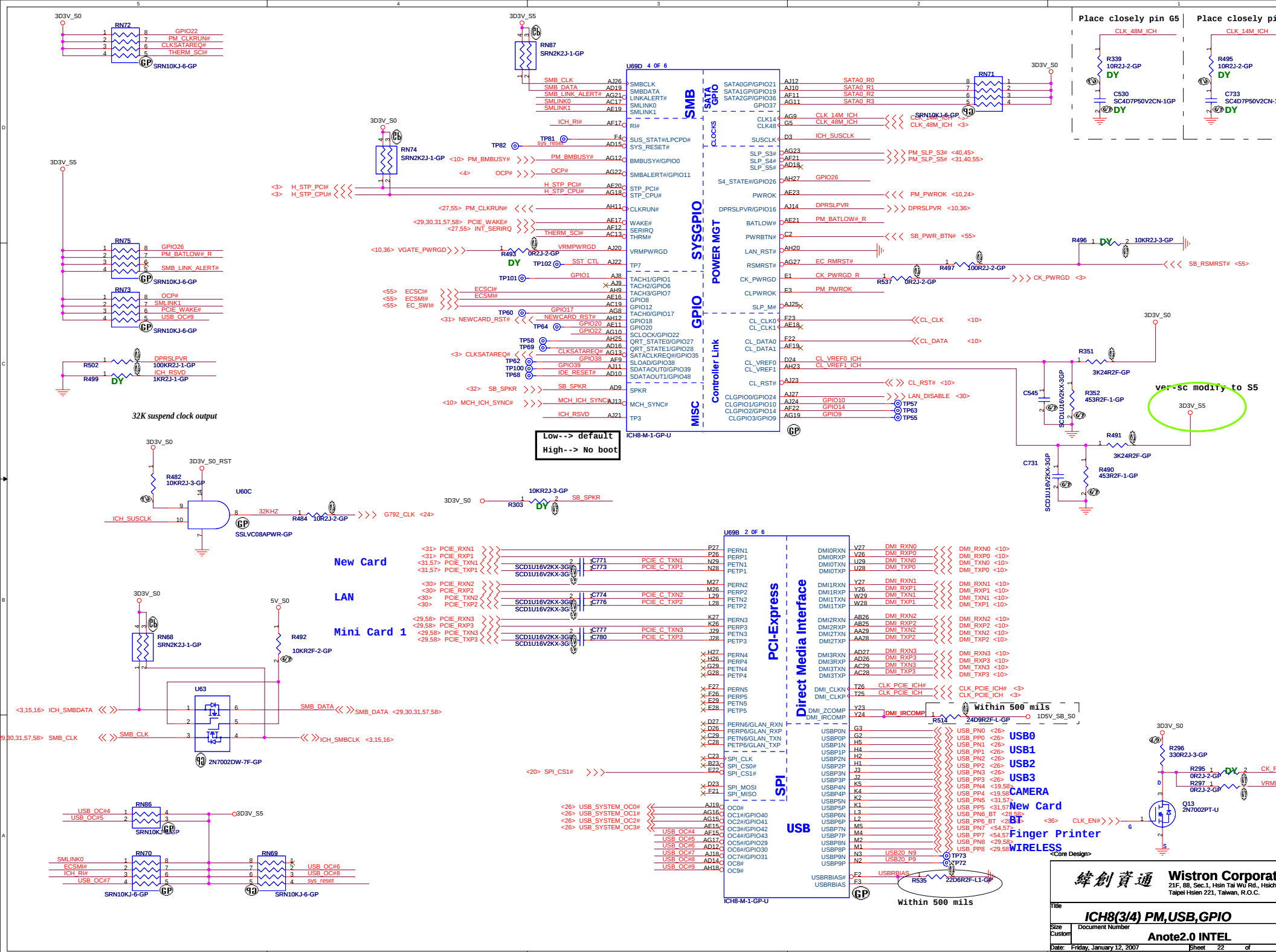
Boot BIOS Strap		
PCI_GNT0#	SPI_CS#1	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC *



<Core Design>

緯創資通 Wistron Corp 21F, 88, Sec.1, Hsin Tai Wu Rd., Taipei Hsien 221, Taiwan, R.O.C.	
Title	ICH8(14)-PCI/INT
Size	Document Number
A3	Anote2.0 INTEL
Date	Friday, January 12, 2007
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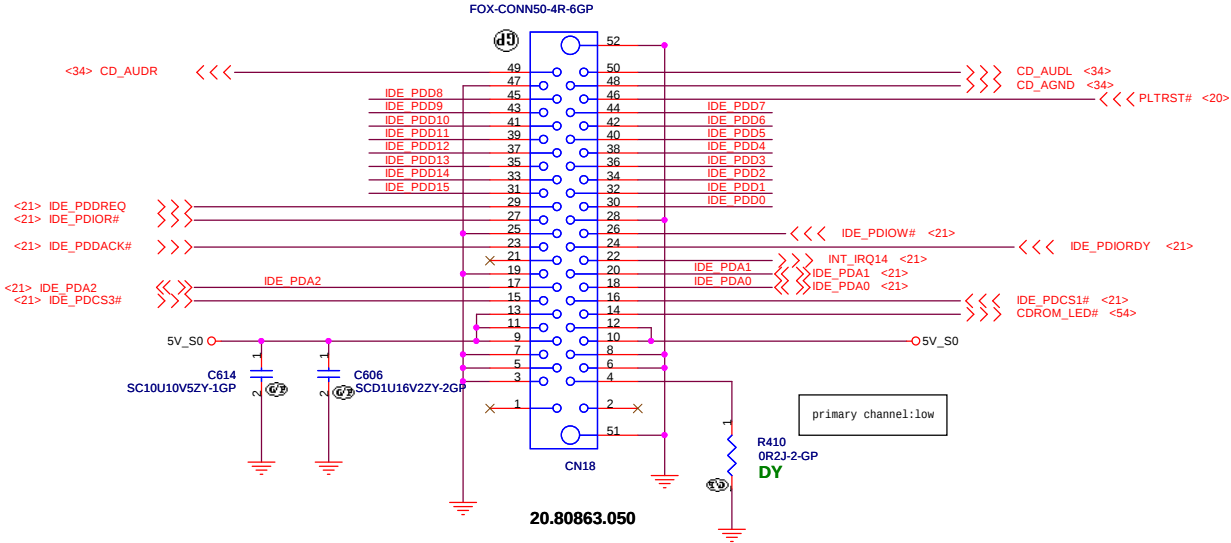




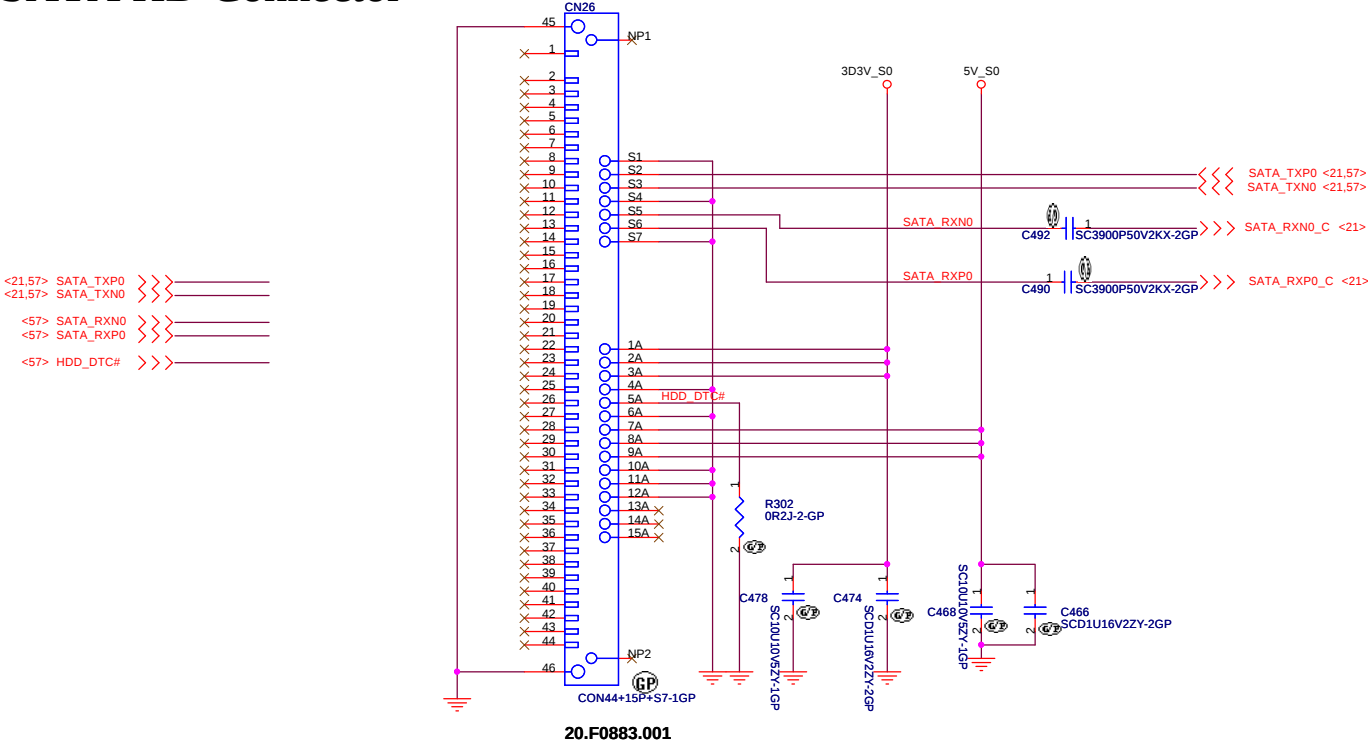


CD-ROM CONNECTOR

Lab1 20.80346.050
Lab2 20.80863.050

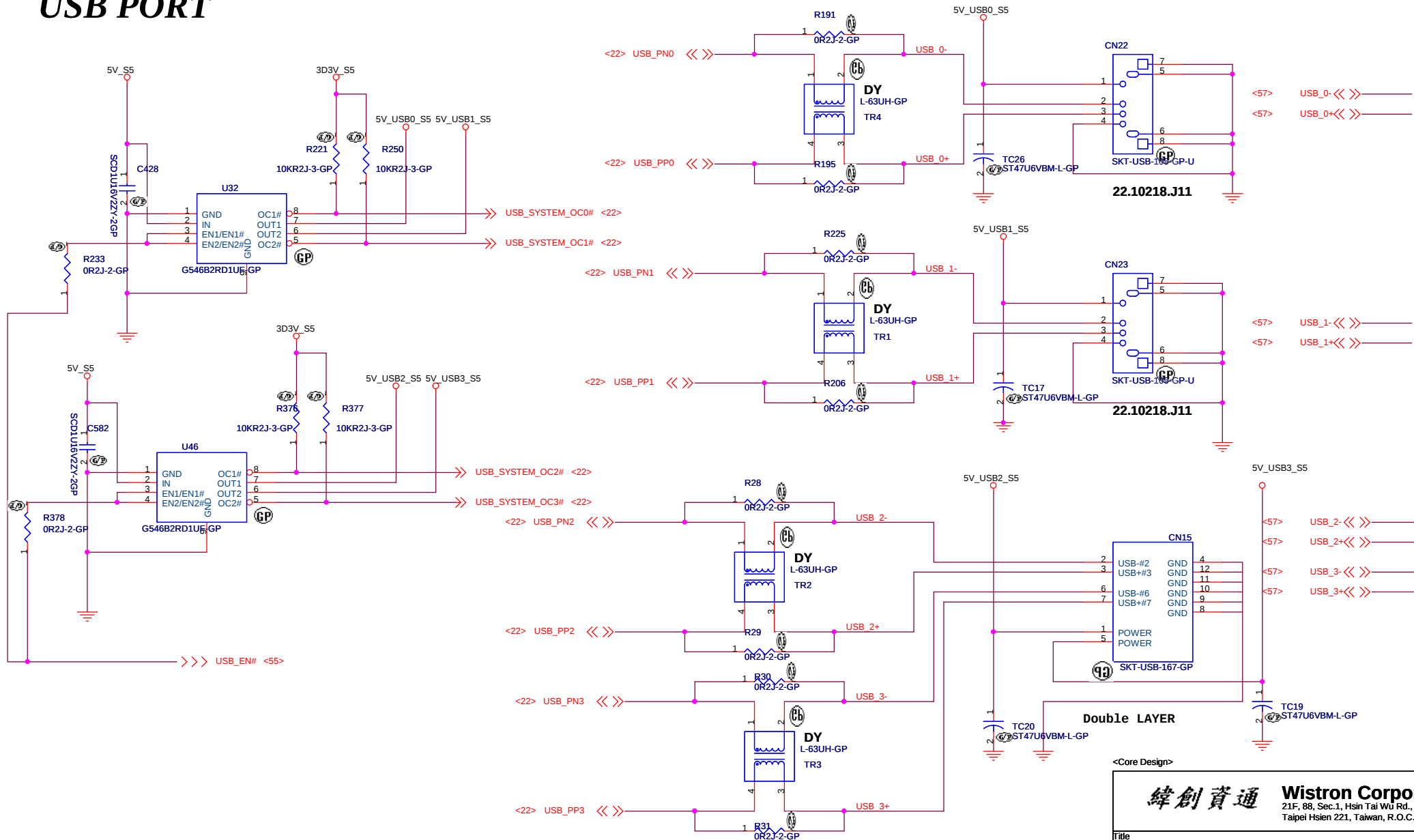


SATA HD Connector



<Core Design>

USB PORT



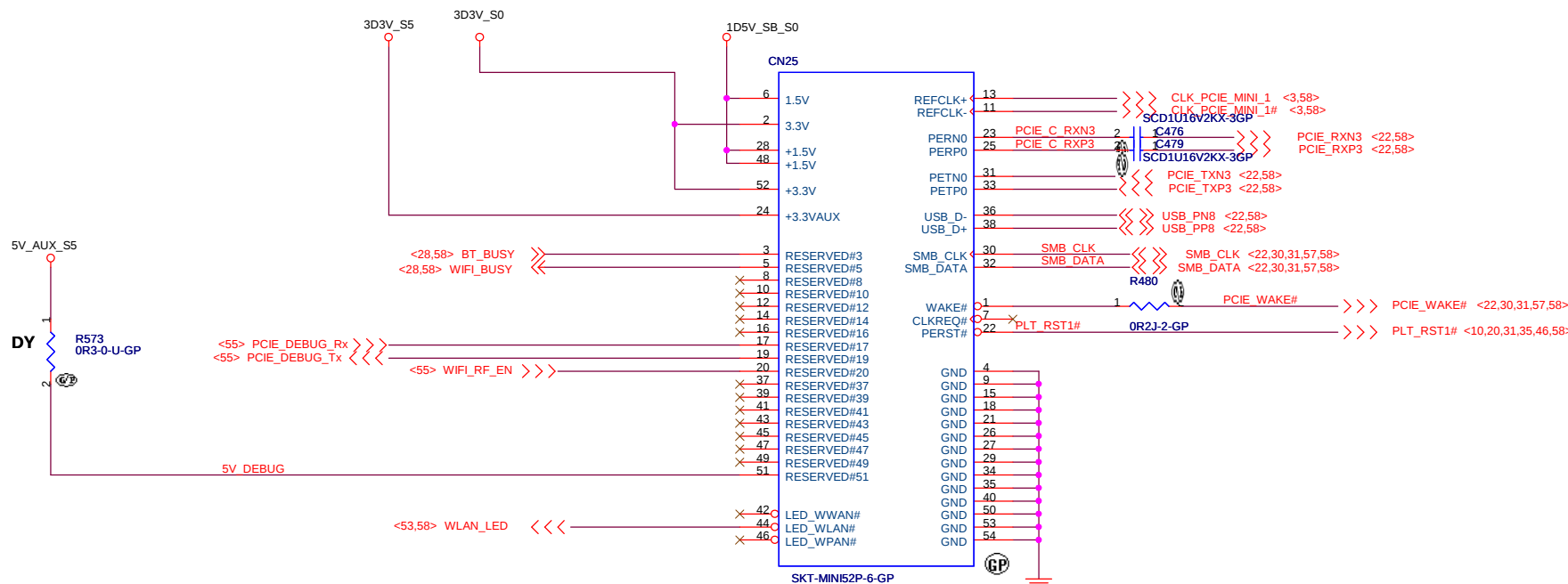
<Core Design>

緯創資通		Wistron Corp 21F, 88, Sec.1, Hsin Tai Wu Rd., Taipei Hsien 221, Taiwan, R.O.C.	
Title			
USB I/O			
Size A	Document Number		
		Anote2.0 INTEL	
Date:	Friday, January 12, 2007	Sheet	26 of

Mini PCI-E Connector

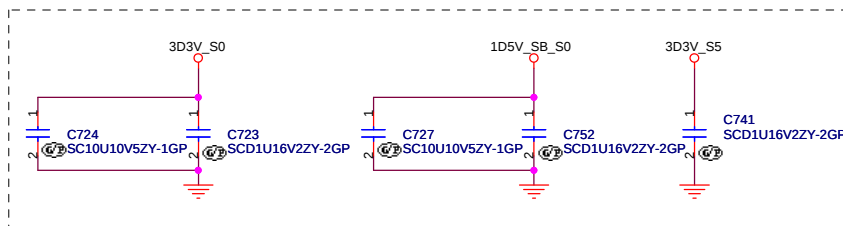
Port-1

Only port-1 support USB



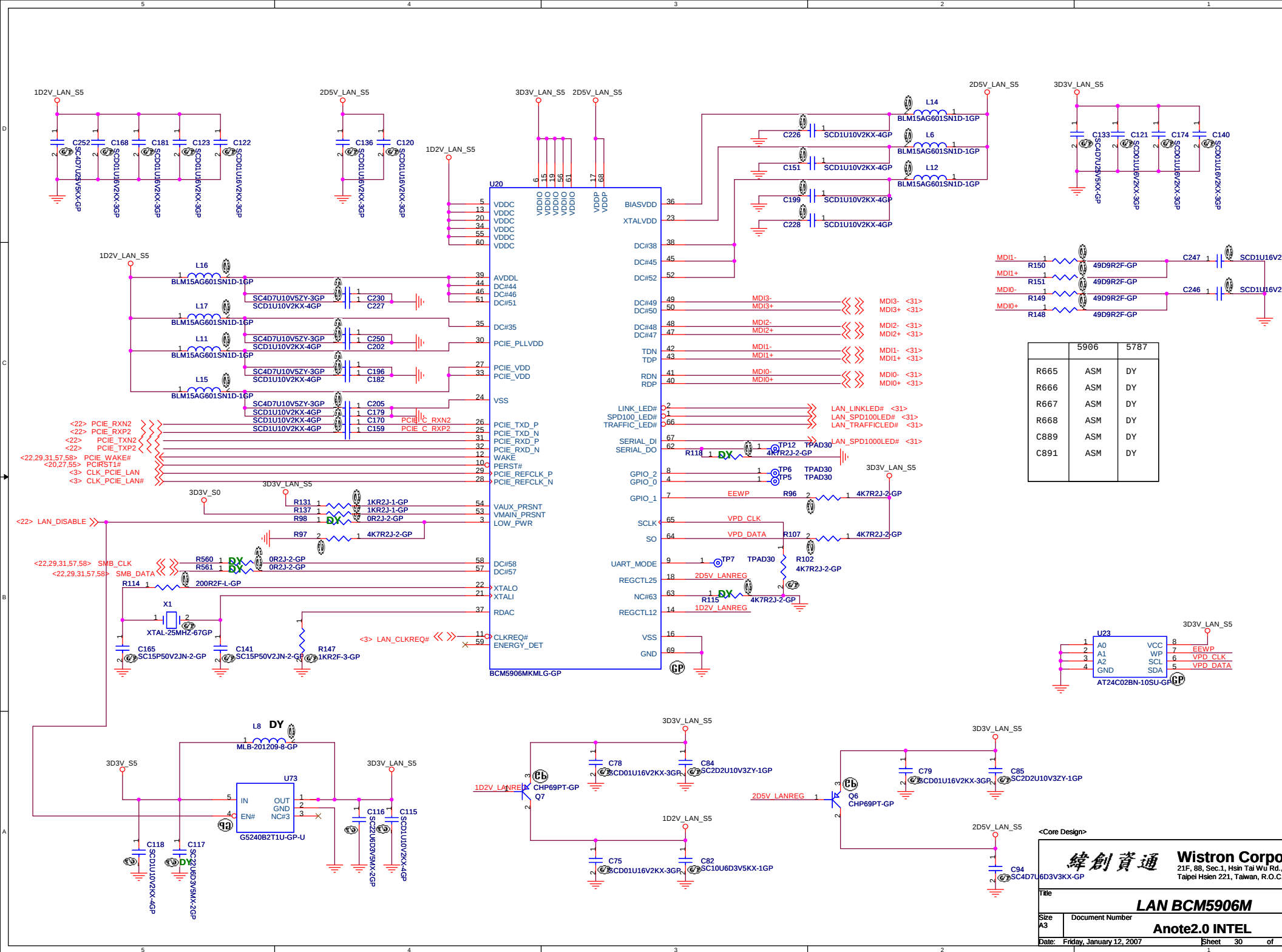
62.10043.261

Note: 9/5 ME updata



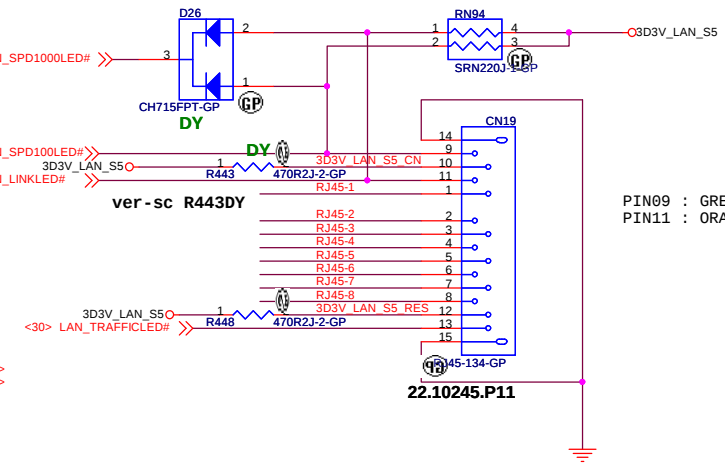
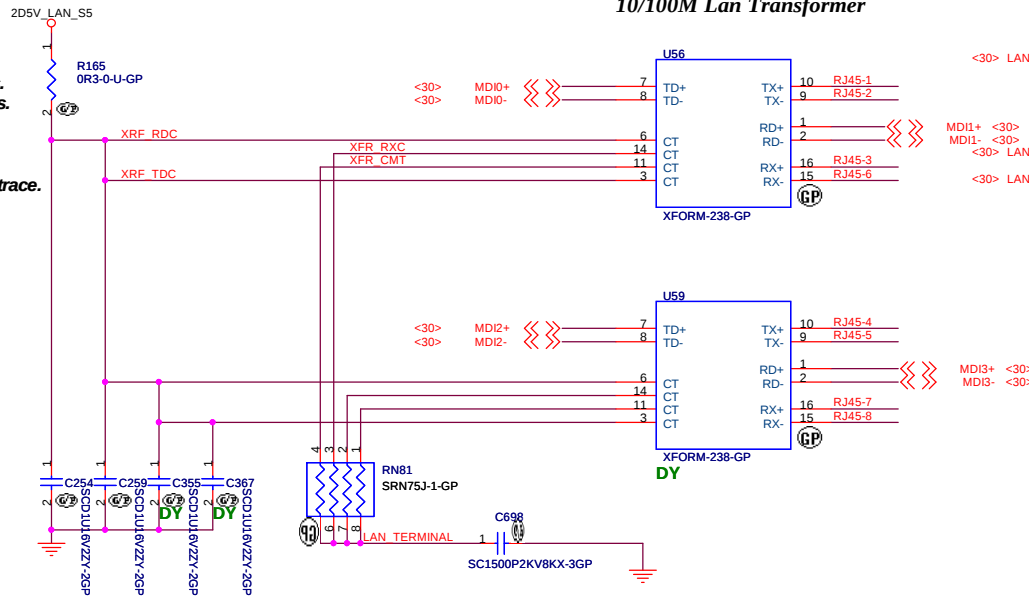
<Core Design>

緯創資通 Wistron Corporation	
21F, 88, Sec.1, Hsin Tai Wu Rd., Taipei Hsien 221, Taiwan, R.O.C.	
Title	
MINI CARD CONN.	
Size B	Document Number
Anote2.0 INTEL	
Date: Friday, January 12, 2007	Sheet 29 of



- 1.route on bottom as differential pairs.
- 2.Tx+/Tx- are pairs. Rx+/Rx- are pairs.
- 3.No vias, No 90 degree bends.
- 4.pairs must be equal lengths.
- 5.6mil trace width,12mil separation.
- 6.36mil between pairs and any other trace.
- 7.Must not cross ground moat,except RJ-45 moat.

10/100M Lan Transformer

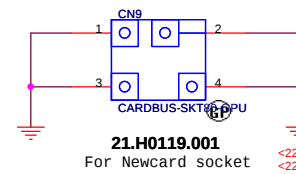
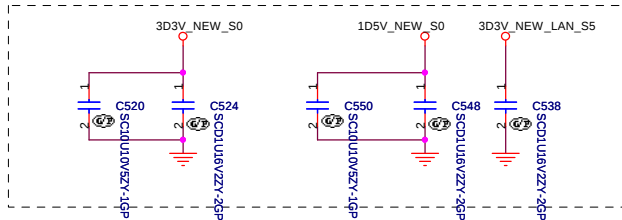
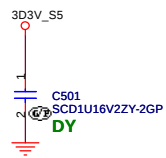


NEWCARD

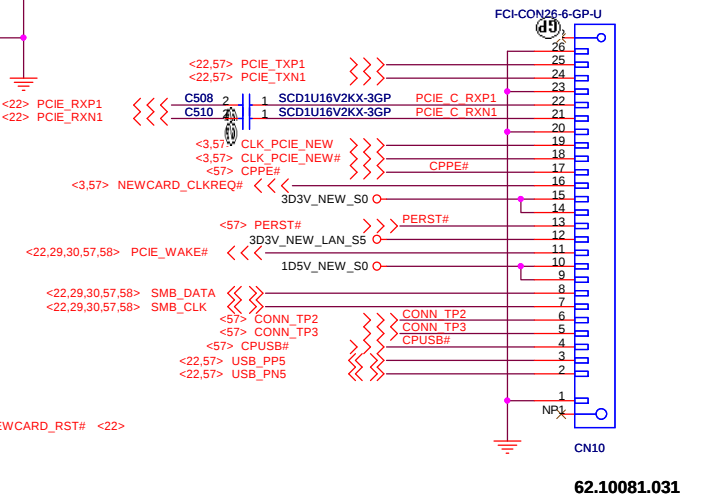
Connector

Place them Near to Chip

Place them Near to Connector



<57> PCIE_C_RXP1
<57> PCIE_C_RXN1



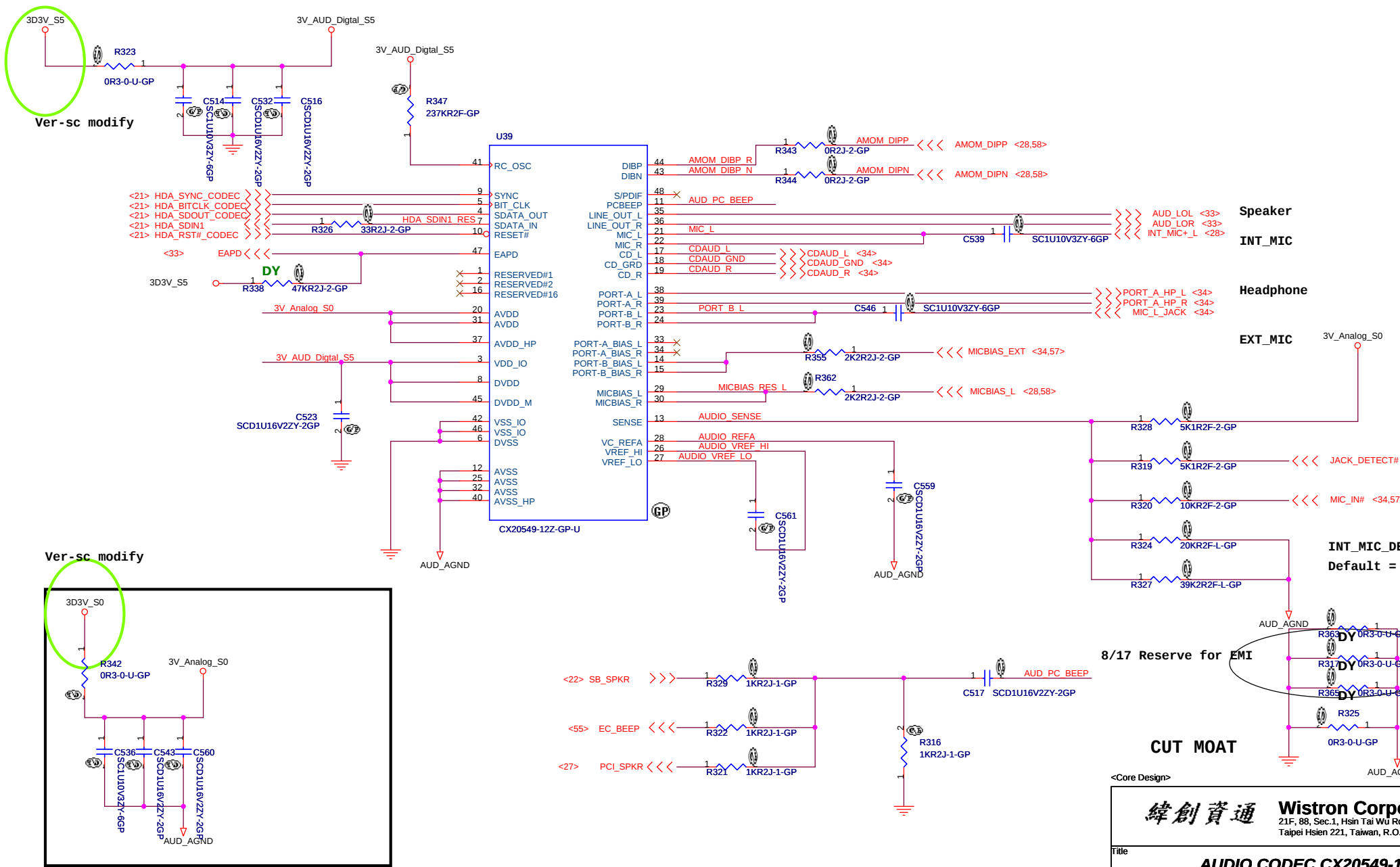
62.10081.031

<Core Design>

緯創資通

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

Title	
LAN connector/NEW CARD	
Size	Document Number
A3	Anote2.0 INTEL
Date	Sheet
Friday, January 12, 2007	31 of

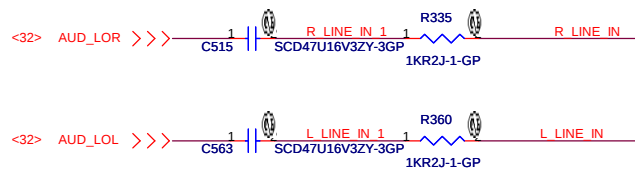
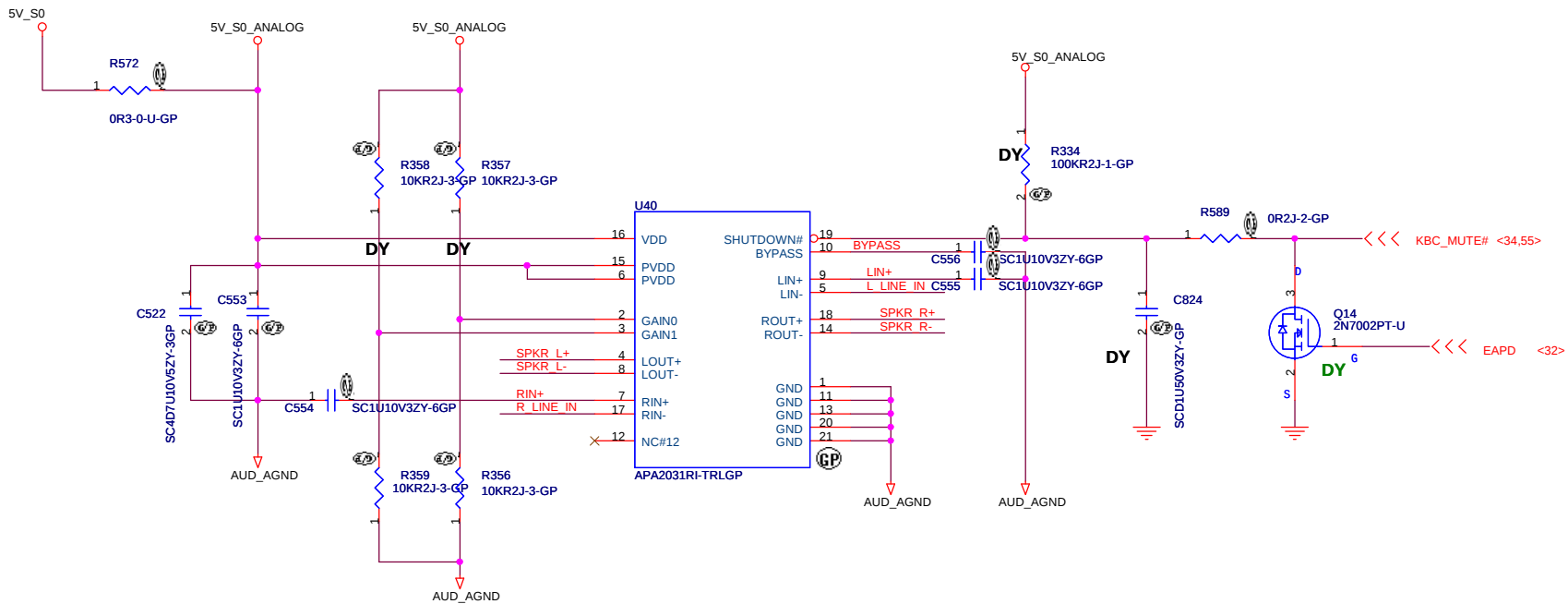


8/17 Reserve for EMI

CUT MOAT

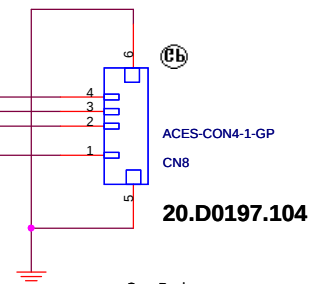
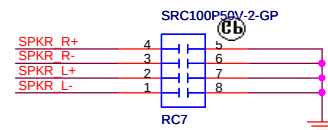
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緯創資通		Wistron Corp 21F, 88, Sec.1, Hsin Tai Wu Rd., Taipei Hsien 221, Taiwan, R.O.C.	
Title			
AUDIO CODEC CX20549-12			
Size B	Document Number		
Anote2.0 INTEL			
Date: Friday, January 12, 2007		Sheet	32 of



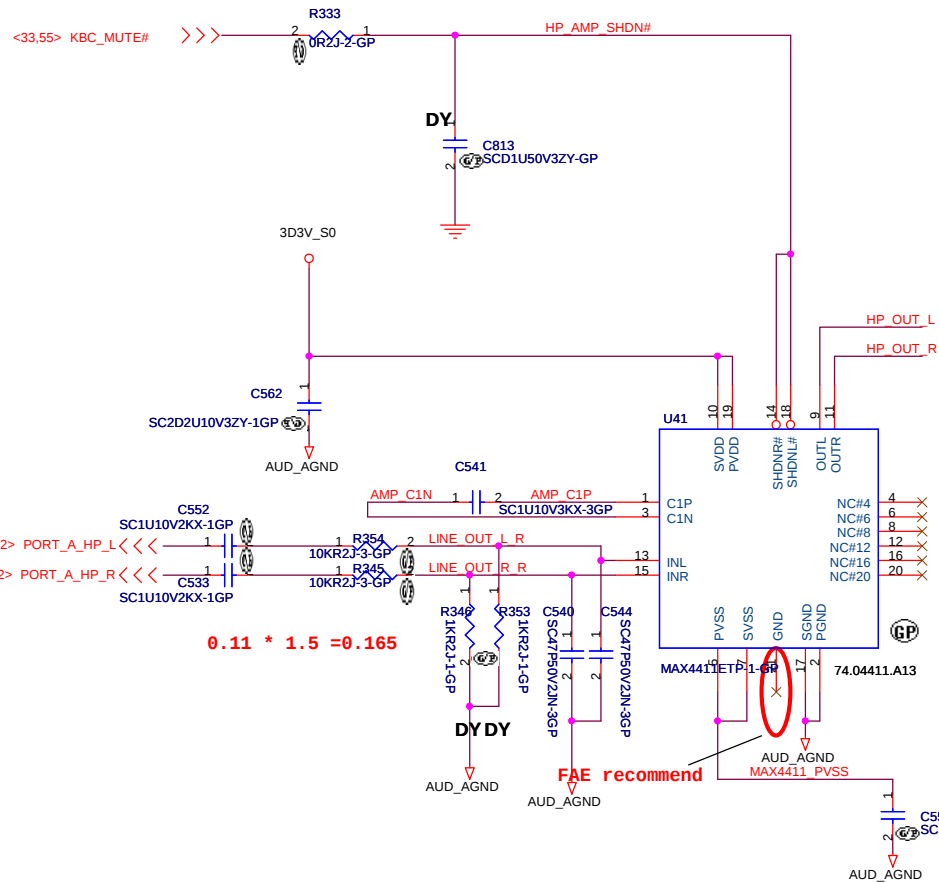
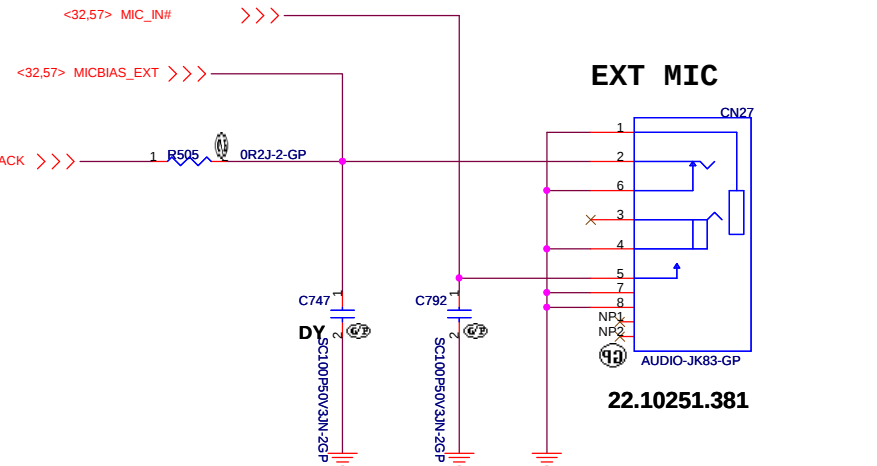
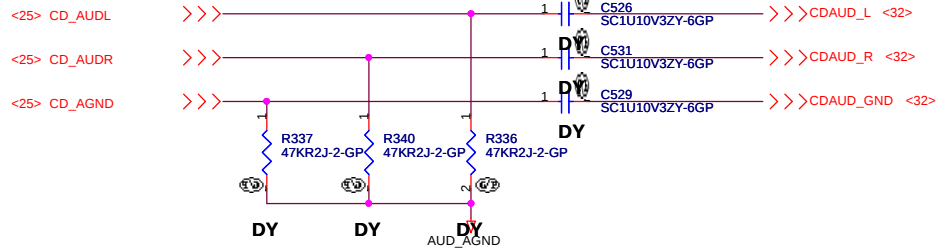
Speaker

<57> SPKR_L- >>> SPKR_L-
 <57> SPKR_L+ >>> SPKR_L+
 <57> SPKR_R- >>> SPKR_R-
 <57> SPKR_R+ >>> SPKR_R+

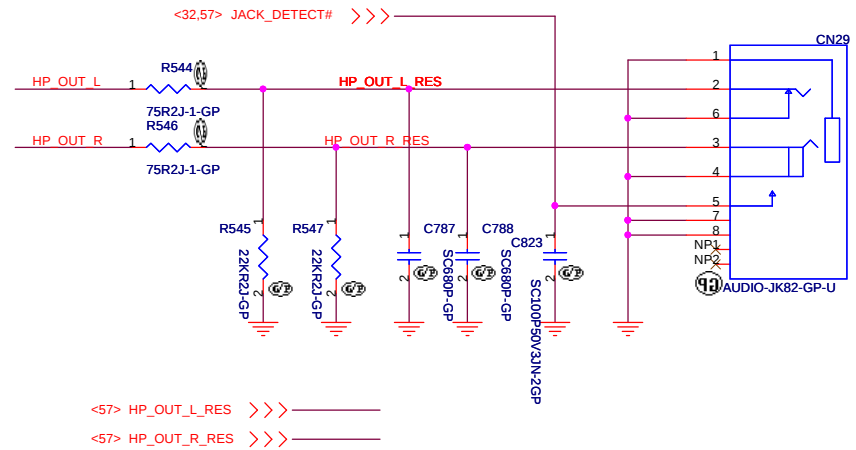


<Core Design>

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., H Taipei Hsien 221, Taiwan, R.O.C.	
Title	
Size B	
Document Number	
Date: Friday, January 12, 2007	
Sheet 33 of	
AUDIO AMP/SPEAKER Anote2.0 INTEL	



HP_OUT/ LINE_OUT



<Core Design>

緯創資通

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

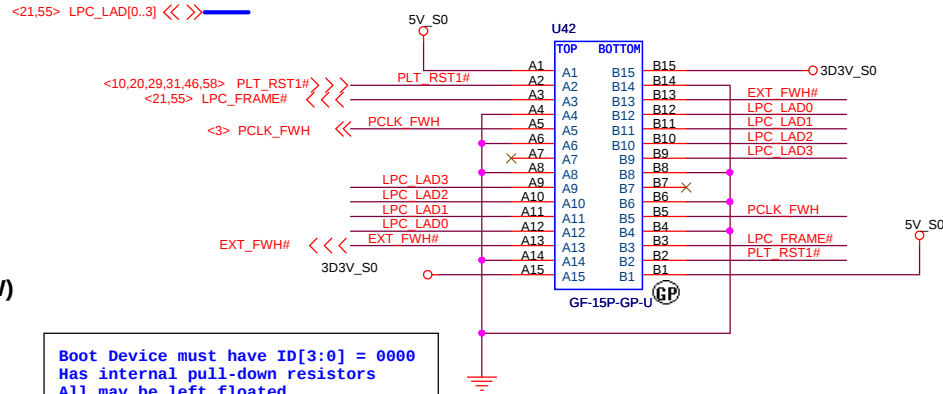
Title		AUDIO HP_JK/ MIC_JK	
Size	Document Number	Anote2.0 INTEL	
Date:	Friday, January 12, 2007	Sheet	34 of

TOP VIEW

A15 (B1)
A14 (B2)
⋮
A2 (B14)
A1 (B15)

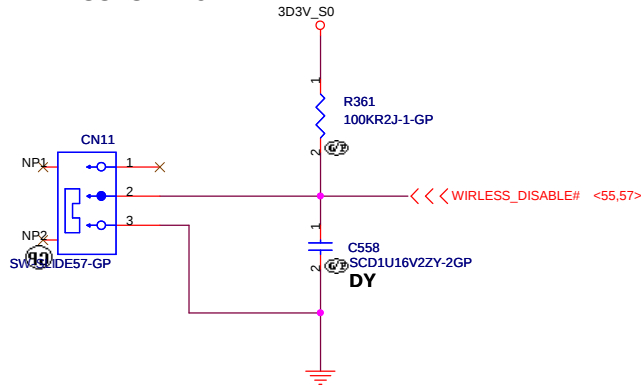
(BOTTOM VIEW)

GOLDEN FINGER FOR DEBUG BOARD



Boot Device must have ID[3:0] = 0000
Has internal pull-down resistors
All may be left floated
FPET7 Elec. P3-46

WIRELESS SWITCH



<Core Design>

緯創資通

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

Title

FWH and Debug

Size
B

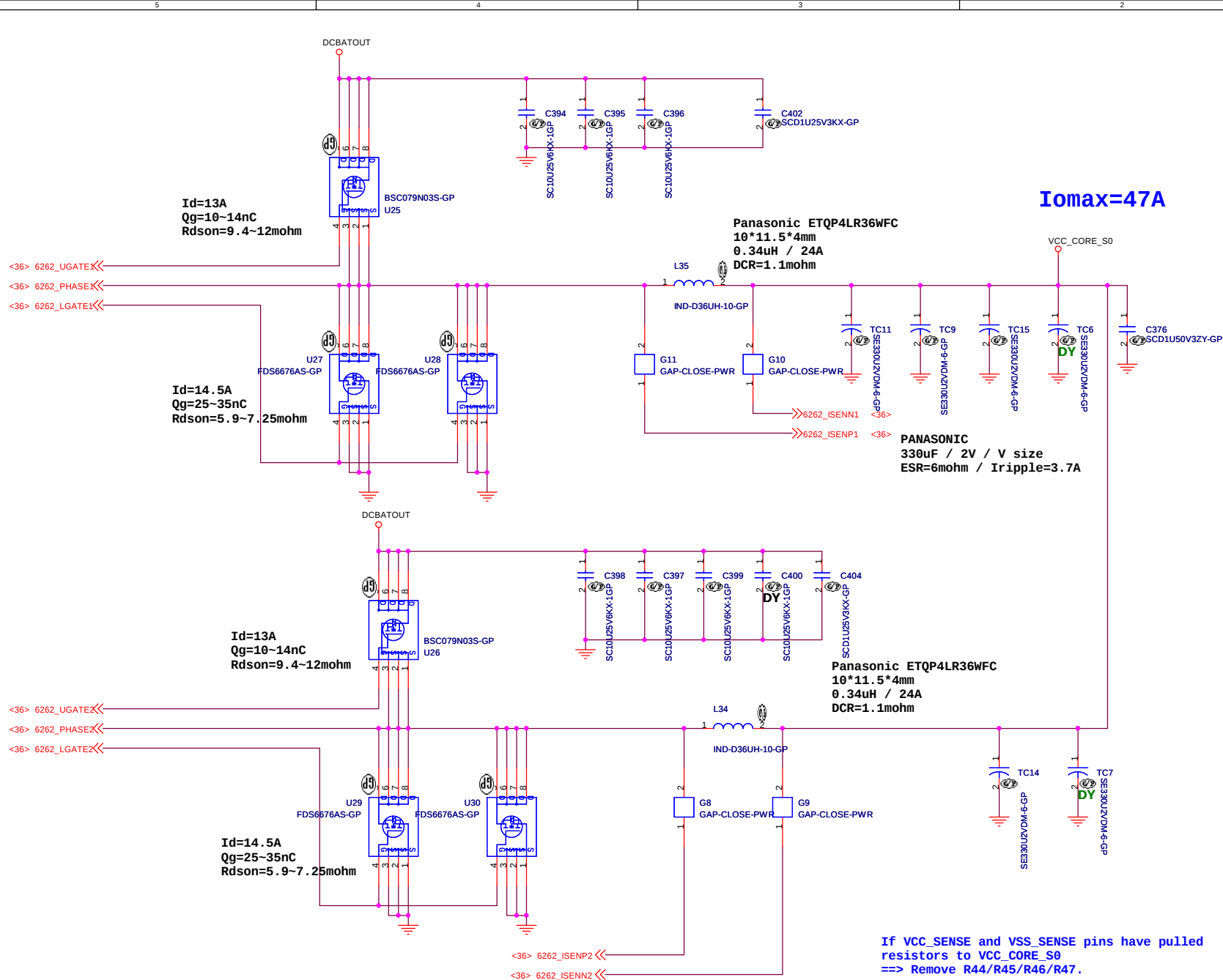
Document Number

Anote2.0 INTEL

Date: Friday, January 12, 2007

Sheet 35 of

Title		
VCC CORE-1		
Size A3	Document Number	
Anote2.0 INTEL		
Date:	Friday, January 12, 2007	Sheet 36 of



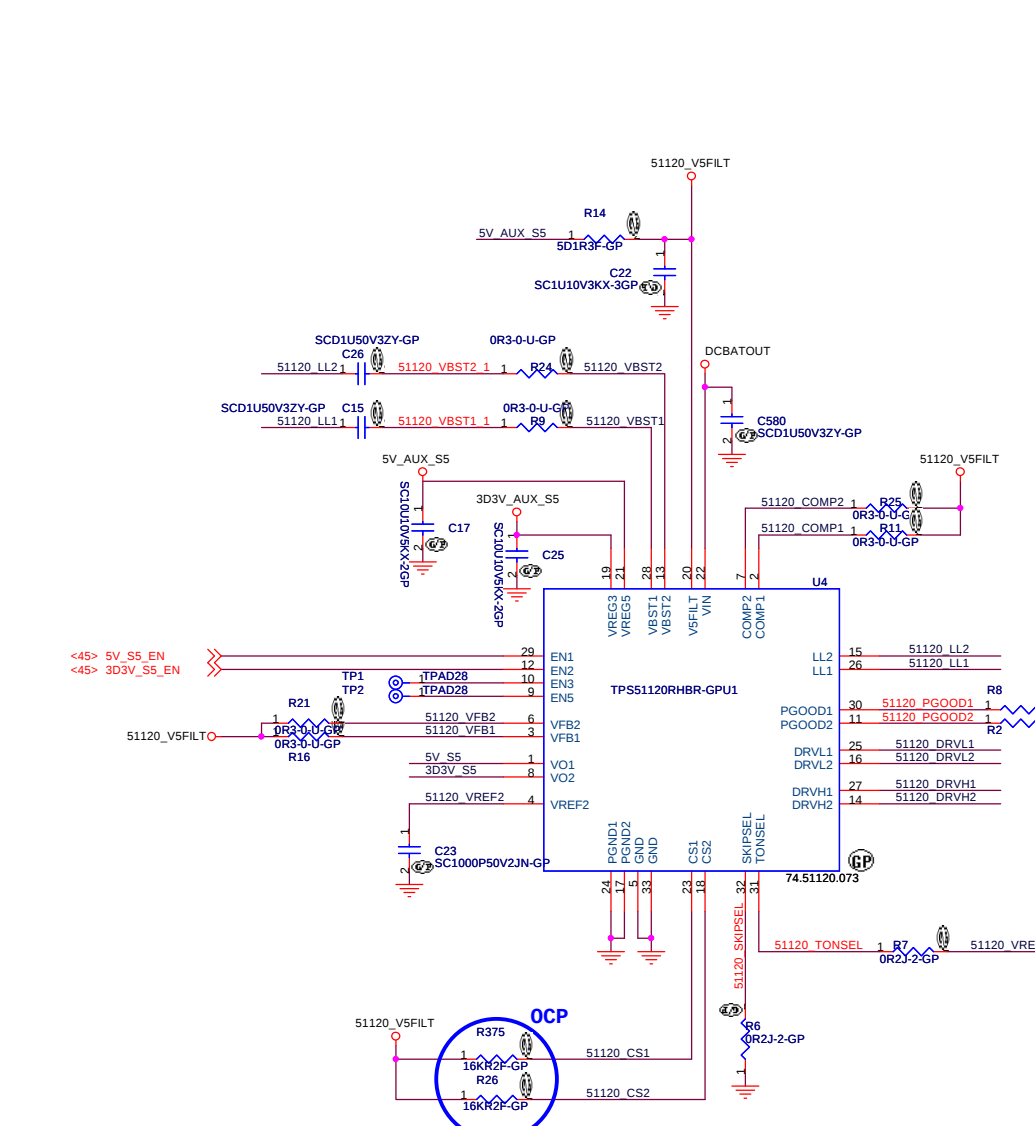
Iomax=47A

PANASONIC
330uF / 2V / V size
ESR=6mohm / Iripple=3.7A

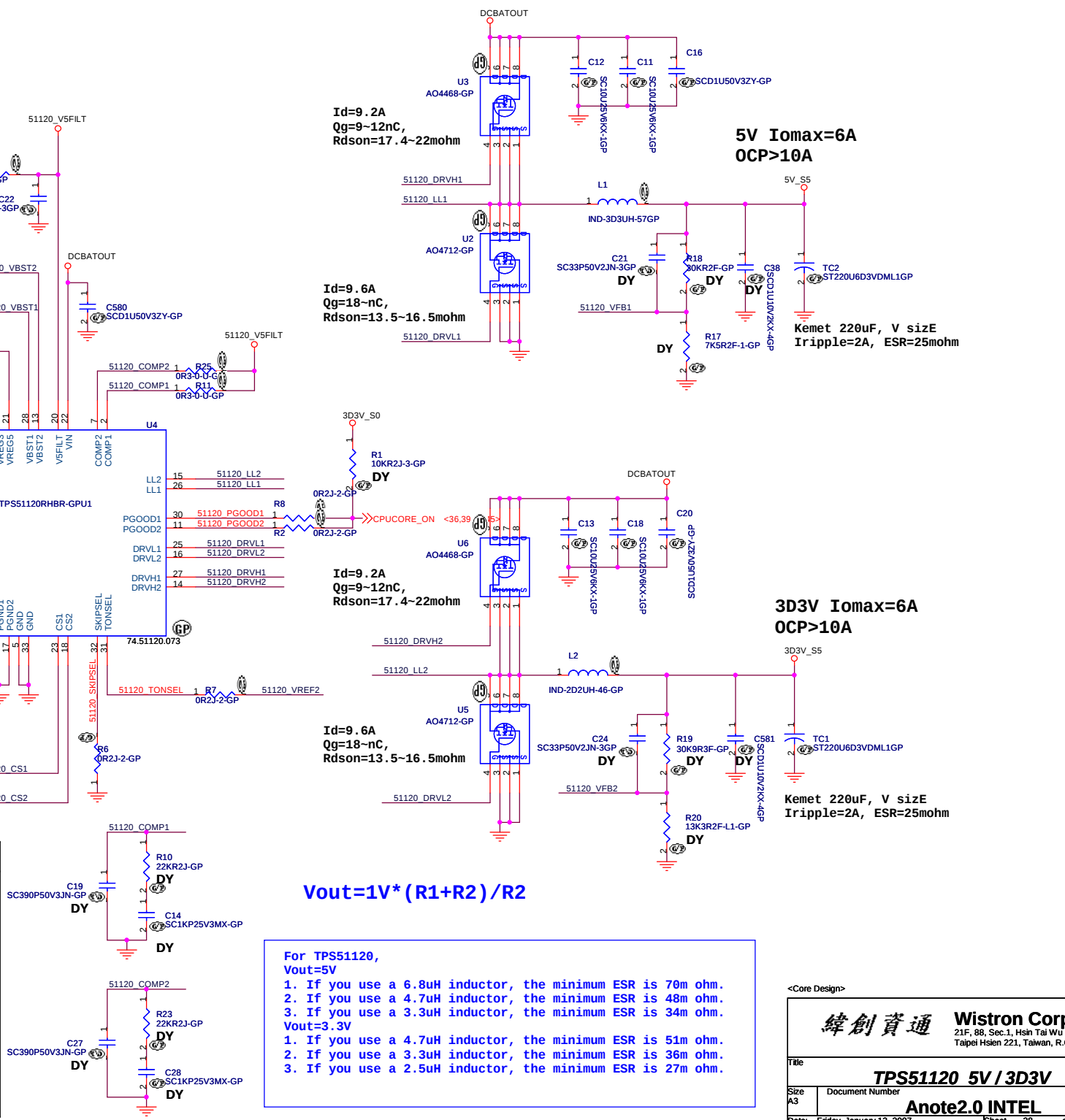
Panasonic ETQP4LR36WFC
10*11.5*4mm
0.34uH / 24A
DCR=1.1mohm

If VCC_SENSE and VSS_SENSE pins have pulled
resistors to VCC_CORE_S0
==> Remove R44/R45/R46/R47.

<Core Design>



Pin	GND	VREF2	FLOAT	V5FILT
COMP	N/A	N/A	Current Mode (apply R-C network)	D-CAP. Mode
TONSEL (CH1/CH2) [kHz]	380 / 580	280 / 430	220 / 330	180 / 270
VFB1	Adjustable output (connect to the resistor divider)		5V fixed output	
VFB2	Adjustable output (connect to the resistor divider)		3.3 V fixed output	
SKIPSEL	AUTO-SKIP	AUTO-SKIP (FAULTS OFF)	PWM	PWM
EN1, EN2	Switcher Off	Not used	Switcher on	Switcher on
EN3, EN5	LDO Off	Not used	LDO on	LDO on (EN3 only)



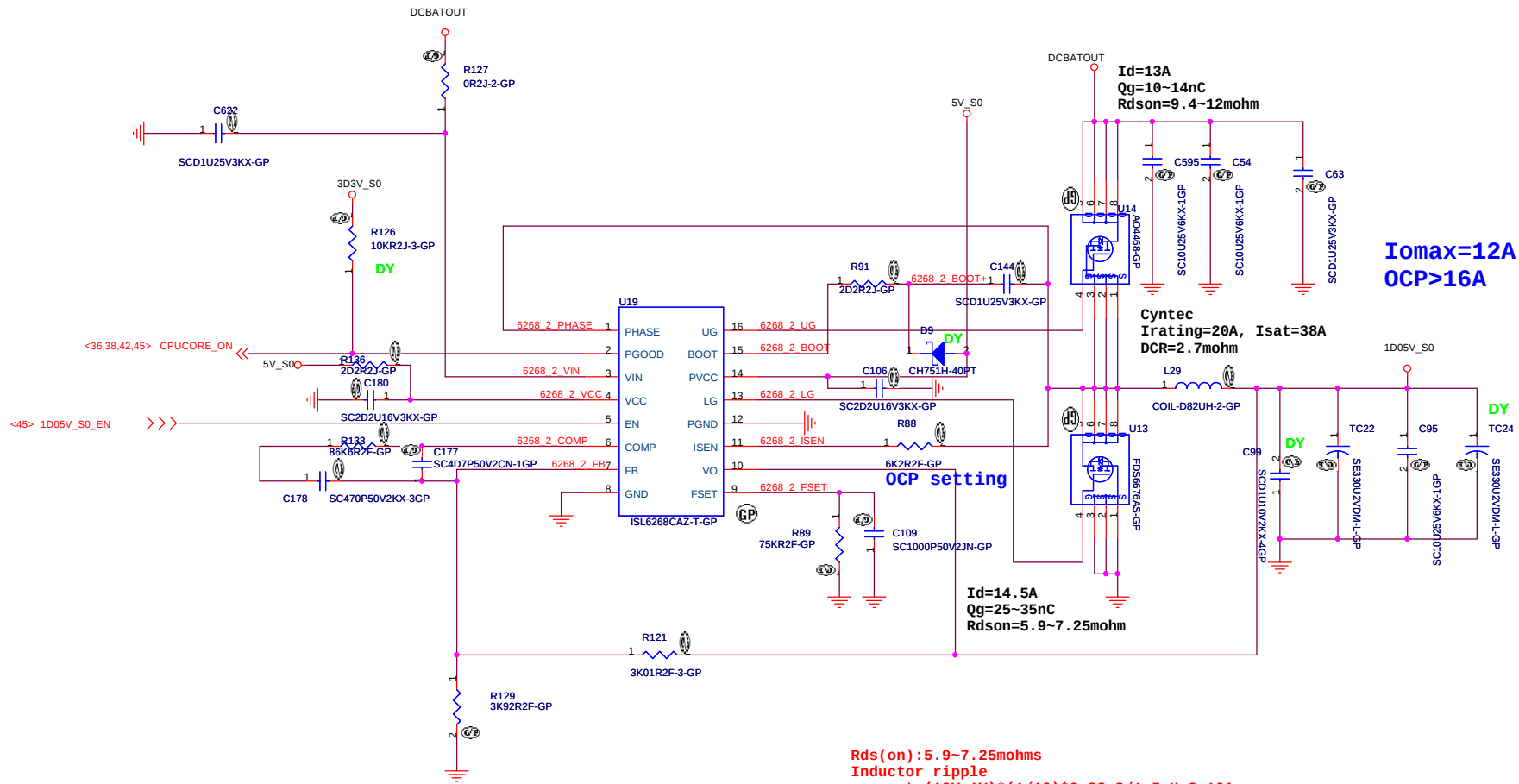
$$V_{out}=1V \cdot (R1+R2)/R2$$

For TPS51120,
Vout=5V

1. If you use a 6.8uH inductor, the minimum ESR is 70m ohm.
2. If you use a 4.7uH inductor, the minimum ESR is 48m ohm.
3. If you use a 3.3uH inductor, the minimum ESR is 34m ohm.

Vout=3.3V

1. If you use a 4.7uH inductor, the minimum ESR is 51m ohm.
2. If you use a 3.3uH inductor, the minimum ESR is 36m ohm.
3. If you use a 2.5uH inductor, the minimum ESR is 27m ohm.



Rds(on): 5.9~7.25mohms
Inductor ripple
current: $(19V-1V) * (1/19) * 3.33\mu S / 1.5\mu H = 2.10A$
If OCP=16A
Risen = $[16A + (2.1/2)] * (7.5m\Omega * 1.3) / 26\mu A = 6.18K$

<Core Design>

緯創資通

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

Title
1D05V S0 ISL6268

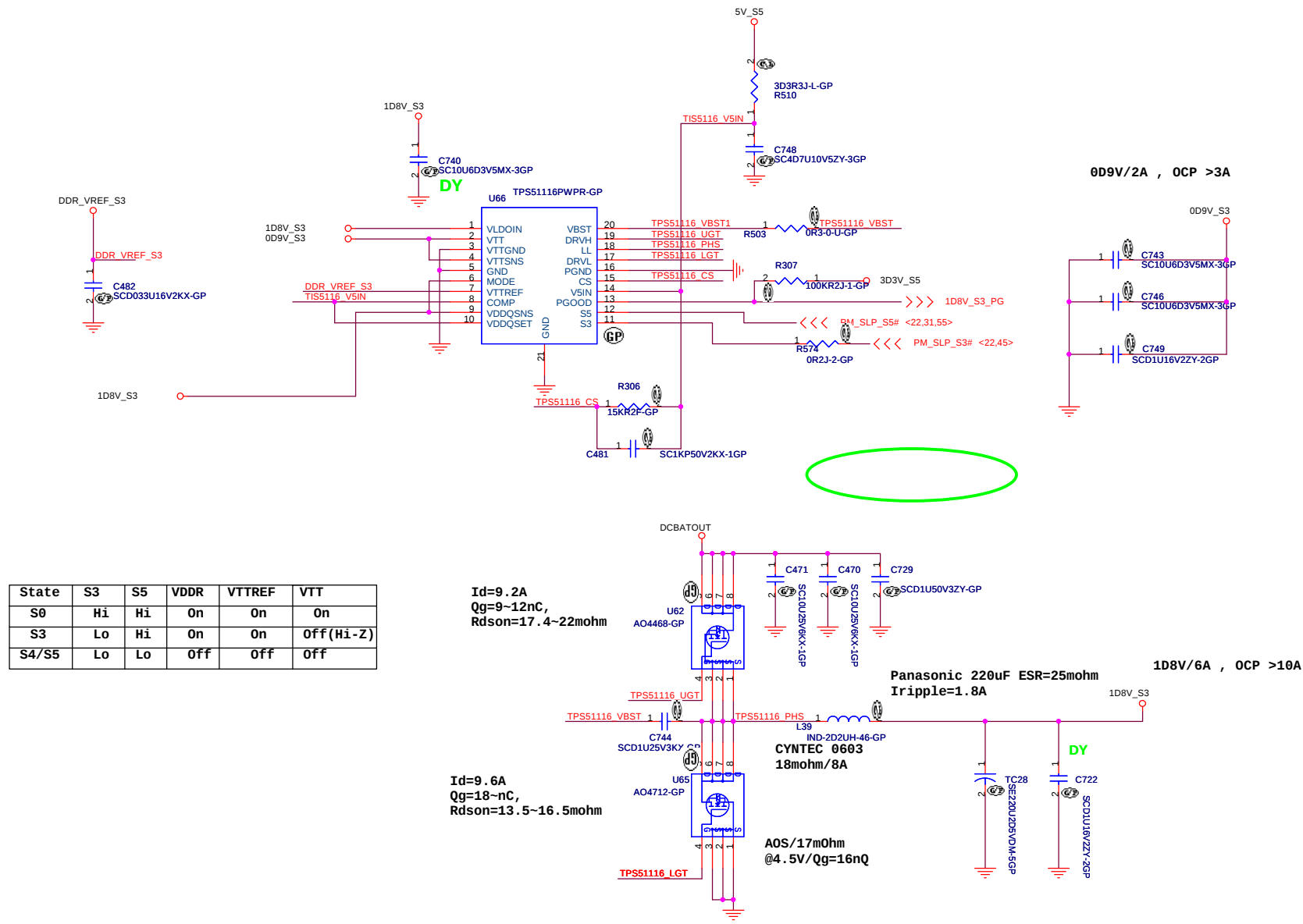
Size
A3 Document Number

Anote2.0 INTEL

Date: Friday, January 12, 2007

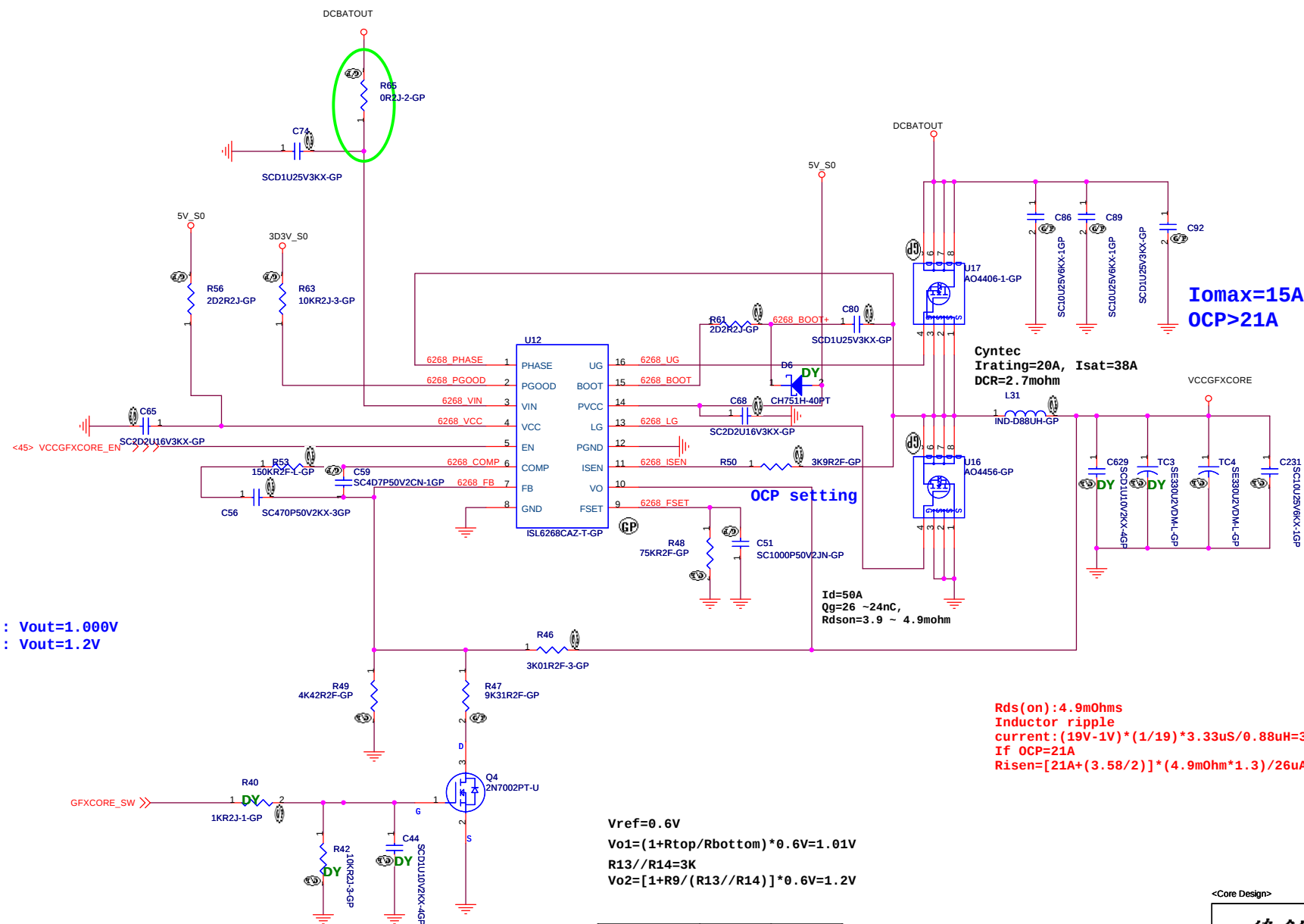
Sheet 39 of 40

TI TPS51116 for 1D8V and 0D9V



<Core Design>

reserve for cost down



Low : Vout=1.000V
High : Vout=1.2V

Iomax=15A
OCP>21A

Cyntec
Irating=20A, Isat=38A
DCR=2.7mohm

OCP setting

Id=50A
Qg=26 ~24nC,
Rdson=3.9 ~ 4.9mohm

Rds(on) : 4.9mOhms
Inductor ripple
current: $(19V-1V) * (1/19) * 3.33uS / 0.88uH = 3.58A$
If OCP=21A
Risen = $[21A + (3.58/2)] * (4.9mOhm * 1.3) / 26uA = 5.58K - 5.62K$

Vref=0.6V
Vo1=(1+Rtop/Rbottom) * 0.6V=1.01V
R13//R14=3K
Vo2=[1+R9/(R13//R14)] * 0.6V=1.2V

Vo_Select	Hi	Lo
Vout	1.2V	1.01V

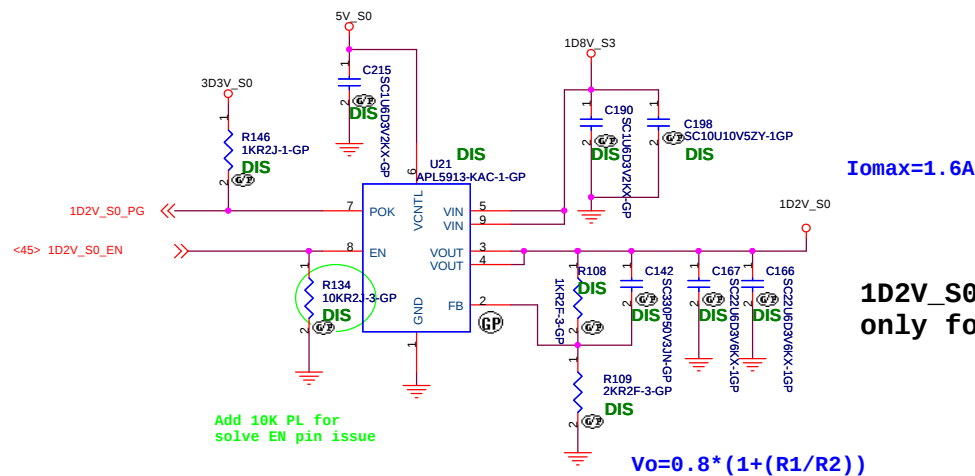
<Core Design>

緯創資通

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

Title
DC/DC VCCGFXCORE (ISL6268)
Size
A3 Document Number
Anote2.0 INTEL
Date: Friday, January 12, 2007 Sheet 41 of 1

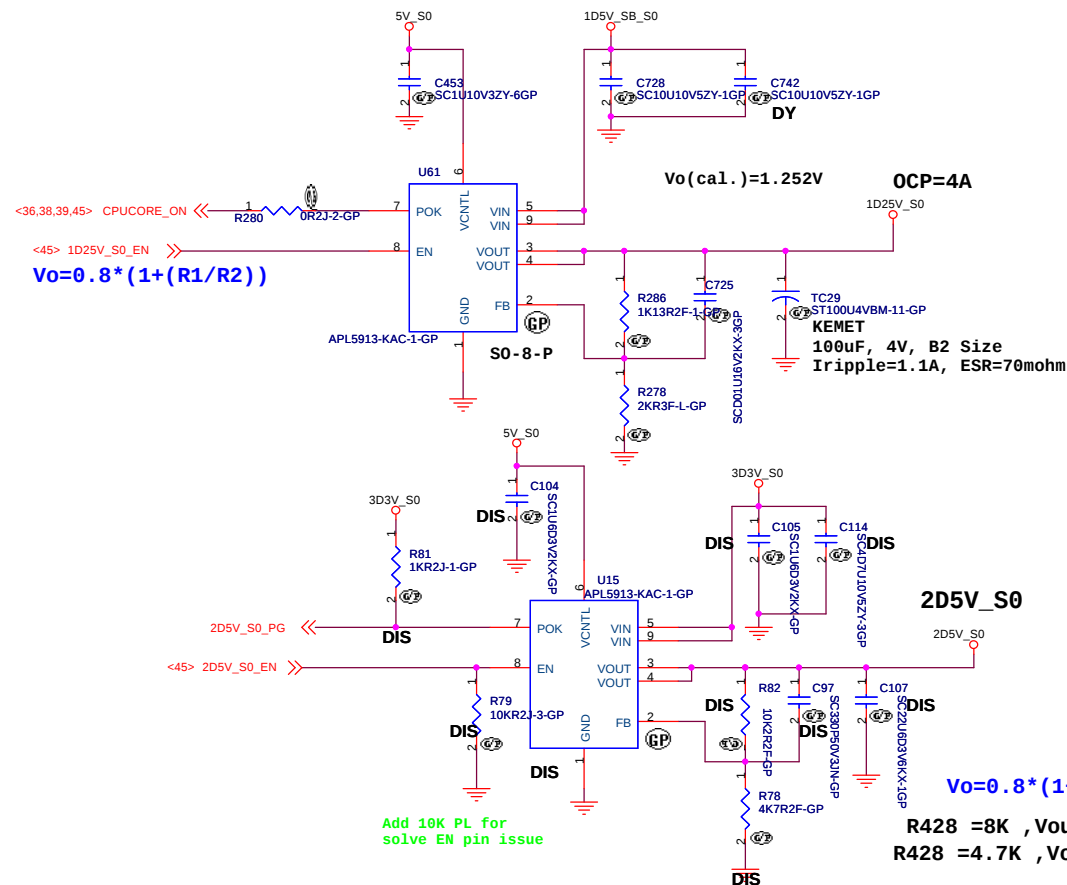
VGA 1.2V Power



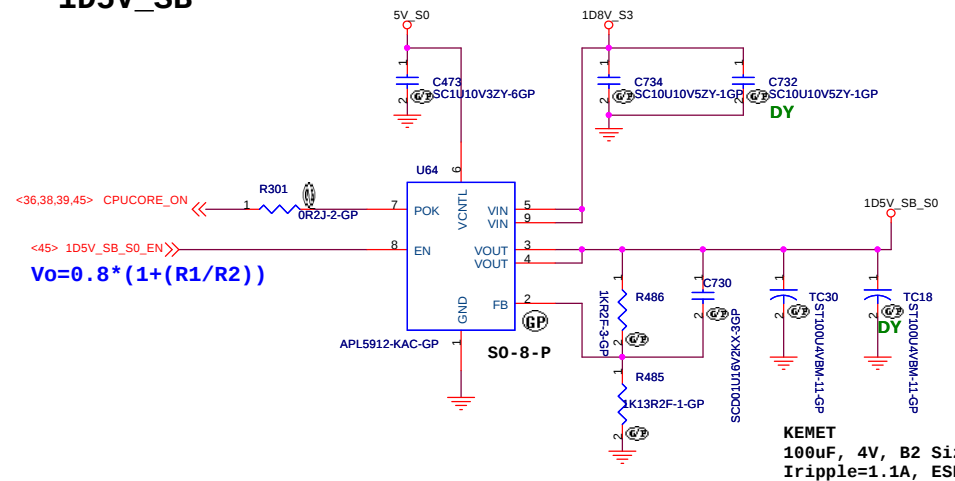
1D5V_NB

PS: SB de1

1D25V_S0 I_{max}=2.0A



1D5V_SB

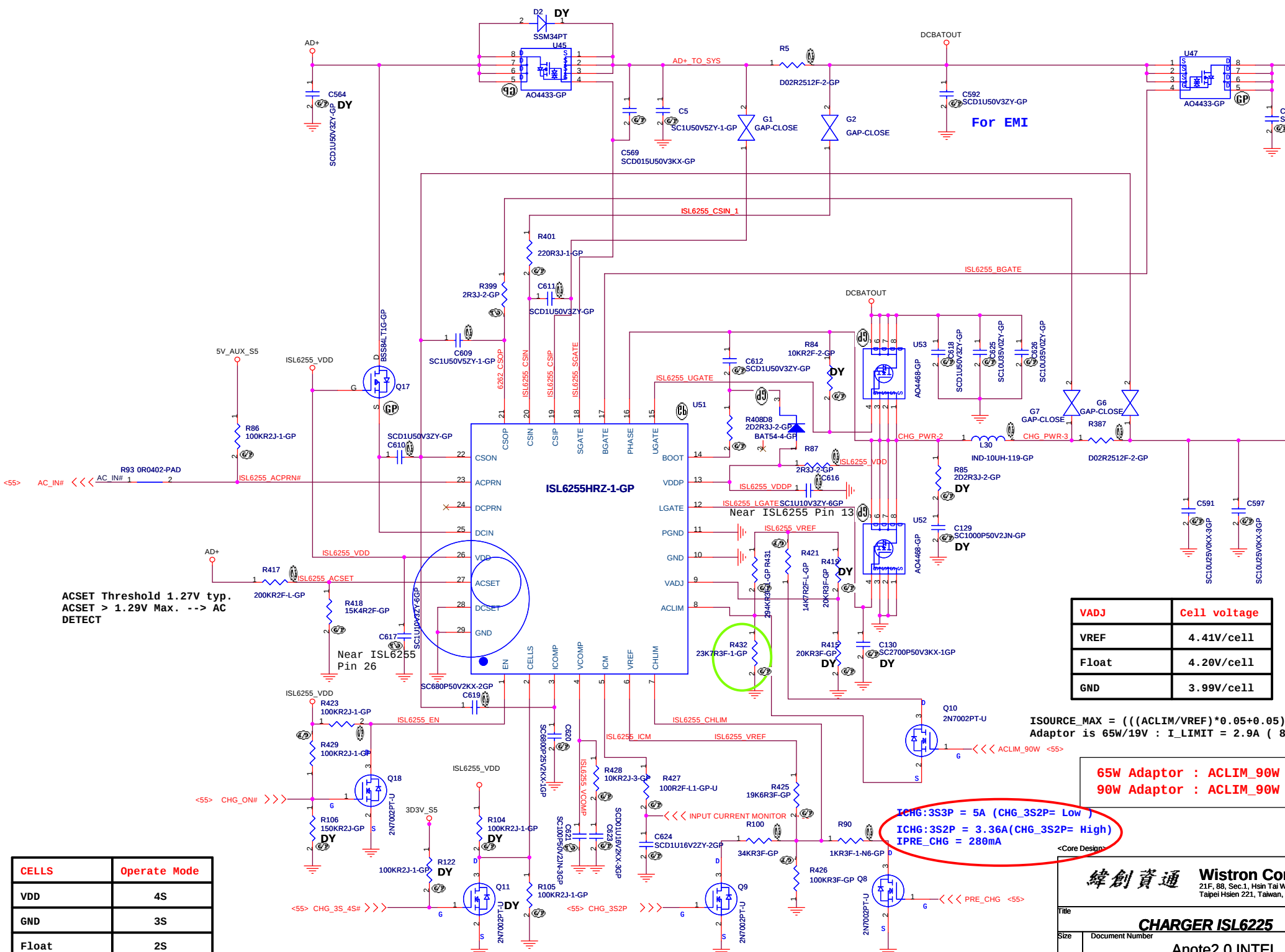


<Core Design>

緯創資通

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

Title	
1D2V_VGA/2D5V/1D25V/1D5V LDO	
Size	Document Number
	Anote2.0 INTEL
Date: Friday, January 12, 2007	Sheet 42 of 1



ACSET Threshold 1.27V typ.
ACSET > 1.29V Max. --> AC
DETECT

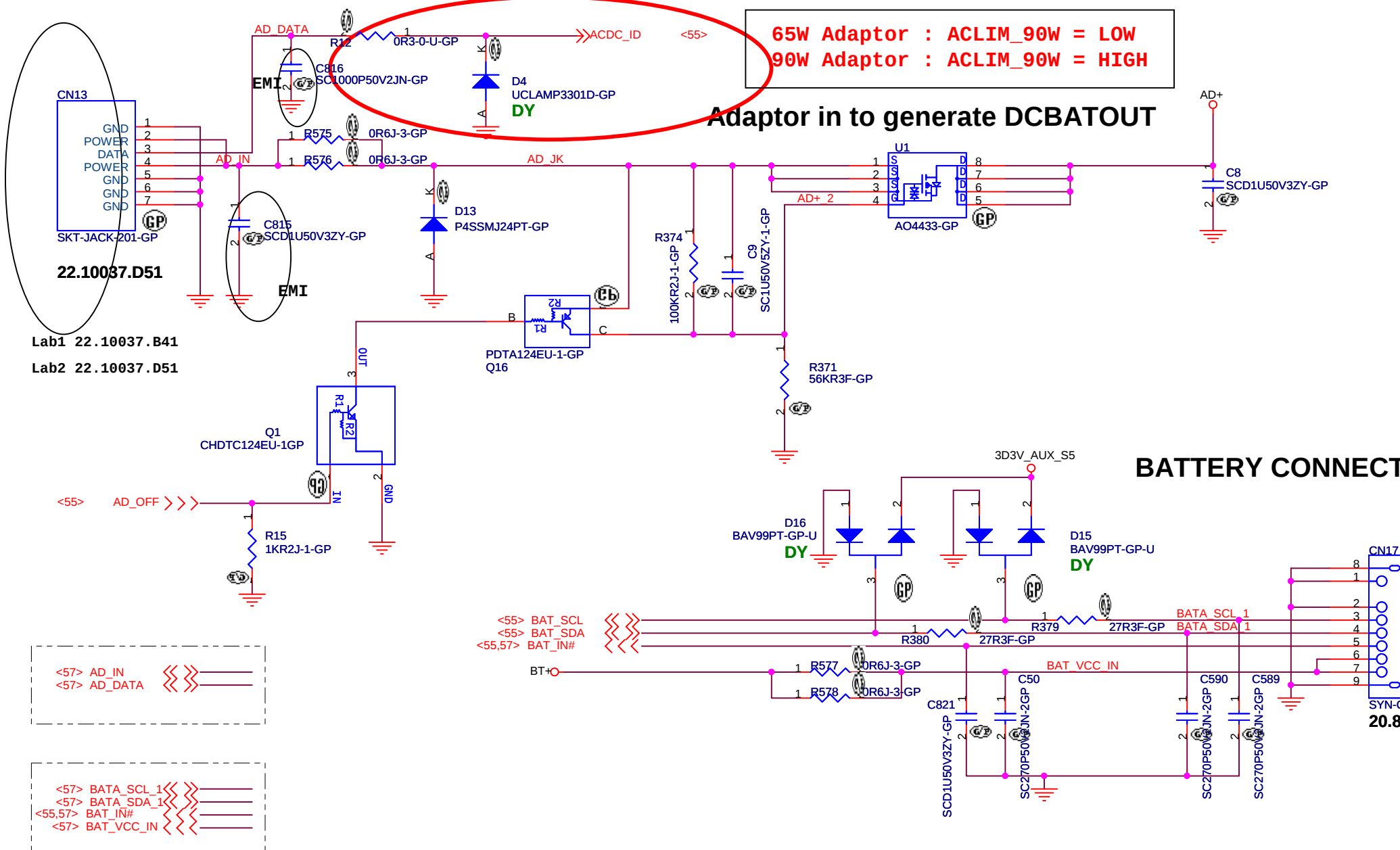
VADJ	Cell voltage
VREF	4.41V/cell
Float	4.20V/cell
GND	3.99V/cell

ISOURCE_MAX = (((ACLIM/VREF)*0.05+0.05)/R
Adaptor is 65W/19V : I_LIMIT = 2.9A (85%

65W Adaptor : ACLIM_90W =
90W Adaptor : ACLIM_90W =

ICRG:3S3P = 5A (CHG_3S2P= Low)
ICRG:3S2P = 3.36A(CHG_3S2P= High)
IPRE_CHG = 280mA

CELLS	Operate Mode
VDD	4S
GND	3S
Float	2S



65W Adaptor : ACLIM_90W = LOW
90W Adaptor : ACLIM_90W = HIGH

Adaptor in to generate DCBATOUT

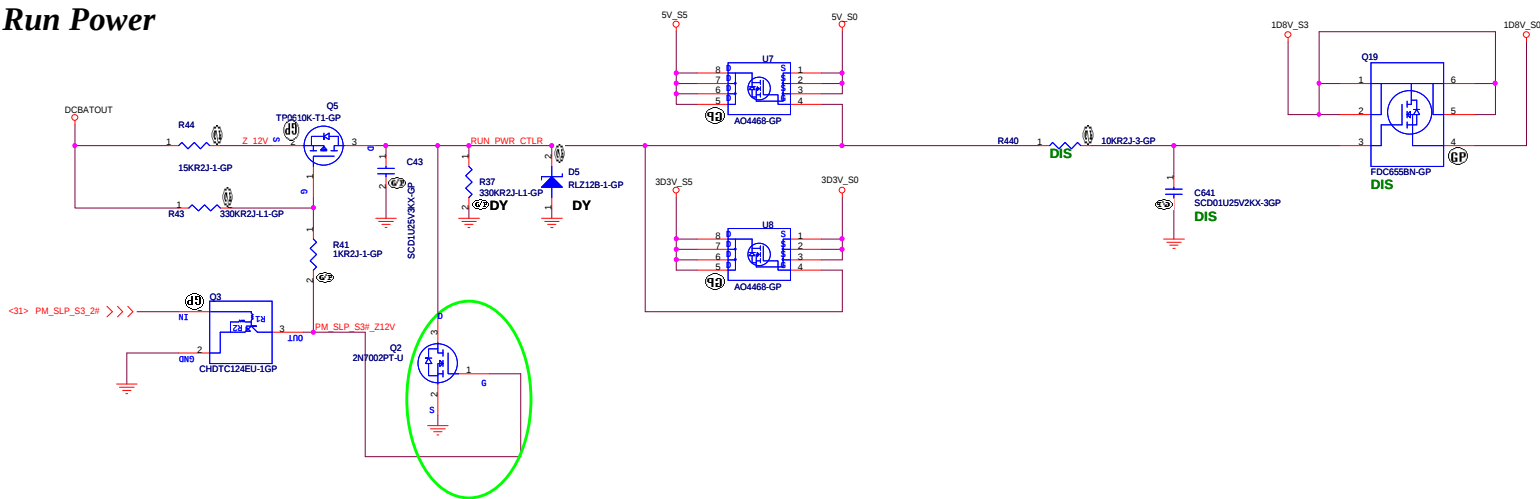
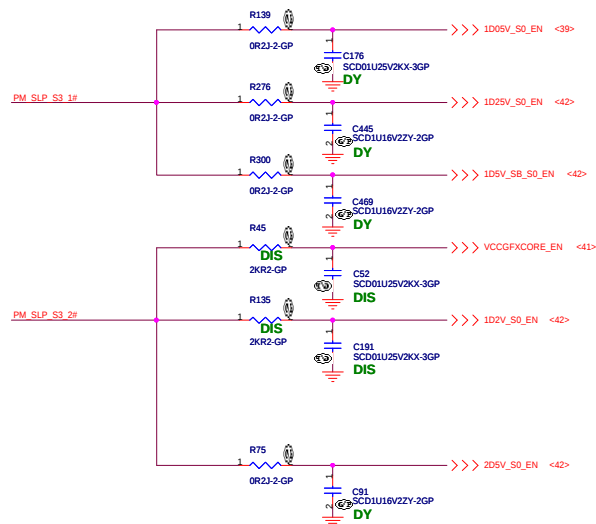
BATTERY CONNECT

<57> AD_IN
<57> AD_DATA

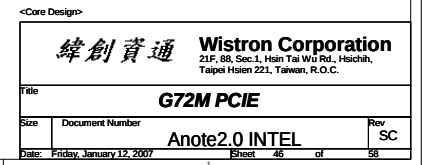
<57> BATA_SCL_1
<57> BATA_SDA_1
<55,57> BAT_IN#
<57> BAT_VCC_IN

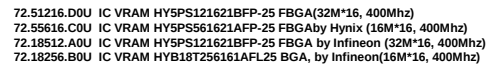
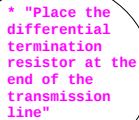
<Core Design>

緯創資通 Wistron Corporation	
21F, 88, Sec.1, Hsin Tai Wu Rd., H Taipei Hsien 221, Taiwan, R.O.C.	
Title AD/BATT CONN	
Size	Document Number
Date: Friday, January 12, 2007	
Sheet 44 of	

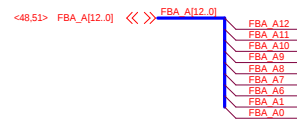
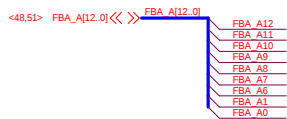


Title			
PWRPLANE&RESET LOGIC			
Size	Document Number		Rev
C		Anote2.0 INTEL	SC
Date:	Friday, January 12, 2007	Sheet 45 of 58	



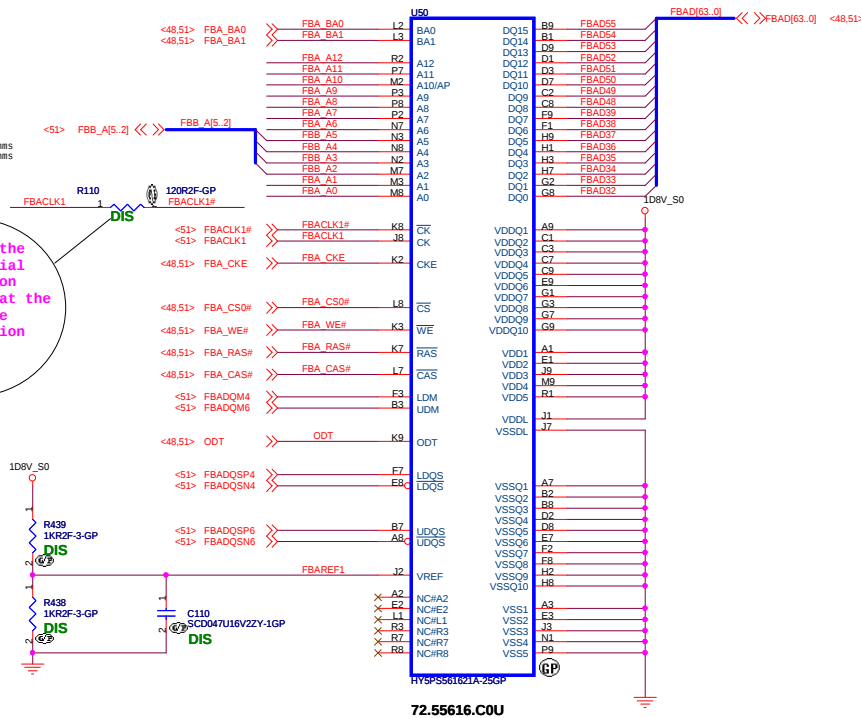
[illegible]

Place around the MEM



for G72M use 120 ohms
for G73M use 480 ohms

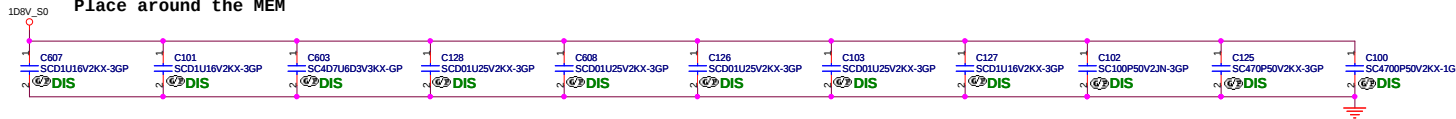
* "Place the differential termination resistor at the end of the transmission line"



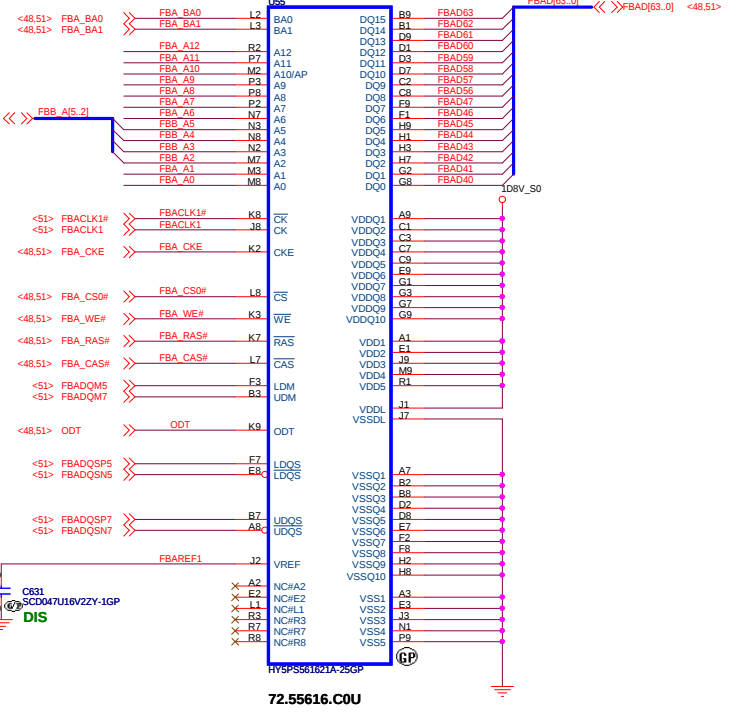
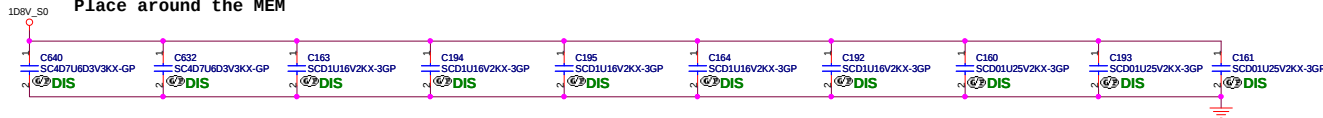
72.55616.C0U

DIS

Decoupling for left MEMORY
Place around the MEM



Decoupling for right MEMORY
Place around the MEM



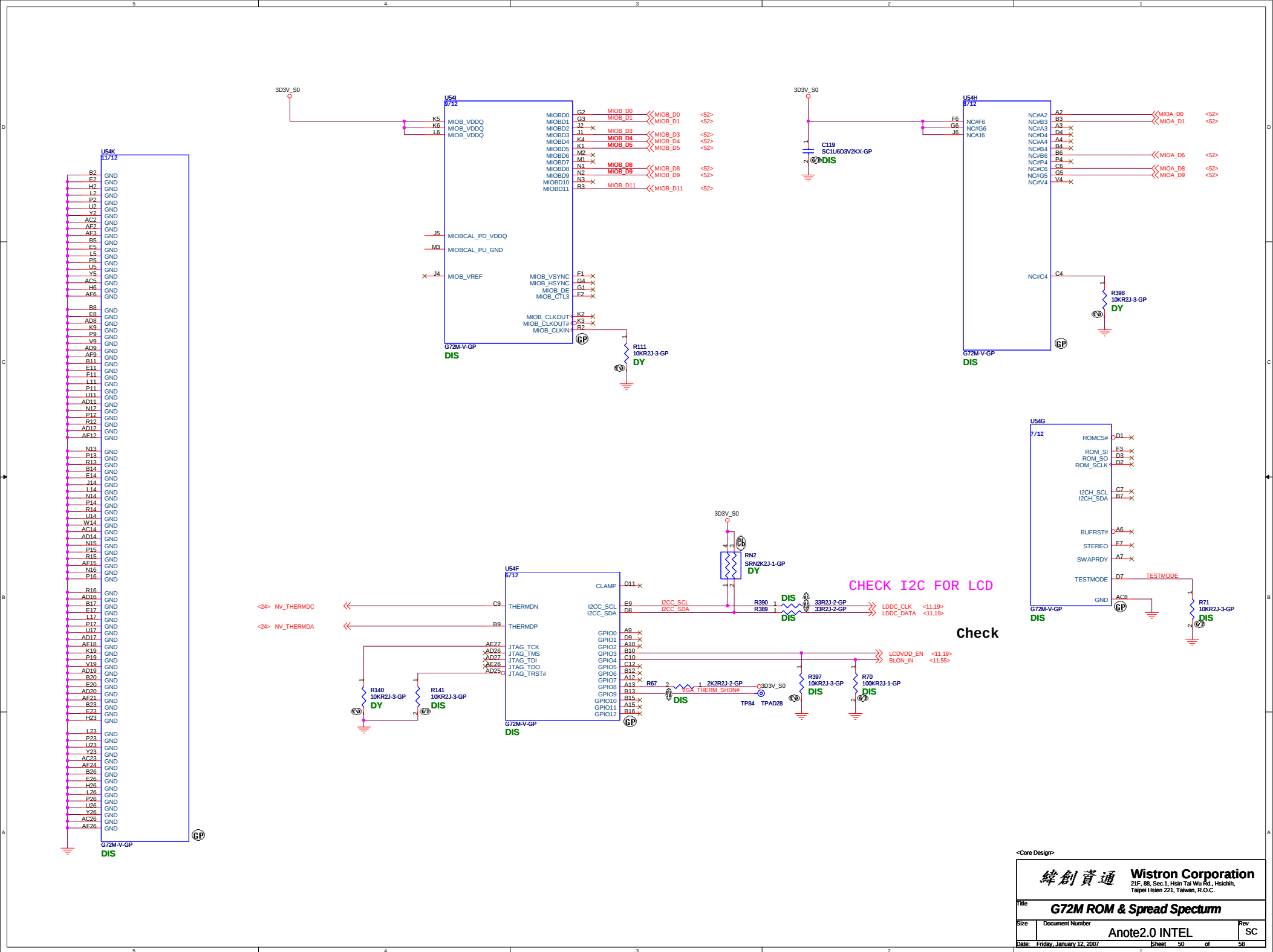
72.55616.C0U

DIS

<Core Design>

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

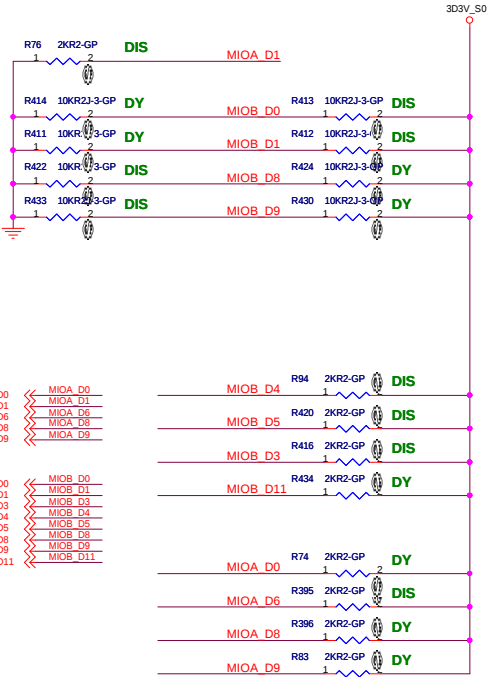
File G72M VRAM (1ST 2/2)
Size Document Number Rev SC
Anote2.0 INTEL
Date: Friday, January 12, 2007 Sheet 49 of 58



STRAPS, Mechanical Parts

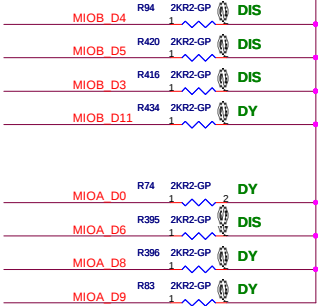
Check

Hynix256MB :	R825_0	R824_1	R822_1	R820_1
Hynix128MB :	R825_0	R823_0	R822_1	R820_1
Hynix64MB :	R826_1	R823_0	R822_1	R820_1
Infineon256MB :	R825_0	R824_1	R822_1	R819_0
Infineon128MB :	R825_0	R823_0	R822_1	R819_0
Infineon64MB :	R826_1	R823_0	R822_1	R819_0



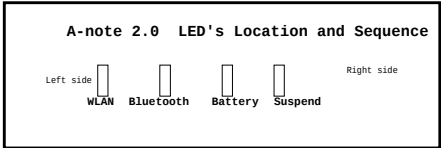
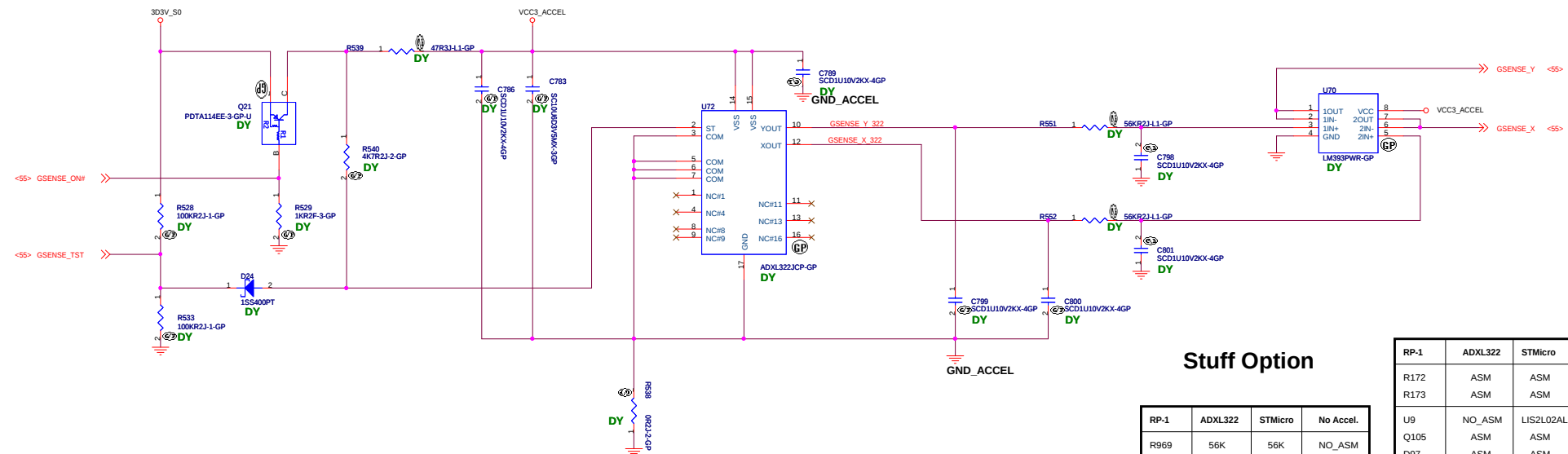
Bit Signal		Values	
MIOA_D1:	SUB_VENDOR	0 NO BIOS	1 READ FROM BIOS
For MEM strapping, Please use below table:			
RAM_CFG[9.8.1.0]	Config	FB Bus Width	Definitions
RAM_CFG[3..0]			
0000			
0001	16Mx16 DDR2	64-bit	Samsung
0010	16Mx16 DDR2	64-bit	Infineon
0011	16Mx16 DDR2	64-bit	Hynix
0100			
0101	32Mx16 DDR2	64-bit	Samsung
0110	32Mx16 DDR2	64-bit	Infineon
0111	32Mx16 DDR2	64-bit	Hynix

<S0>	MIOA_D0	<<	MIOA_D0
<S0>	MIOA_D1	<<	MIOA_D1
<S0>	MIOA_D6	<<	MIOA_D6
<S0>	MIOA_D8	<<	MIOA_D8
<S0>	MIOA_D9	<<	MIOA_D9
<S0>	MIOB_D0	<<	MIOB_D0
<S0>	MIOB_D1	<<	MIOB_D1
<S0>	MIOB_D3	<<	MIOB_D3
<S0>	MIOB_D4	<<	MIOB_D4
<S0>	MIOB_D5	<<	MIOB_D5
<S0>	MIOB_D8	<<	MIOB_D8
<S0>	MIOB_D9	<<	MIOB_D9
<S0>	MIOB_D11	<<	MIOB_D11



MIOB_D4:	PCI_DEVID_0	
MIOB_D5:	PCI_DEVID_1	1000 (default 0x00FC)
MIOB_D3:	PCI_DEVID_2	
MIOB_D11:	PCI_DEVID_3	0111 G72MV G72MZ=6, G73=8

MIOA_D0:	PEX_PLL_EN_TERM100	0 ENABLED 1 DISABLED
MIOA_D6:	3GIO_PADCFG_LUT_ADDR[0]	
MIOA_D8:	3GIO_PADCFG_LUT_ADDR[1]	
MIOA_D9:	3GIO_PADCFG_LUT_ADDR[2]	001 DEFAULT

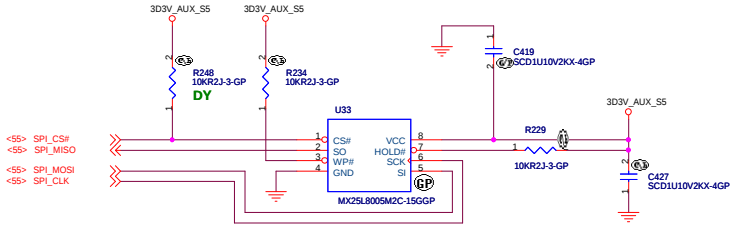
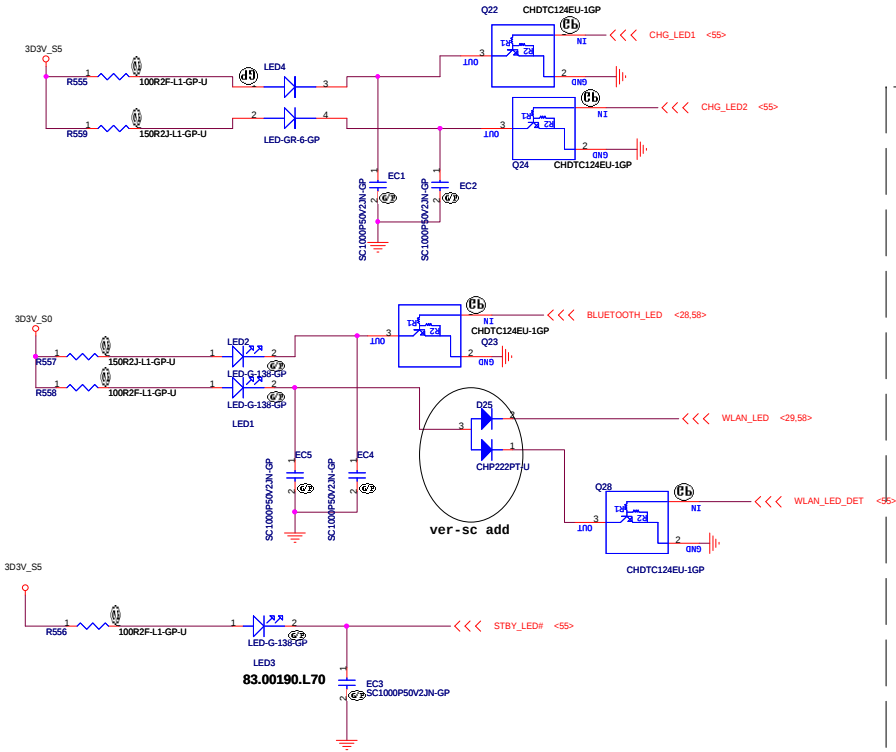


Stuff Option

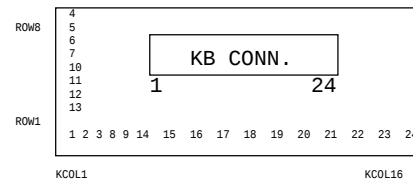
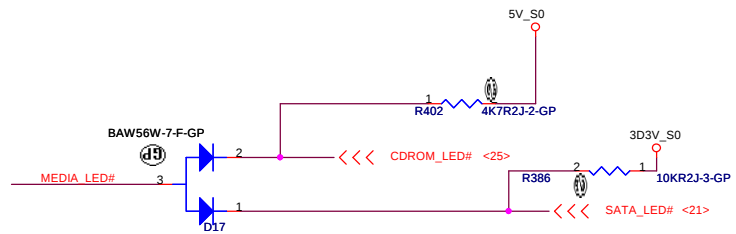
RP-1	ADXL322	STMicr	No Accel.
R172	ASM	ASM	NO_ASM
R173	ASM	ASM	NO_ASM
U9	NO_ASM	LIS2L02AL	NO_ASM
Q105	ASM	ASM	NO_ASM
D97	ASM	ASM	NO_ASM
R956	NO_ASM	ASM	NO_ASM
R62	ASM	ASM	NO_ASM
R885	10 Ohm	10 Ohm	NO_ASM
C829	ASM	ASM	NO_ASM
C969	ASM	ASM	NO_ASM
R959	ASM	ASM	NO_ASM
C170	ASM	NO_ASM	NO_ASM
C178	ASM	NO_ASM	NO_ASM
C190	ASM	NO_ASM	NO_ASM
R31	ASM	NO_ASM	NO_ASM

RP-1	ADXL322	STMicr	No Accel.
R172	ASM	ASM	NO_ASM
R173	ASM	ASM	NO_ASM
U9	NO_ASM	LIS2L02AL	NO_ASM
Q105	ASM	ASM	NO_ASM
D97	ASM	ASM	NO_ASM
R956	NO_ASM	ASM	NO_ASM
R62	ASM	ASM	NO_ASM
R885	10 Ohm	10 Ohm	NO_ASM
C829	ASM	ASM	NO_ASM
C969	ASM	ASM	NO_ASM
R959	ASM	ASM	NO_ASM
C170	ASM	NO_ASM	NO_ASM
C178	ASM	NO_ASM	NO_ASM
C190	ASM	NO_ASM	NO_ASM
R31	ASM	NO_ASM	NO_ASM

SPI ROM for System & KBC

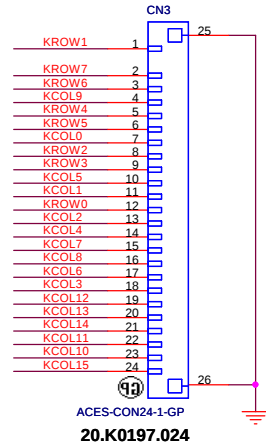
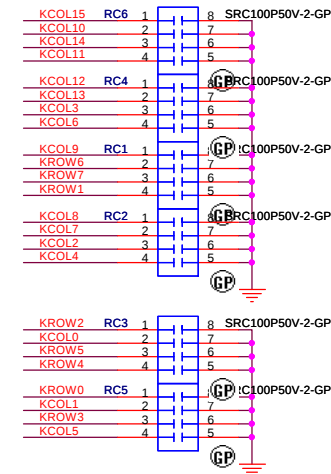


1. MXIC MX25L8005M2C
2. WINBOND W25X80
3. SST 8Mbit72.25080.G01



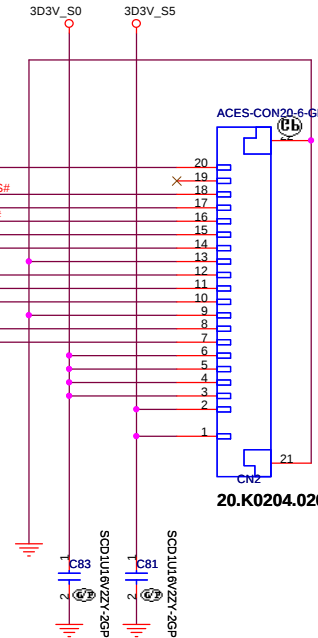
Internal KeyBoard Connector

<55,57> KROW[0..7] <<<<
<55,57> KCOL[0..15] <<<<



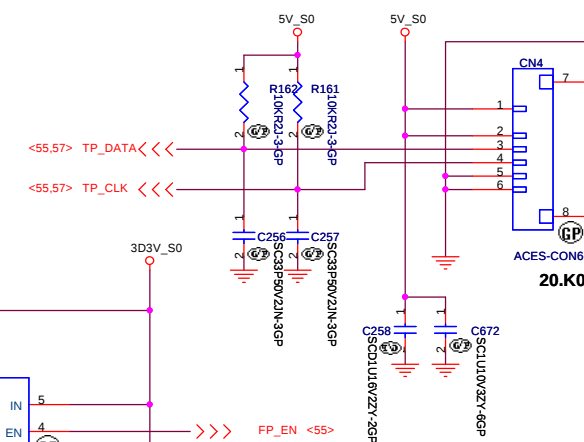
Lanuch Board CNN

<54> CONFIG_ID_002 <<<<
<58> ACCESS_SYS# >>>> ACCESS_SYS#
<58> PWRBTN# >>>> PWRBTN#
<58> VOL_DOWN# >>>> VOL_DOWN#
<58> MUTE# >>>> MUTE#
<58> VOL_UP# >>>> VOL_UP#
<58> PWR_LED# >>>> PWR_LED#
<28,58> MS_LED# >>>> MEDIA_LED#
<58> MEDIA_LED# >>>> MEDIA_LED#
<58> CAPS_LED# >>>> CAPS_LED#
<58> NUM_LED# >>>> NUM_LED#

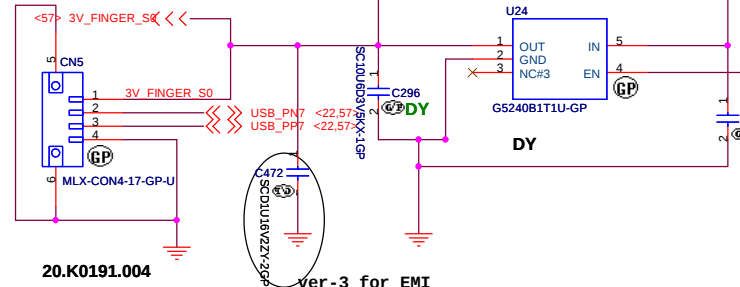


LAB2 20.K0204.020

TouchPad Connector

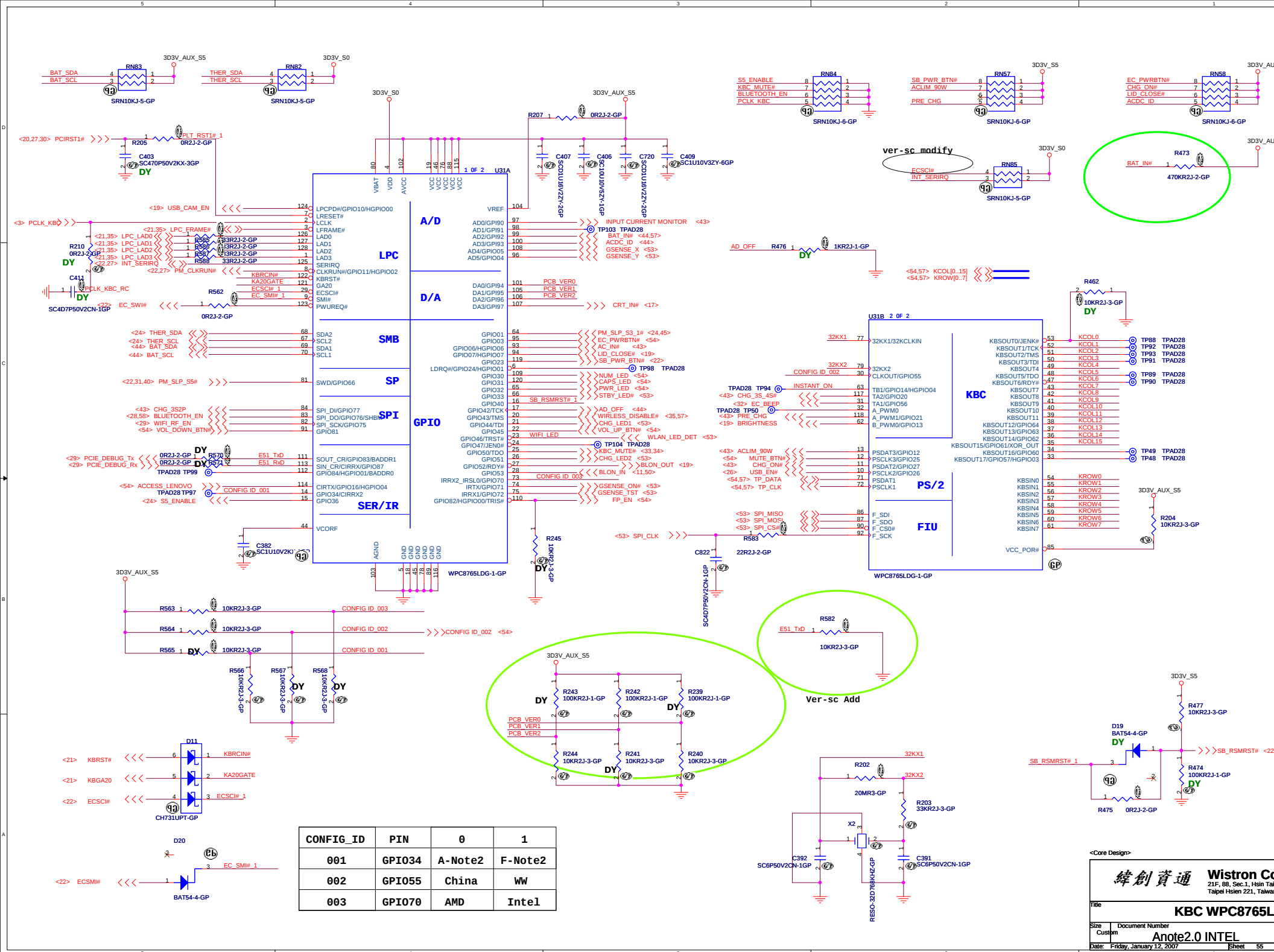


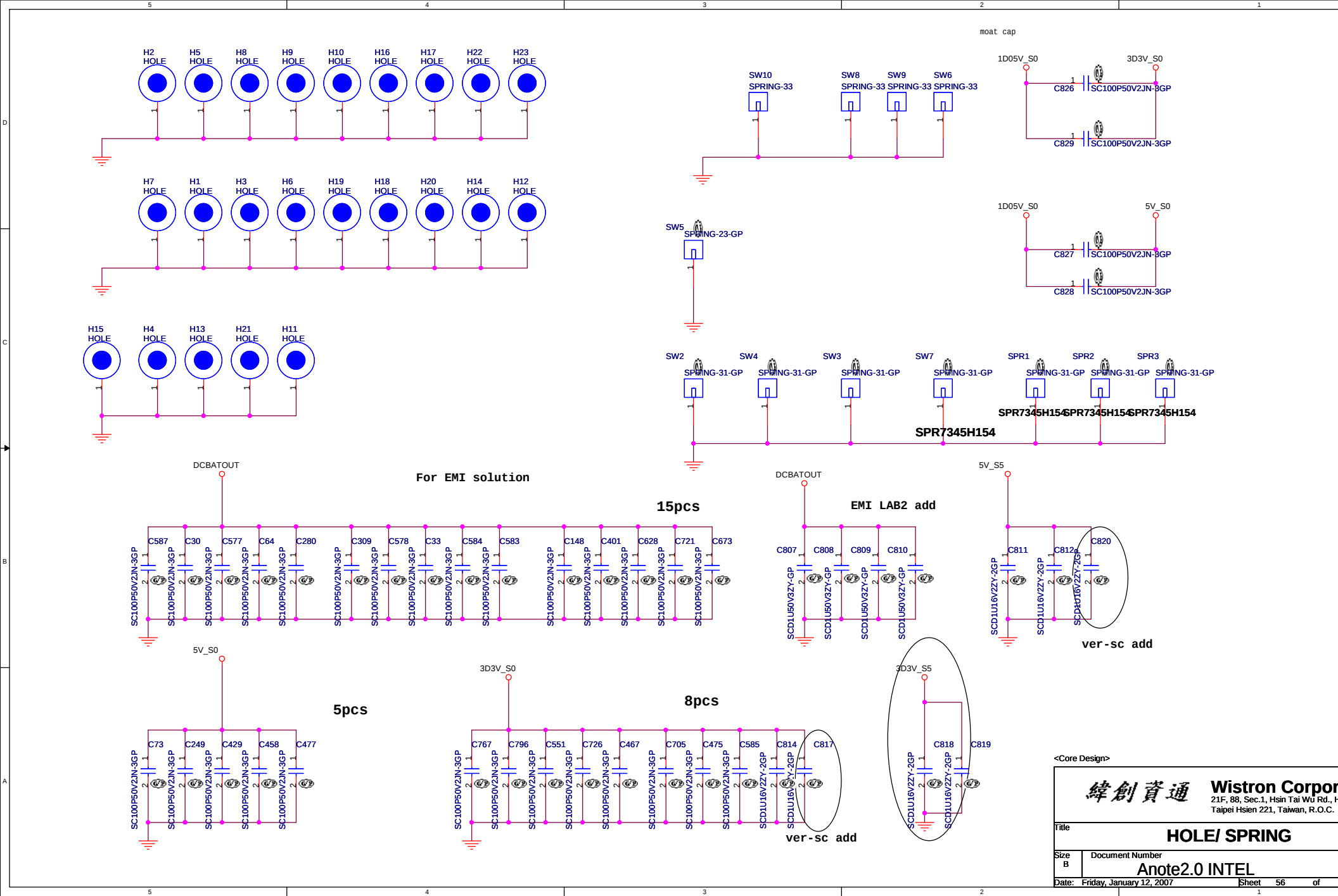
Finger Printer CNN

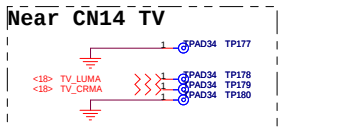
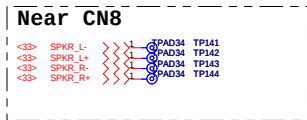
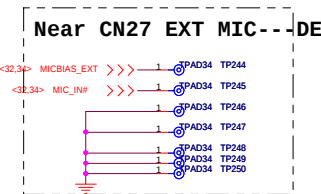
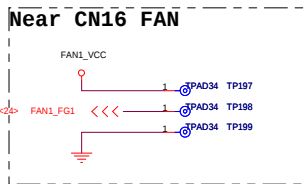
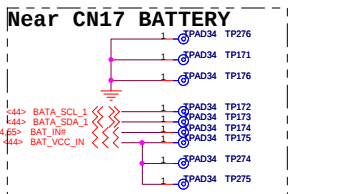
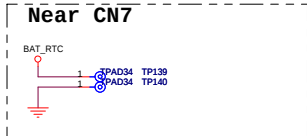
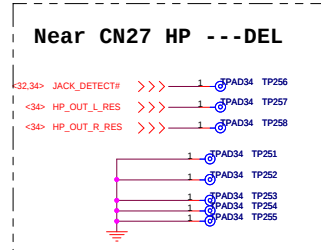
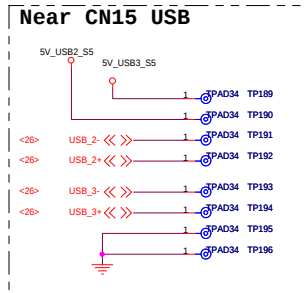
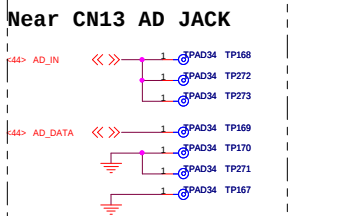
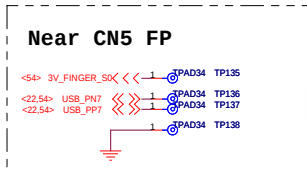
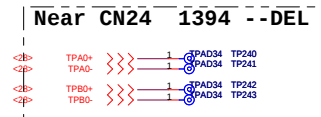
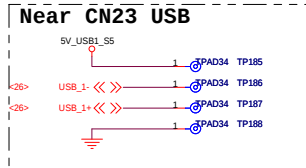
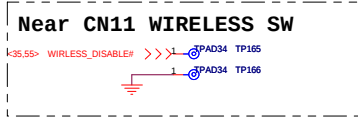
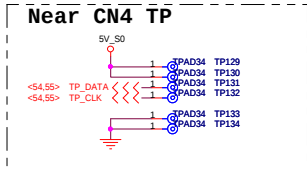
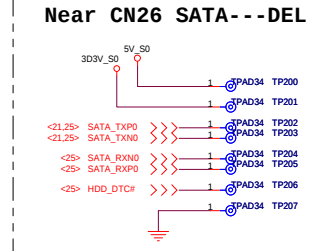
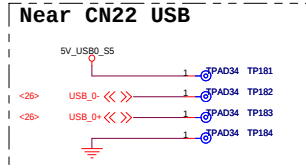
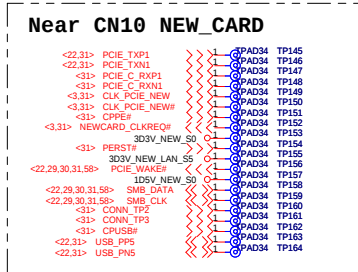
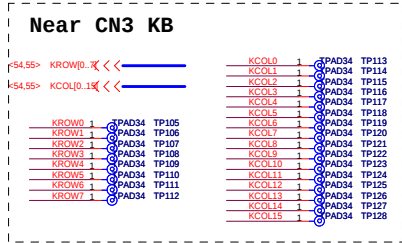


ver-3 for EMI

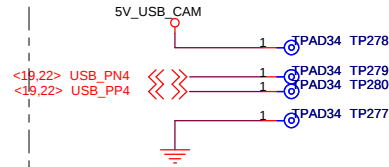
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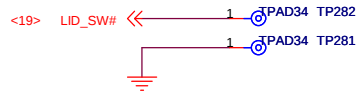




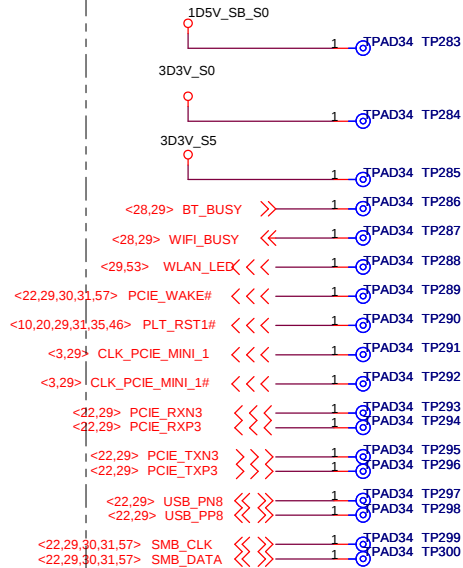
Near LCD CNN--CAM



Near SW1



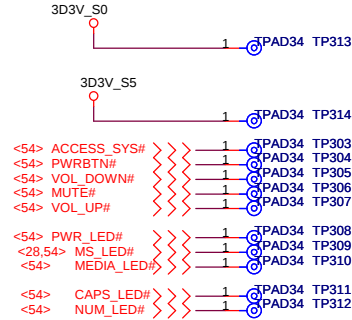
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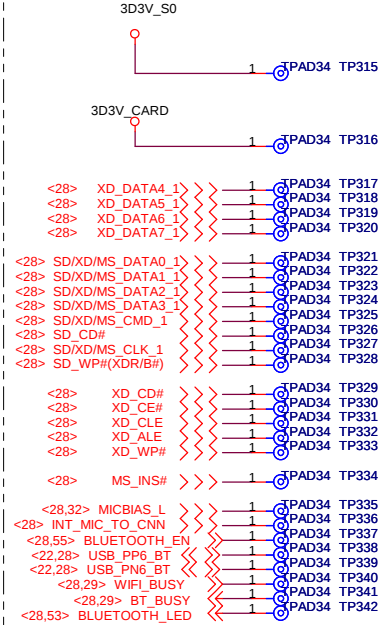
Modem



Launch-BD



Daughter-BD



<Core Design>

緯創資通

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