Project Name : TAHOE SFF MLK
PCB Number: 15140-1
PCBA Ver: A00
SCH Ver: A00
Project Code : 3PD06J010001

PCB BOARD SIZE
4 Layers 285mm X 200mm

Jumper Setting		
JMP1	Pin 1-2	With Jumper to ME Disable
	Pin 3-4	Without Jumper to Clear Password
	Pin 5-6	With Jumper to Clear CMOS
DB1	PD 1K	PD 1K to GND for Debug, All Power-On

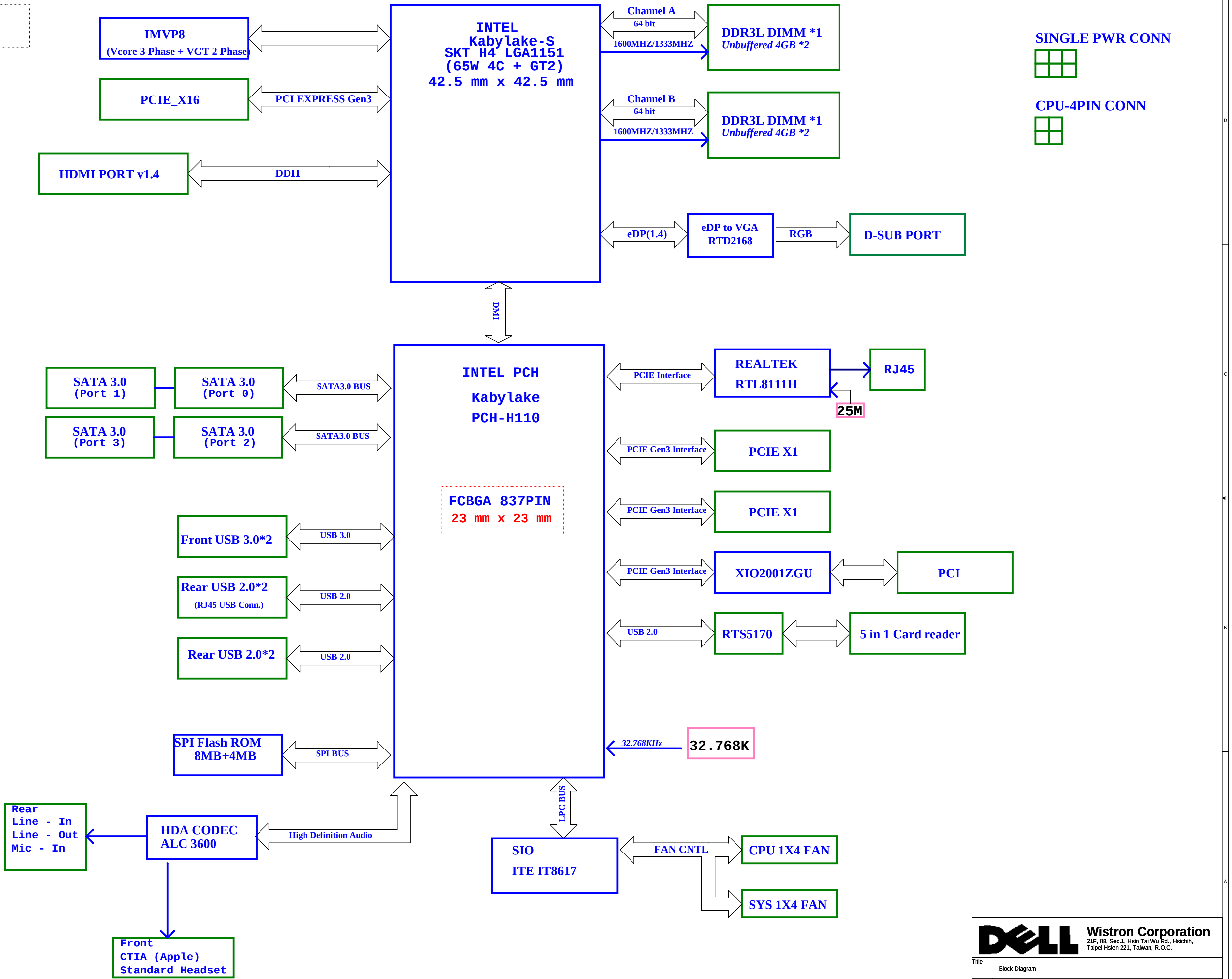
BOM Configuration

(R_):Unmount
(X_):Debug
(T_):TAHOE SFF
(G_):GAMBIT SFF

Power sates

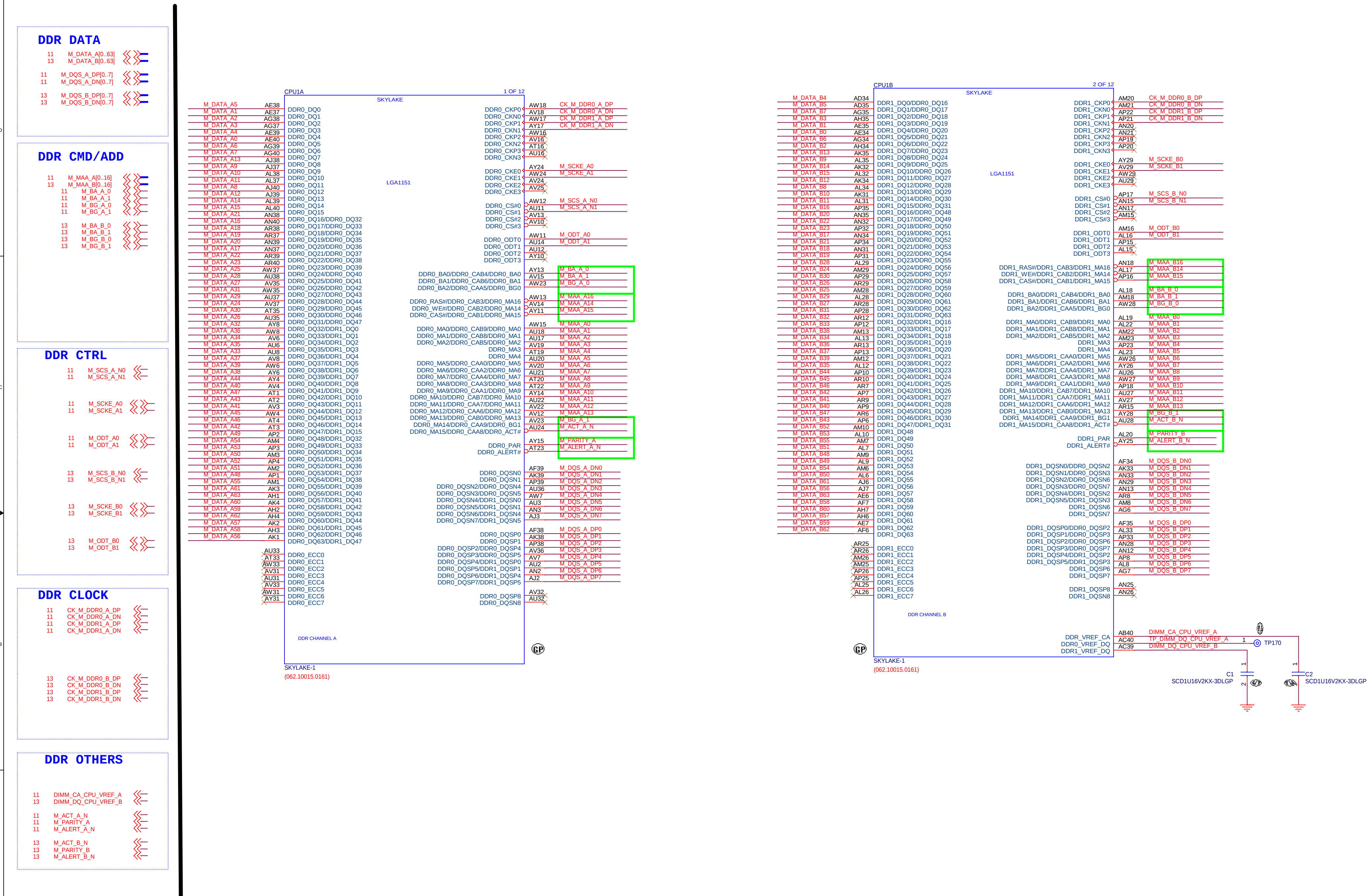
	Name	G3	DSW	S5	S4	S3	S0
+12V	V_12P0_A		O	O	O	O	O
	+12V V_12V_CPU_S0						O
	12V_DUAL		O	O	O	O	O
-12V	-12V						O
5V	5V_S0 5V_AUD_S0						O
	5V_SB 5VDUAL_USB_F 5VDUAL_USB_R USBVCC9 USBVCC12 USBVCC37 USBVCC45 USBVCC1213 KEYBRD_PWR1			O	O	O	O
	5V_S5 5V_AUD_S5 USBVCC68 5V_USB_CHAR		O	O	O	O	O
3.3V	3P3V_S0 3P3V_AUD_S0						O
	3P3V_SB 3P3V_SPI 3P3V_PCIVAUX +DVDDIO_AUDIO +VCCPGPPD			O	O	O	O
	3P3V_S5 3P3V_LAN		O	O	O	O	O
3.0V	3P0V_BAT_VREG VBAT1 VBAT2	O	O	O	O	O	O
1.35V	+VCCPLL_OC						O
DIMM	V_SM					O	O
	V_SM_VTT						O
PCH	V1P0_PCH_SB +V1P0A_VCCAPLL +V1P0A_VCCF24_1P0 +V1P0A_VCCAMPHYPLL V_CPU_ST_PLL			O	O	O	O
CPU	V_CPU_CORE V_CPU_GT V_CPU_IO V_CPU_SA +VCCFUSEPRG						O

PCB BOARD SIZE
244mmX 266mm
4 Layer



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

Title	Block Diagram	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 2 of 107	



Wistron Corporation	21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	CPU_(DDRA_DDRB)
Size	C
Document Number	TAHOE SFF MLK
Rev	A00
Date:	Friday, October 21, 2016
Sheet	3 of 107

VIDSCK
VIDSOUT
VIDALERT#
Need to add Pull UP on both CPU and VR side.

Signal	W1 [inches]	W2 [inches]	W3/4/5 [inches]	W2+W3+W4+W5 [inches]	W51 [inches]	W52 [inches]	R_{PU1} [Ω]	R_{PU2} [Ω]	R_{S1} [Ω]	R_{S2} [Ω]	VCC_{ST} [v]
VIDSOUT	0.5-3	1-15	0.5-4	3-17	<0.1	<0.1	100	100	0	10	1.0
VIDSCK							Empty	45	0	50	
VIDALERT#							56	Empty	220	0	

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

Title	CPU_(CFG/CLOCK/STRAP)	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 4 of 107	

CPU1C 3 OF 12

SKYLAKE

LGA1151

93	EXP_A_RX_DP0	B8	PEG_RXP0	PEG_TXP0	A5	EXP_A_TX_DP0	93
93	EXP_A_RX_DN0	B7	PEG_RXN0	PEG_TXN0	A6	EXP_A_TX_DN0	93
93	EXP_A_RX_DP1	C7	PEG_RXP1	PEG_TXP1	B4	EXP_A_TX_DP1	93
93	EXP_A_RX_DN1	C6	PEG_RXN1	PEG_TXN1	B5	EXP_A_TX_DN1	93
93	EXP_A_RX_DP2	D6	PEG_RXP2	PEG_TXP2	C3	EXP_A_TX_DP2	93
93	EXP_A_RX_DN2	D5	PEG_RXN2	PEG_TXN2	C4	EXP_A_TX_DN2	93
93	EXP_A_RX_DP3	E5	PEG_RXP3	PEG_TXP3	D2	EXP_A_TX_DP3	93
93	EXP_A_RX_DN3	E4	PEG_RXN3	PEG_TXN3	D3	EXP_A_TX_DN3	93
93	EXP_A_RX_DP4	F6	PEG_RXP4	PEG_TXP4	E1	EXP_A_TX_DP4	93
93	EXP_A_RX_DN4	F5	PEG_RXN4	PEG_TXN4	E2	EXP_A_TX_DN4	93
93	EXP_A_RX_DP5	G5	PEG_RXP5	PEG_TXP5	F2	EXP_A_TX_DP5	93
93	EXP_A_RX_DN5	G4	PEG_RXN5	PEG_TXN5	F3	EXP_A_TX_DN5	93
93	EXP_A_RX_DP6	H6	PEG_RXP6	PEG_TXP6	G1	EXP_A_TX_DP6	93
93	EXP_A_RX_DN6	H5	PEG_RXN6	PEG_TXN6	G2	EXP_A_TX_DN6	93
93	EXP_A_RX_DP7	J5	PEG_RXP7	PEG_TXP7	H2	EXP_A_TX_DP7	93
93	EXP_A_RX_DN7	J4	PEG_RXN7	PEG_TXN7	H3	EXP_A_TX_DN7	93
93	EXP_A_RX_DP8	K6	PEG_RXP8	PEG_TXP8	J1	EXP_A_TX_DP8	93
93	EXP_A_RX_DN8	K5	PEG_RXN8	PEG_TXN8	J2	EXP_A_TX_DN8	93
93	EXP_A_RX_DP9	L5	PEG_RXP9	PEG_TXP9	K2	EXP_A_TX_DP9	93
93	EXP_A_RX_DN9	L4	PEG_RXN9	PEG_TXN9	K3	EXP_A_TX_DN9	93
93	EXP_A_RX_DP10	M6	PEG_RXP10	PEG_TXP10	L1	EXP_A_TX_DP10	93
93	EXP_A_RX_DN10	M5	PEG_RXN10	PEG_TXN10	L2	EXP_A_TX_DN10	93
93	EXP_A_RX_DP11	N5	PEG_RXP11	PEG_TXP11	M2	EXP_A_TX_DP11	93
93	EXP_A_RX_DN11	N4	PEG_RXN11	PEG_TXN11	M3	EXP_A_TX_DN11	93
93	EXP_A_RX_DP12	P6	PEG_RXP12	PEG_TXP12	N1	EXP_A_TX_DP12	93
93	EXP_A_RX_DN12	P5	PEG_RXN12	PEG_TXN12	N2	EXP_A_TX_DN12	93
93	EXP_A_RX_DP13	R5	PEG_RXP13	PEG_TXP13	P2	EXP_A_TX_DP13	93
93	EXP_A_RX_DN13	R4	PEG_RXN13	PEG_TXN13	P3	EXP_A_TX_DN13	93
93	EXP_A_RX_DP14	T6	PEG_RXP14	PEG_TXP14	R2	EXP_A_TX_DP14	93
93	EXP_A_RX_DN14	T5	PEG_RXN14	PEG_TXN14	R1	EXP_A_TX_DN14	93
93	EXP_A_RX_DP15	U5	PEG_RXP15	PEG_TXP15	T2	EXP_A_TX_DP15	93
93	EXP_A_RX_DN15	U4	PEG_RXN15	PEG_TXN15	T3	EXP_A_TX_DN15	93

V_CPU_IO — R64 1 24D9R2F-L-GP — PEG_COMP — L7 PEG_RCOMP

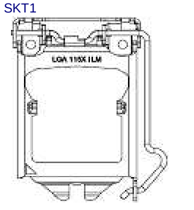
18	DMI_IT_MR_DP0	Y3	DMI_RXP0	DMI_TXP0	AC2	DMI_MT_IR_DP0	18
18	DMI_IT_MR_DN0	Y4	DMI_RXN0	DMI_TXN0	AC1	DMI_MT_IR_DN0	18
18	DMI_IT_MR_DP1	AA4	DMI_RXP1	DMI_TXP1	AD3	DMI_MT_IR_DP1	18
18	DMI_IT_MR_DN1	AA5	DMI_RXN1	DMI_TXN1	AD2	DMI_MT_IR_DN1	18
18	DMI_IT_MR_DP2	AB4	DMI_RXP2	DMI_TXP2	AE2	DMI_MT_IR_DP2	18
18	DMI_IT_MR_DN2	AB3	DMI_RXN2	DMI_TXN2	AE1	DMI_MT_IR_DN2	18
18	DMI_IT_MR_DP3	AC4	DMI_RXP3	DMI_TXP3	AF2	DMI_MT_IR_DP3	18
18	DMI_IT_MR_DN3	AC5	DMI_RXN3	DMI_TXN3	AF3	DMI_MT_IR_DN3	18

GP

SKYLAKE-1
(062.10015.0161)

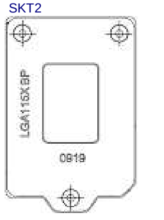
SKYLAKE SOCKET

SKT1



Load Plate
(22.78003.021)

SKT2

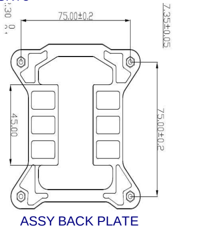


Back Plate
(22.78006.031)

SKT4

ILMCOVER
(22.78005.171)

SKT3



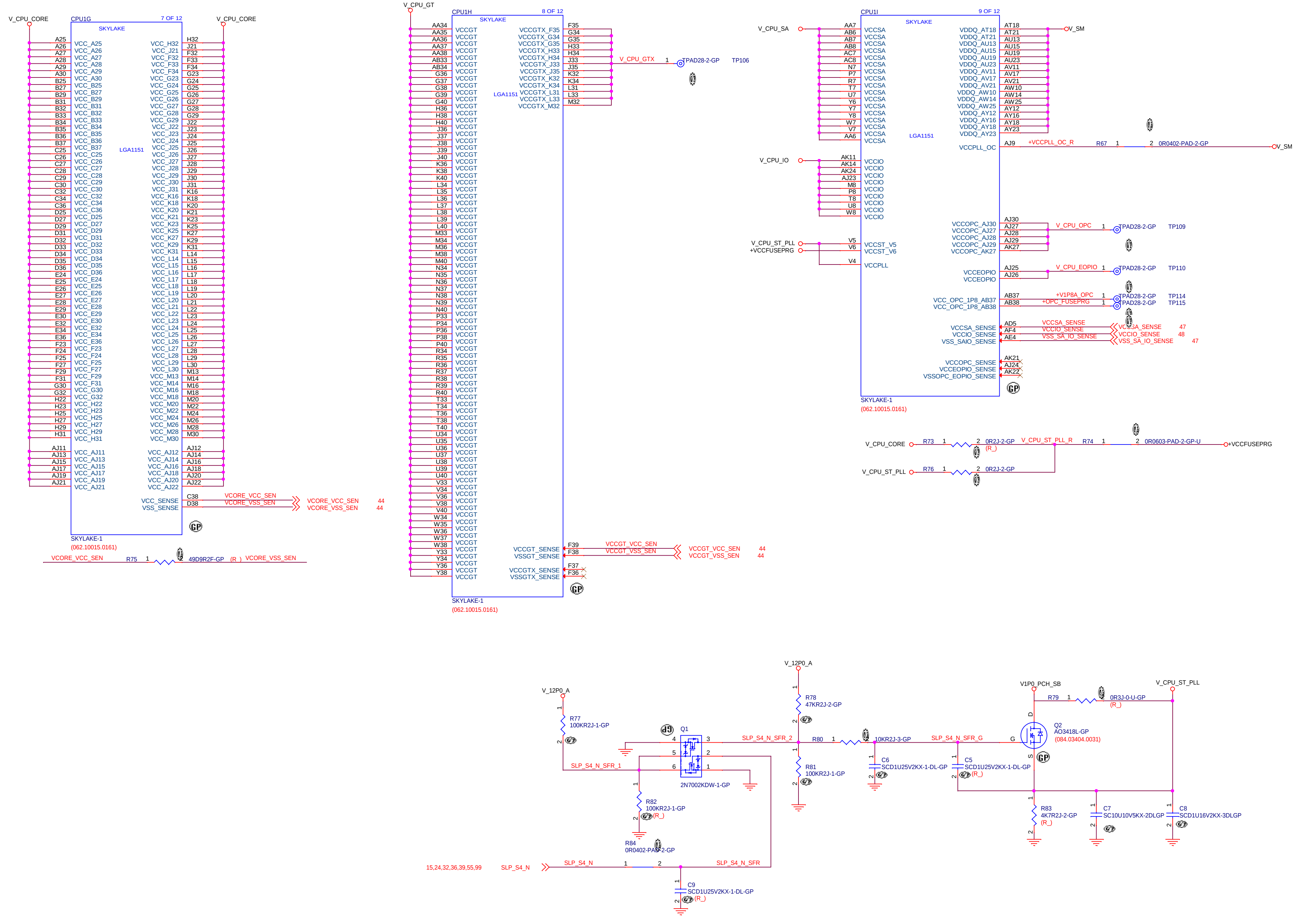
ASSY BACK PLATE
(60.3EQ19.002)

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

Title	CPU (PCIE)	
Size B	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 5 of 107	

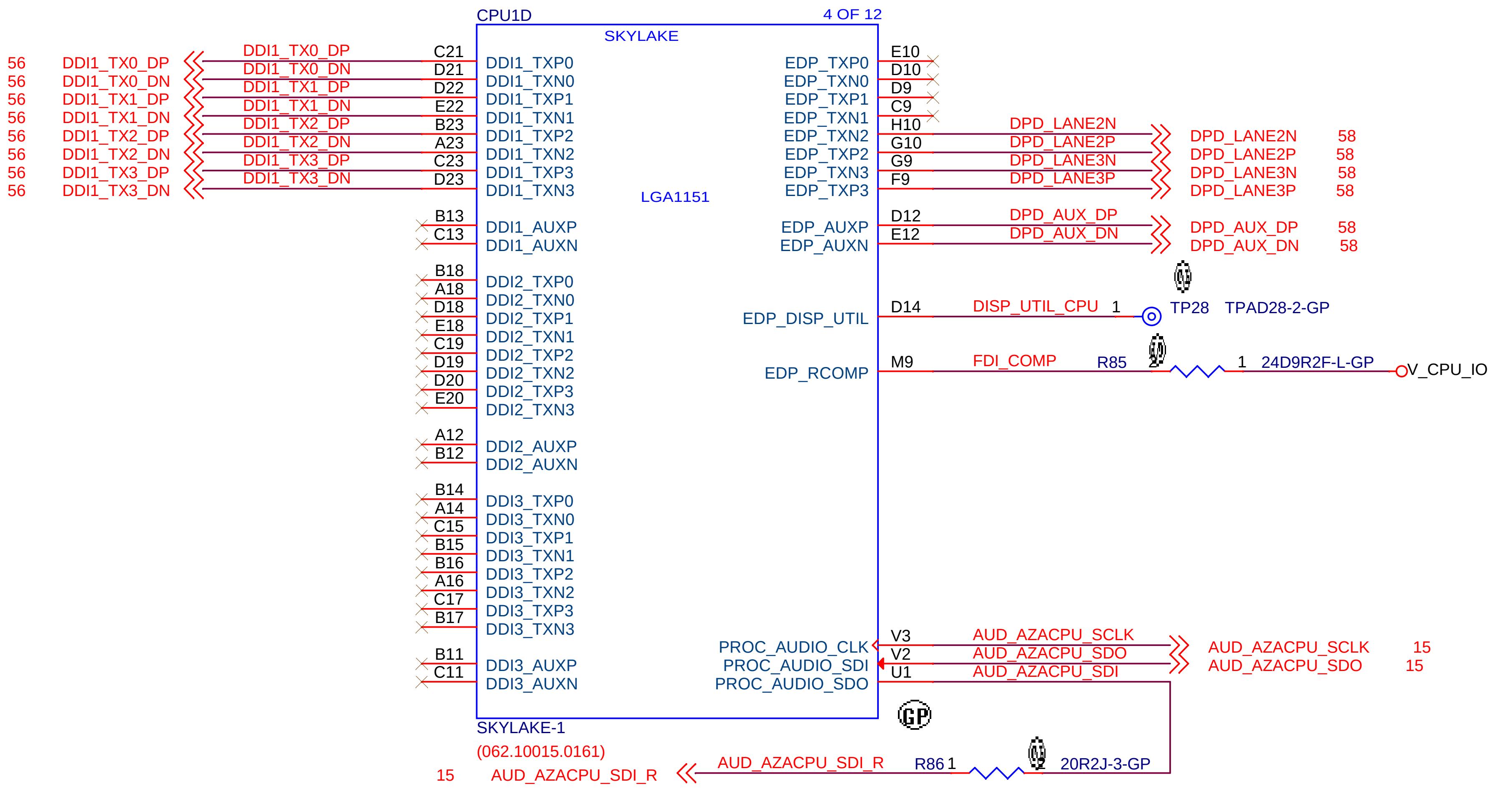
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	CPU_(VSS)	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 6 of 107	



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

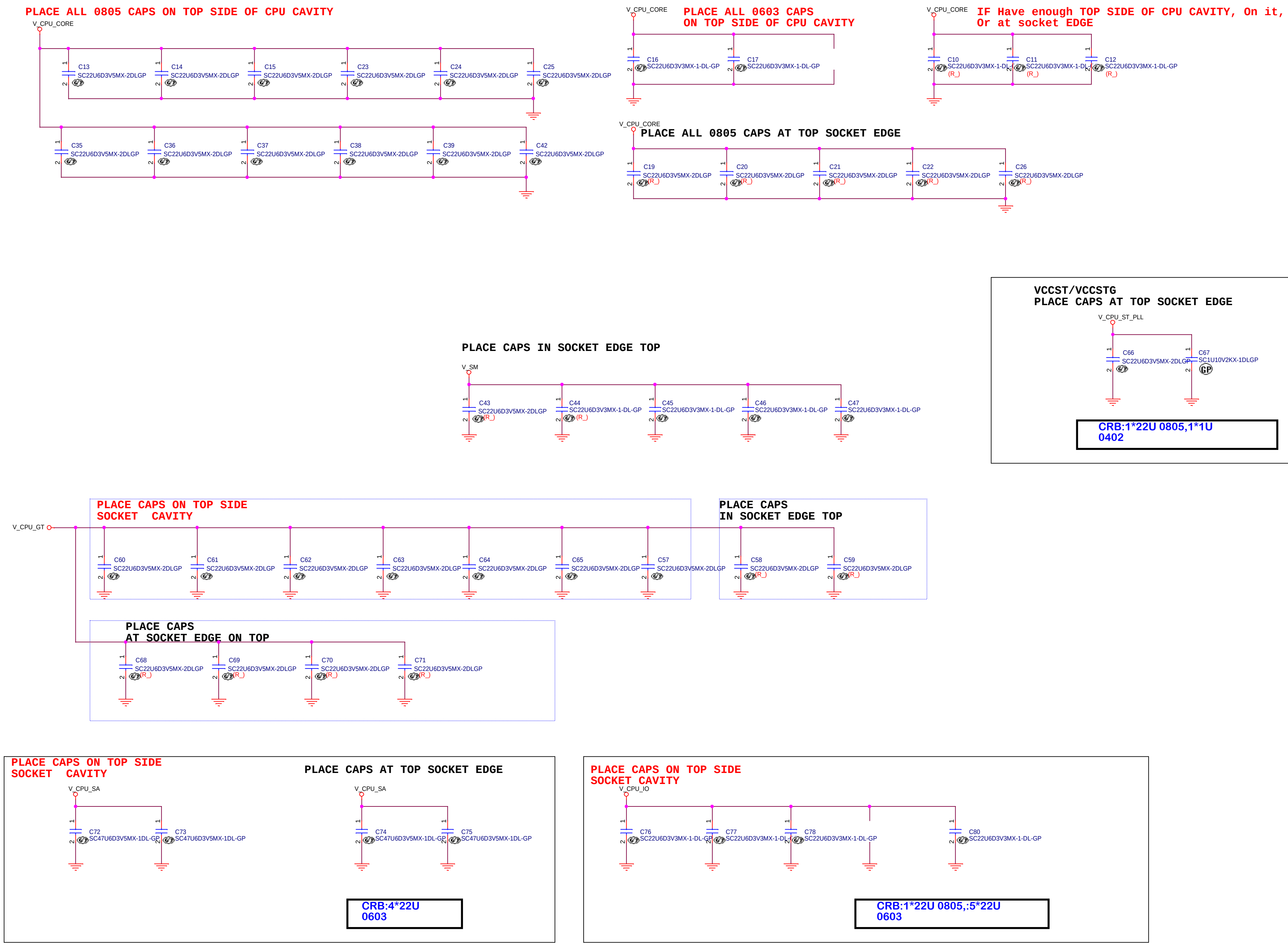
Title	CPU_(VCC_CORE/SENCE)	
Size: C	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 7 of 107	



Wistron Corporation

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

Title	CPU (DDI/EDP)	
Size: A	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 8 of 107	

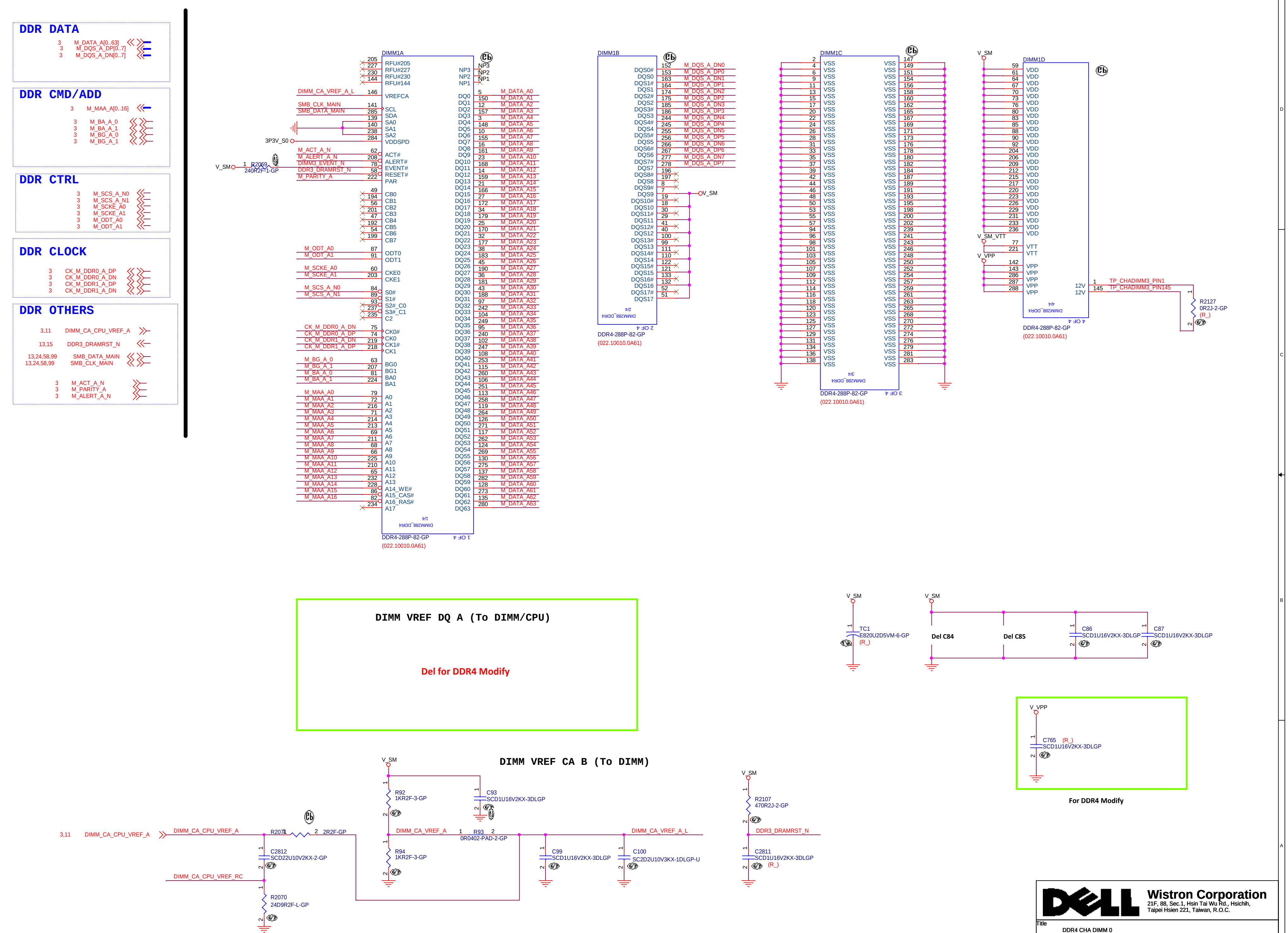


Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: CPU (PWR CAP)		
Size: C	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 9 of 107	

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

Title: CPU_(TBD)		
Size: C	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 10 of 107	



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

Title	DDR4 CHA DIMM 0	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 11 of 107	

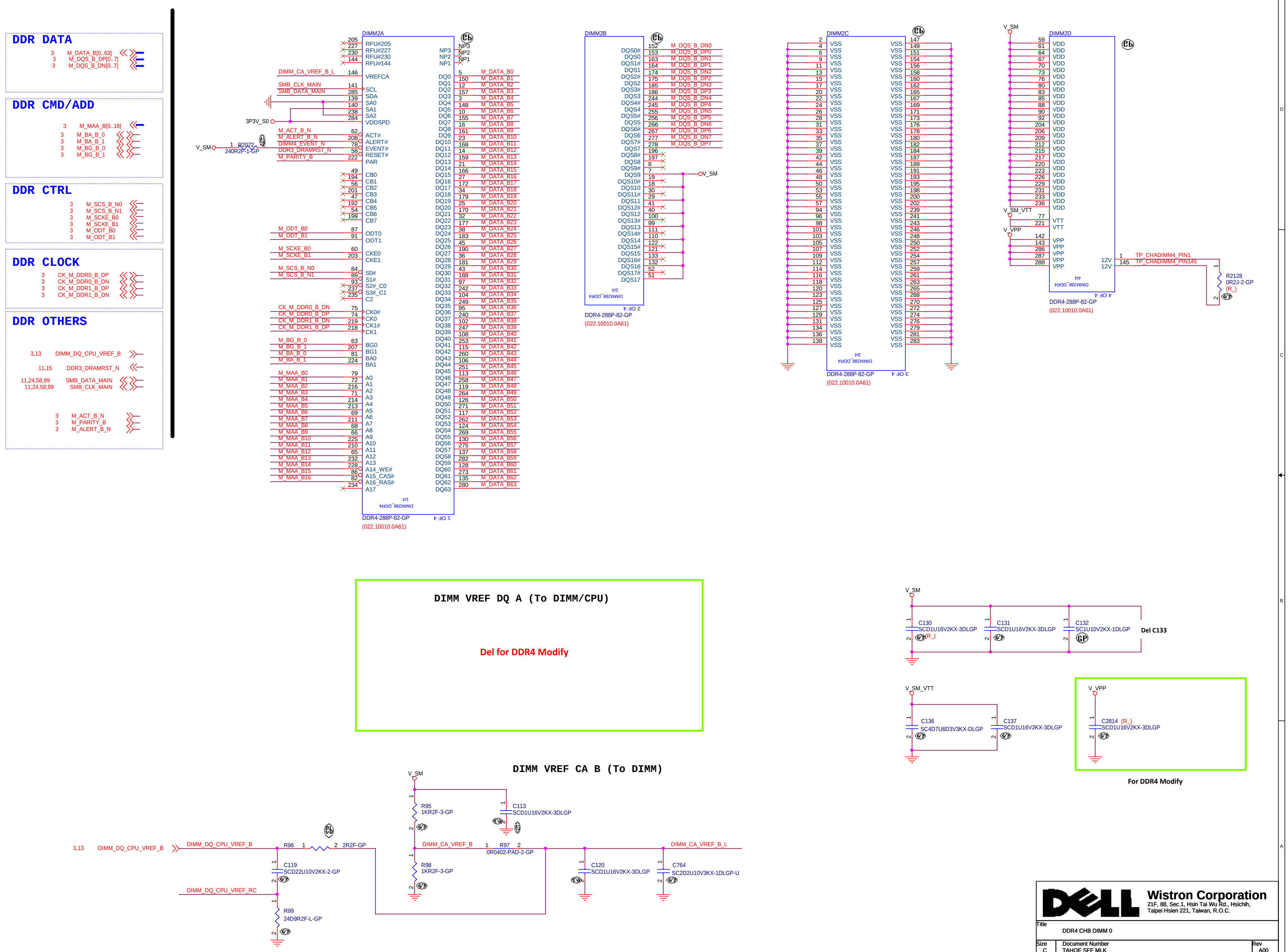
5 4 3 2 1

D

C

B

A

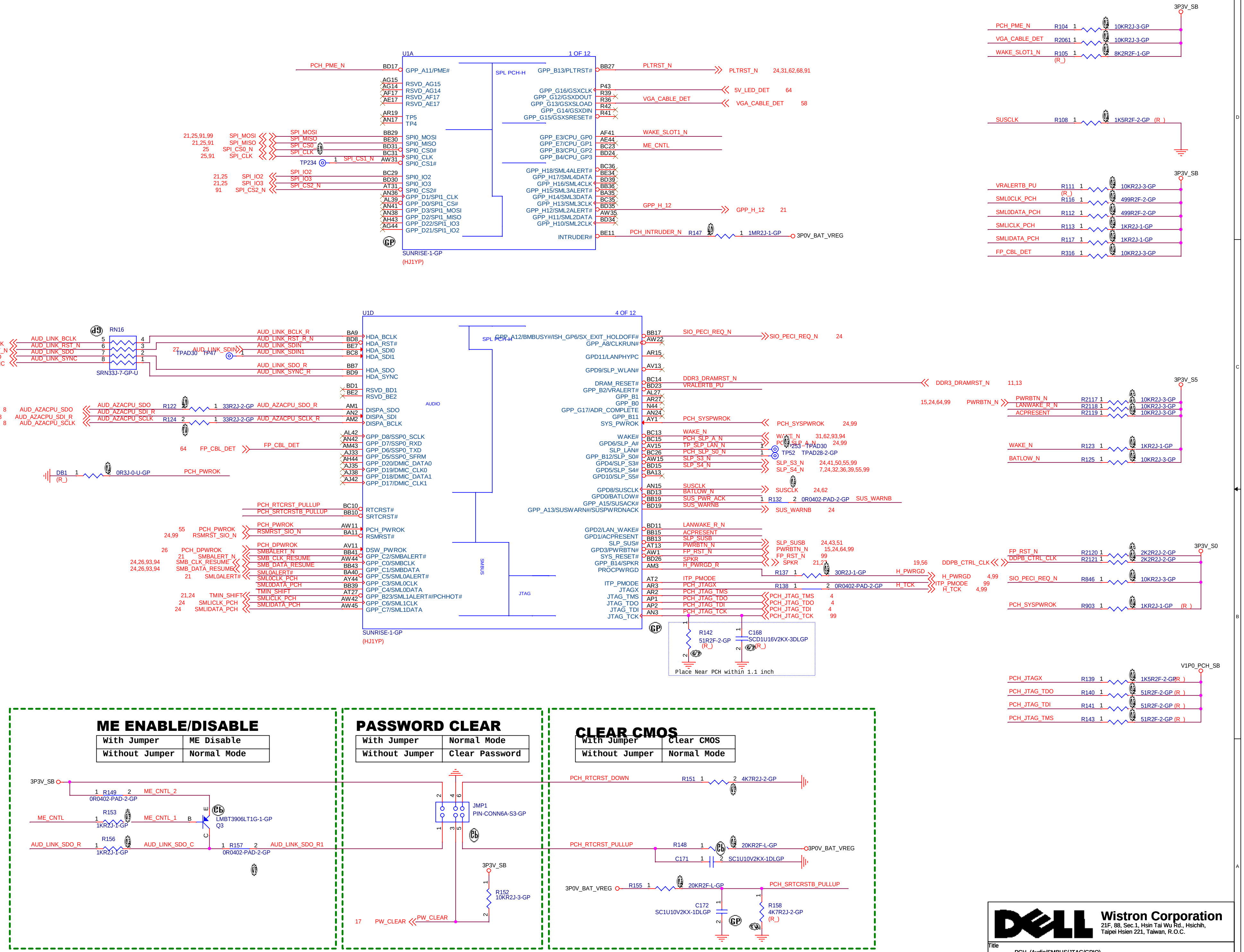


Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	DDR4 CHB DIMM 0	
Size: C	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 13 of 107	

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

Title: DDR3 CHB DIMM 1		
Size: C	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 14 of 107	



ME ENABLE/DISABLE

With Jumper	ME Disable
Without Jumper	Normal Mode

PASSWORD CLEAR

With Jumper	Normal Mode
Without Jumper	Clear Password

CLEAR CMOS

With Jumper	Clear CMOS
Without Jumper	Normal Mode

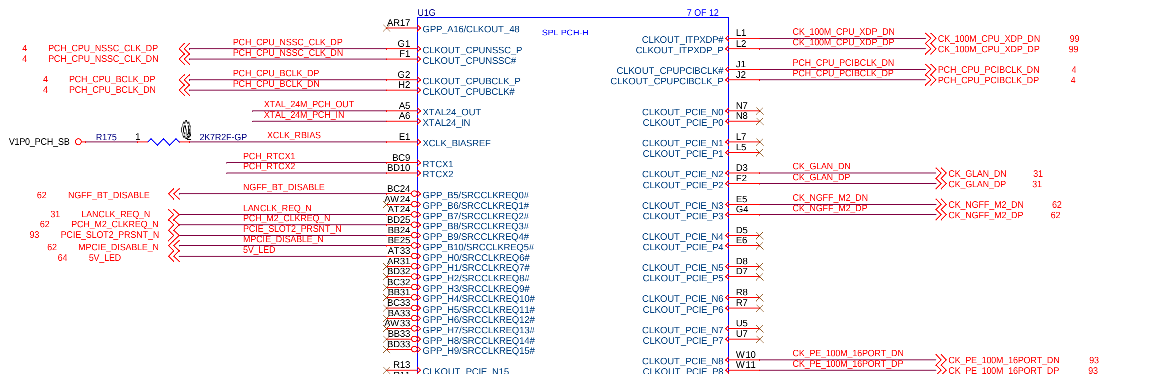
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

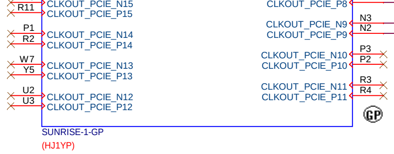
Title: PCH_(Audio/SMBUS/JTAG/GPIO)

Size: C | Document Number: TAHOE SFF MLK | Rev: A00

Date: Friday, October 21, 2016 | Sheet 15 of 107

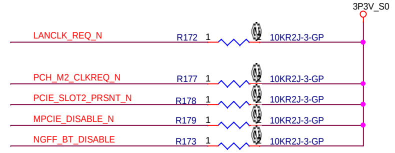
TO CPU CLOCK

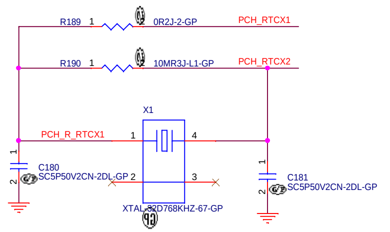




The 10-kΩ pull-up should be on the rail that the corresponding SRCCLKRQ[15:0] pin resides in.

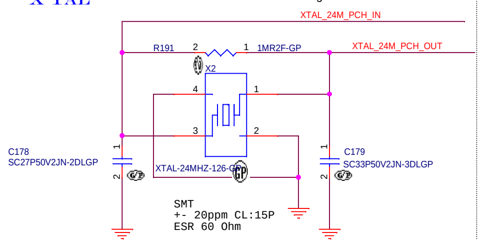
PCI Express devices or add-in cards that do NOT support clock request should terminate the SRCCLKRQ[15:0]# pins on the PCH with 10 kΩ ±10% external pull-up resistor.





ASTRO
TEAM USE
X'TAL

NOTE:The 1Mohm Damping Resistor
Use 0603 and Can't change to 0402!

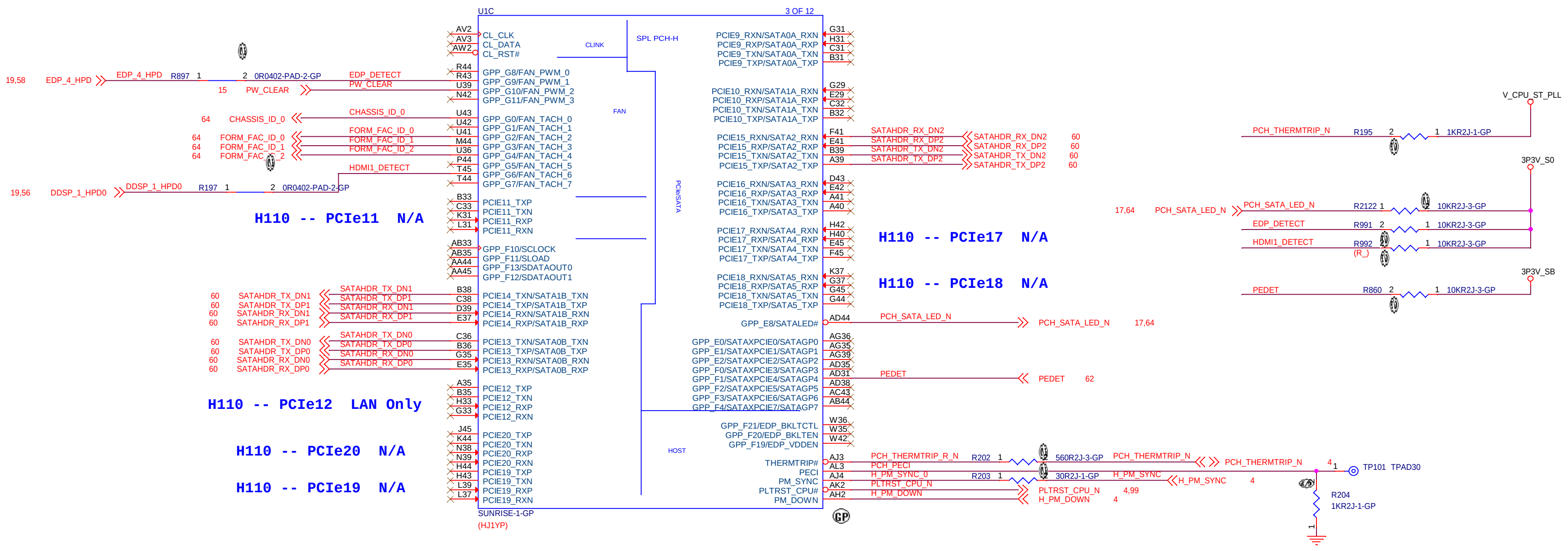


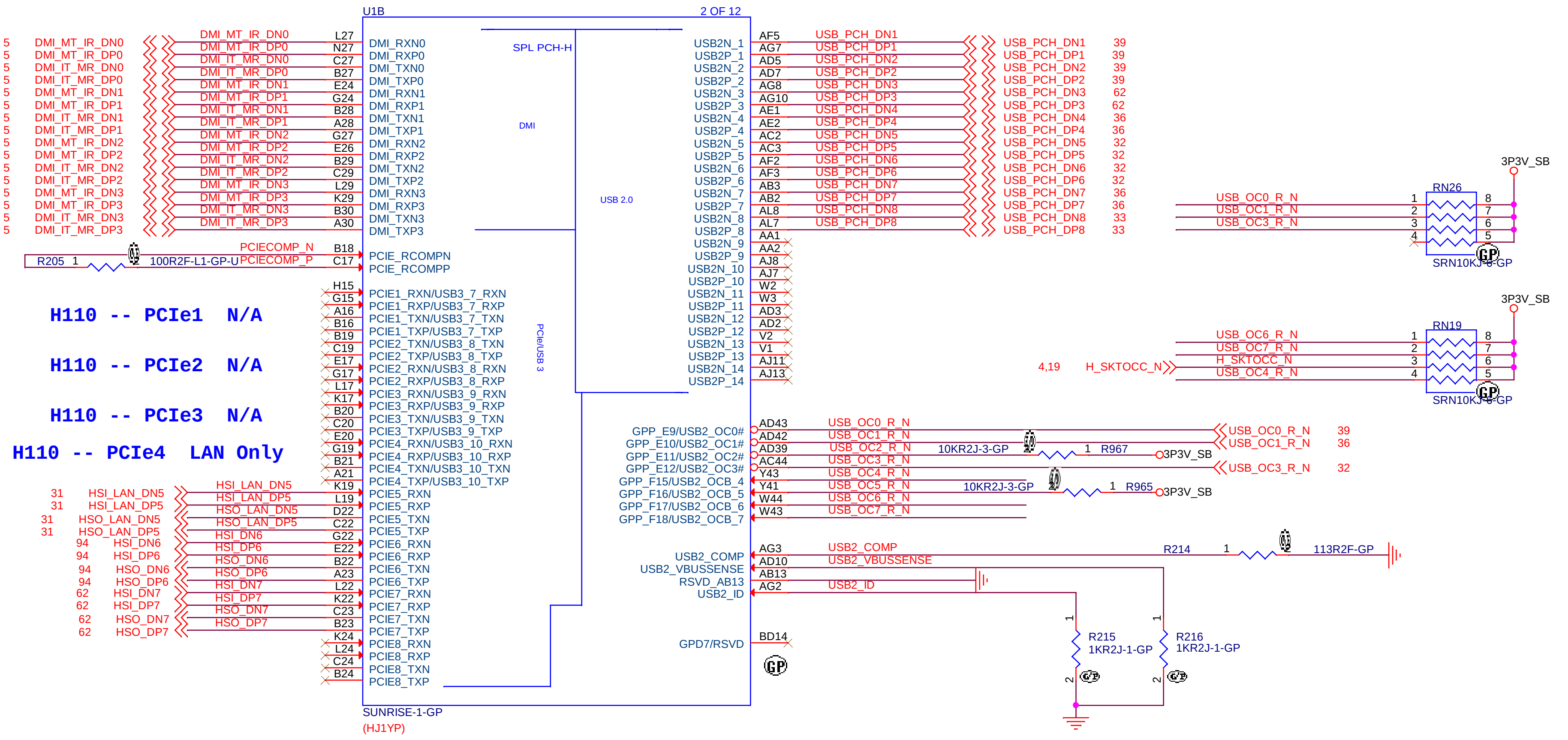
When support FCIM need to stuff.

WHEN USING 25MHZ EXTERNAL REFERENCE FROM SINAI CMV:

REMOVE R383, X2, C322

REPLACE C321 WITH 50OHM RES 0402 PACKAGE

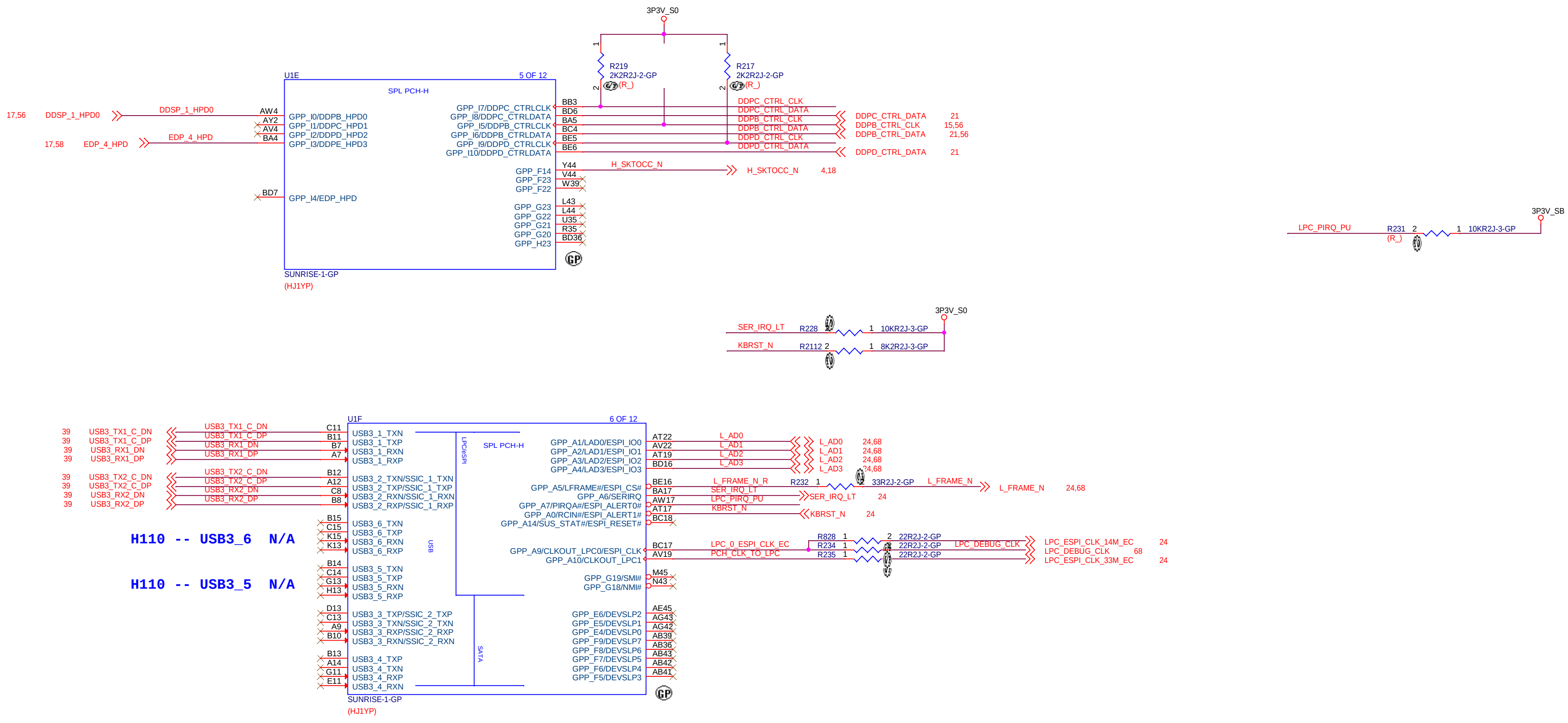

U1C
3 OF 12
CL_CLK
CL_DATA
CL_RST#
CLINK
SPL PCH-H
FAN
PCIe/SATA
HOST
GPP_G8/FAN_PWM_0
GPP_G9/FAN_PWM_1
GPP_G10/FAN_PWM_2
GPP_G11/FAN_PWM_3
GPP_G0/FAN_TACH_0
GPP_G1/FAN_TACH_1
GPP_G2/FAN_TACH_2
GPP_G3/FAN_TACH_3
GPP_G4/FAN_TACH_4
GPP_G5/FAN_TACH_5
GPP_G6/FAN_TACH_6
GPP_G7/FAN_TACH_7
PCIE11_TXP
PCIE11_TXN
PCIE11_RXP
PCIE11_RXN
GPP_F10/SCLOCK
GPP_F11/SLOAD
GPP_F13/SDATAOUT0
GPP_F12/SDATAOUT1
PCIE14_TXN/SATA1B_TXN
PCIE14_TXP/SATA1B_TXP
PCIE14_RXN/SATA1B_RXN
PCIE14_RXP/SATA1B_RXP
PCIE13_TXN/SATA0B_TXN
PCIE13_TXP/SATA0B_TXP
PCIE13_RXN/SATA0B_RXN
PCIE13_RXP/SATA0B_RXP
PCIE12_TXP
PCIE12_TXN
PCIE12_RXP
PCIE12_RXN
PCIE20_TXP
PCIE20_TXN
PCIE20_RXP
PCIE20_RXN
PCIE19_TXP
PCIE19_TXN
PCIE19_RXP
PCIE19_RXN
SUNRISE-1-GP
(HJ1YP)
PCIE9_RXN/SATA0A_RXN
PCIE9_RXP/SATA0A_RXP
PCIE9_TXN/SATA0A_TXN
PCIE9_TXP/SATA0A_TXP
PCIE10_RXN/SATA1A_RXN
PCIE10_RXP/SATA1A_RXP
PCIE10_TXN/SATA1A_TXN
PCIE10_TXP/SATA1A_TXP
PCIE15_RXN/SATA2_RXN
PCIE15_RXP/SATA2_RXP
PCIE15_TXN/SATA2_TXN
PCIE15_TXP/SATA2_TXP
PCIE16_RXN/SATA3_RXN
PCIE16_RXP/SATA3_RXP
PCIE16_TXN/SATA3_TXN
PCIE16_TXP/SATA3_TXP
PCIE17_RXN/SATA4_RXN
PCIE17_RXP/SATA4_RXP
PCIE17_TXN/SATA4_TXN
PCIE17_TXP/SATA4_TXP
PCIE18_RXN/SATA5_RXN
PCIE18_RXP/SATA5_RXP
PCIE18_TXN/SATA5_TXN
PCIE18_TXP/SATA5_TXP
GPP_E8/SATALED#
GPP_E0/SATAXPCIE0/SATAGP0
GPP_E1/SATAXPCIE1/SATAGP1
GPP_E2/SATAXPCIE2/SATAGP2
GPP_F0/SATAXPCIE3/SATAGP3
GPP_F1/SATAXPCIE4/SATAGP4
GPP_F2/SATAXPCIE5/SATAGP5
GPP_F3/SATAXPCIE6/SATAGP6
GPP_F4/SATAXPCIE7/SATAGP7
GPP_F21/EDP_BKLTCTL
GPP_F20/EDP_BKLTEN
GPP_F19/EDP_VDDEN
THERMTRIP#
PECI
PM_SYNC
PLTRST_CPU#
PM_DOWN
H110 -- PCIe11 N/A
H110 -- PCIe12 LAN Only
H110 -- PCIe20 N/A
H110 -- PCIe19 N/A
H110 -- PCIe17 N/A
H110 -- PCIe18 N/A
19,58 EDP_4_HPD
EDP_4_HPD R897 1 2 0R0402-PAD-2-GP EDP_DETECT
15 PW_CLEAR
64 CHASSIS_ID_0
64 FORM_FAC_ID_0
64 FORM_FAC_ID_1
64 FORM_FAC_ID_2
HDMI1_DETECT
19,56 DDSP_1_HPD0
DDSP_1_HPD0 R197 1 2 0R0402-PAD-2-GP
60 SATAHDR_TX_DN1
60 SATAHDR_TX_DP1
60 SATAHDR_RX_DN1
60 SATAHDR_RX_DP1
60 SATAHDR_TX_DN0
60 SATAHDR_TX_DP0
60 SATAHDR_RX_DN0
60 SATAHDR_RX_DP0
SATAHDR_RX_DN2 60
SATAHDR_RX_DP2 60
SATAHDR_TX_DN2 60
SATAHDR_TX_DP2 60
PCH_SATA_LED_N 17,64
PEDET 62
PCH_THERMTRIP_R_N
PCH_PECI
H_PM_SYNC_0
PLTRST_CPU_N
H_PM_DOWN
R202 1 2 560R2J-3-GP
R203 1 2 30R2J-1-GP
PCH_THERMTRIP_N
H_PM_SYNC 4
PLTRST_CPU_N 4,99
H_PM_DOWN 4
TP101 TPAD30
R204
1KR2J-1-GP
V_CPU_ST_PLL
PCH_THERMTRIP_N R195 2 1 1KR2J-1-GP
3P3V_S0
17,64 PCH_SATA_LED_N
PCH_SATA_LED_N R2122 1 2 10KR2J-3-GP
EDP_DETECT R991 2 1 10KR2J-3-GP
HDMI1_DETECT R992 2 1 10KR2J-3-GP
(R_)
3P3V_SB
PEDET R860 2 1 10KR2J-3-GP



Wistron Corporation

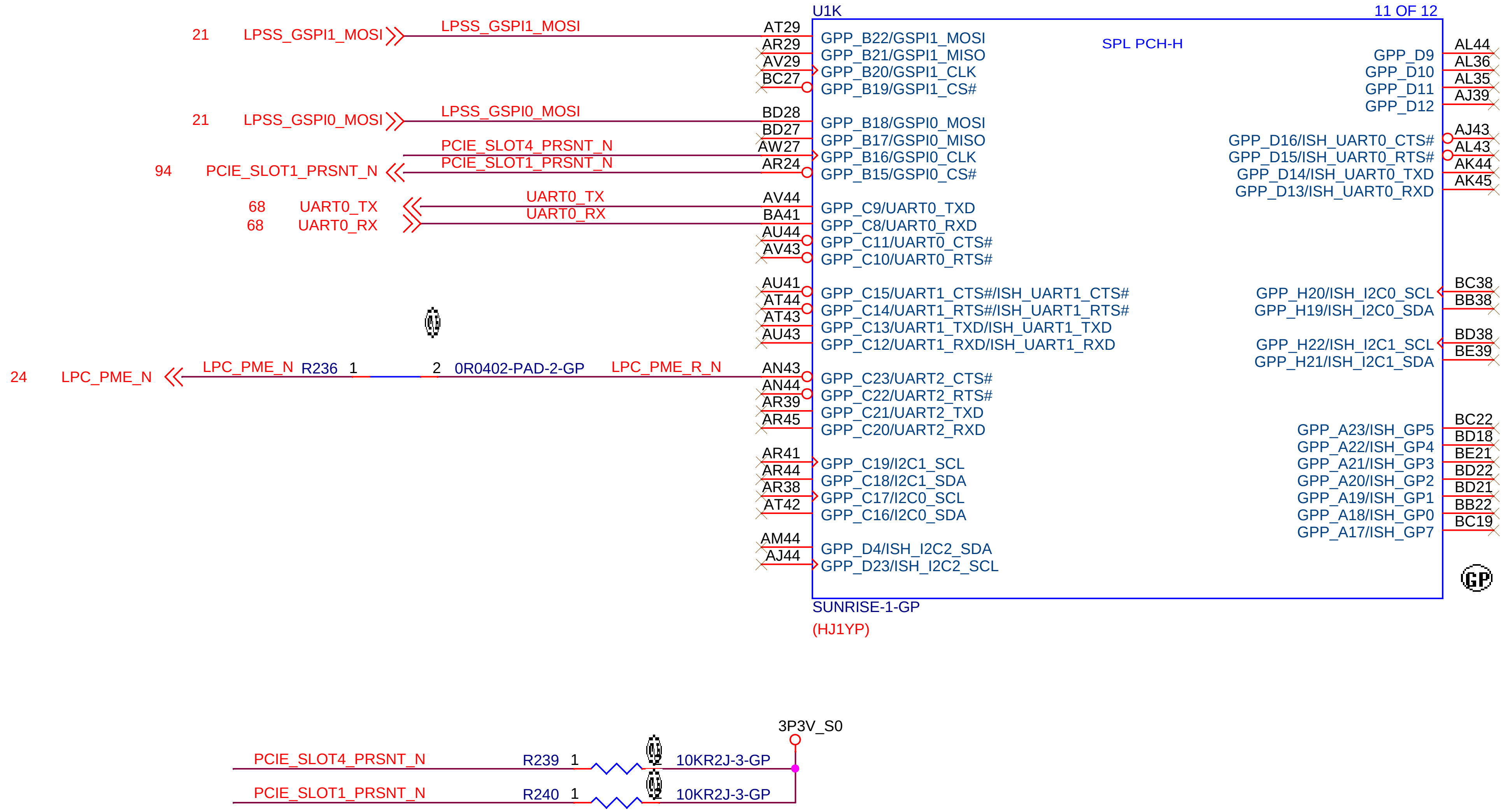
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	PCH_(DMI/USB2/USB3/PCIE)	
Size B	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 18 of 107	



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

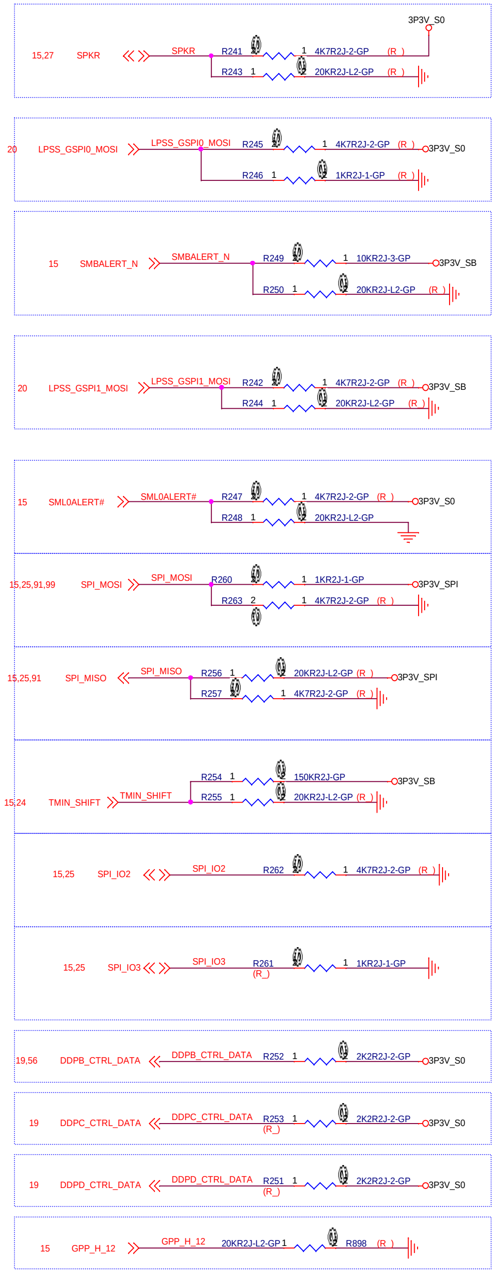
Title	PCH_(DDI/USB3/GPIO)	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 19 of 107	



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

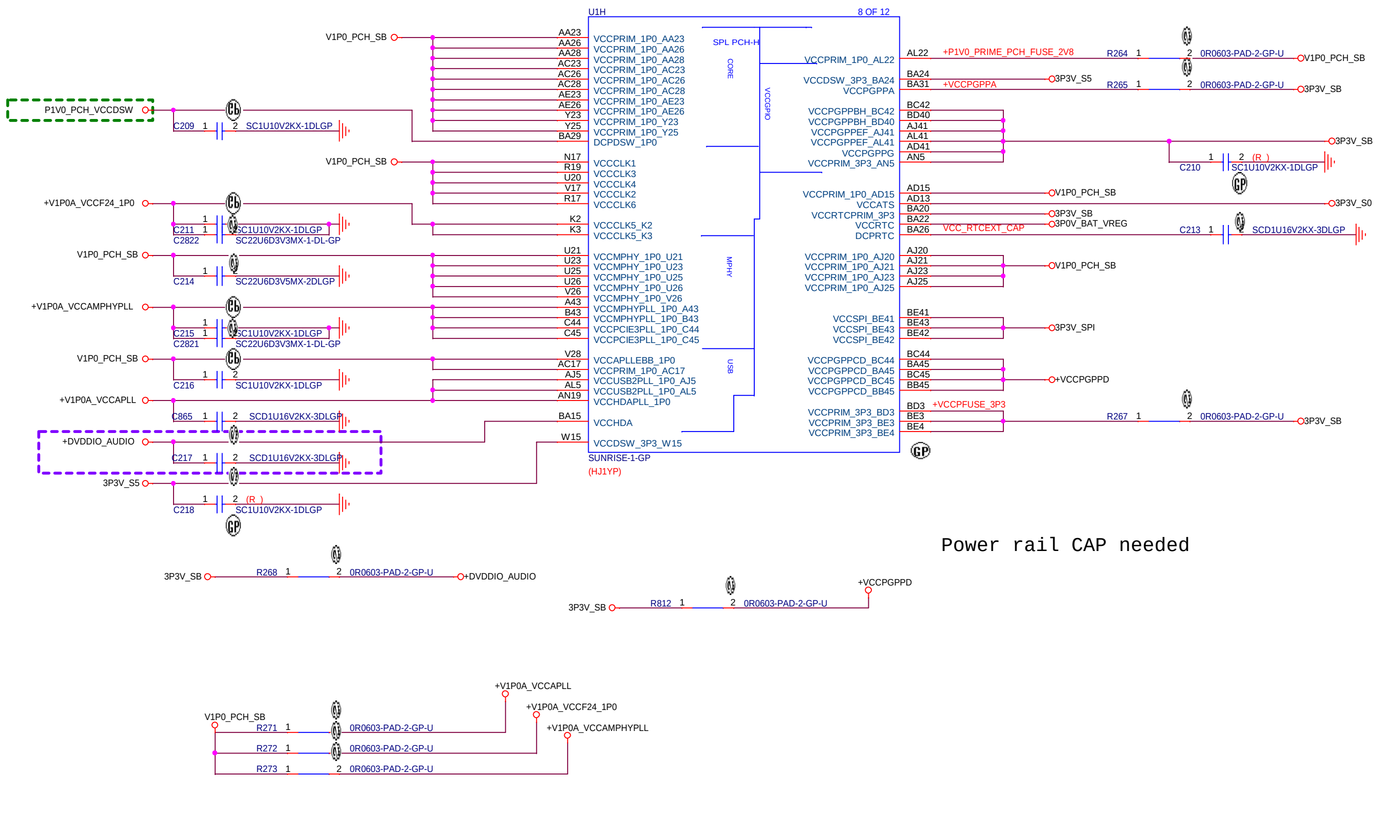
Title	PCH_(UART/GPIO/I2C)	
Size: A	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 20 of 107	

SPKR/GPP_B14	Top Swap Override	Rising edge of PCH_PWROK	The signal has a weak internal pull-down. 0 = Disable “Top Swap” mode. (Default) 1 = Enable “Top Swap” mode. This inverts an address on access to SPI and firmware hub, so the processor believes it fetches the alternate boot block instead of the original boot-block. PCH will invert A16 (default) for cycles going to the upper two 64-KB blocks in the FWH or the appropriate address lines (A16, A17, or A18) as selected in Top Swap
GSPI0_MOSI/ GPP_B18	No Reboot	Rising edge of PCH_PWROK	The signal has a weak internal pull-down. 0 = Disable “No Reboot” mode. (Default) 1 = Enable “No Reboot” mode (PCH will disable the TCO Timer system reboot feature). This function is useful when running ITP/XDP.
SMBALERT#/ GPP_C2	TLS Confidentiality	Rising edge of RSMRST#	This signal has a weak internal pull-down. 0 = Disable Intel ME Crypto Transport Layer Security (TLS) cipher suite (no confidentiality). (Default) 1 = Enable Intel ME Crypto Transport Layer Security (TLS) cipher suite (with confidentiality). Must be pulled up to support Intel AMT with TLS and Intel SBA (Small Business Advantage) with TLS.
GSPI1_MOSI/ GPP_B22	Boot BIOS Strap Bit BBS	Rising edge of PCH_PWROK	This Signal has a weak internal pull-down. This field determines the destination of accesses to the BIOS memory range. Also controllable using Boot BIOS Destination bit (Bus0, Device31, Function0, offset BCh, bit 6). Bit 6 Boot BIOS Destination 0 SPI (Default) 1 LPC
SML0ALERT#/ GPP_C5	eSPI or LPC	Rising edge of RSMRST#	This signal has a weak internal pull-down. 0 = LPC Is selected for EC. (Default) 1 = eSPI Is selected for EC. Notes: 1. The internal pull-down is disabled after RSMRST# de-asserts. 2. This signal is in the primary well.
SPI0_MOSI	Reserved	Rising edge of RSMRST#	This signal has an internal pull-up. This strap should sample HIGH. There should NOT be any on-board device driving it to opposite direction during strap sampling.
SPI0_MISO	Reserved	Rising edge of RSMRST#	This signal has an internal pull-up. This strap should sample HIGH. There should NOT be any on-board device driving it to opposite direction during strap sampling.
SML1ALERT#/ PCHHOT#/ GPP_B23	Reserved	Rising edge of RSMRST#	This signal has an internal pull-down. This strap should sample LOW. There should NOT be any on-board device driving it to opposite direction during strap sampling.
SPI0_IO2	Reserved	Rising edge of RSMRST#	This signal has an internal pull-up. This strap should sample HIGH. There should NOT be any on-board device driving it to opposite direction during strap sampling.
SPI0_IO3	Reserved	Rising edge of RSMRST#	This signal has an internal pull-up. This strap should sample HIGH. There should NOT be any on-board device driving it to opposite direction during strap sampling.
DDPB_CTRLDATA /GPP_I6	Display Port B Detected	Rising edge of PCH_PWROK	This signal has a weak internal pull-down. 0 = Port B is not detected. (Default) 1 = Port B is detected.
DDPC_CTRLDATA / GPP_I8	Display Port C Detected	Rising edge of PCH_PWROK	This signal has a weak internal pull-down. 0 = Port C is not detected. (Default) 1 = Port C is detected.
DDPD_CTRLDATA / GPP_I10	Display Port D Detected	Rising edge of PCH_PWROK	This signal has a weak internal pull-down. 0 = Port D is not detected. (Default) 1 = Port D is detected.
GPP_H12	Reserved	Rising edge of RSMRST#	This signal has a weak internal pull-down. This strap should sample LOW. There should NOT be any on-board device driving it to opposite direction during strap sampling.



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

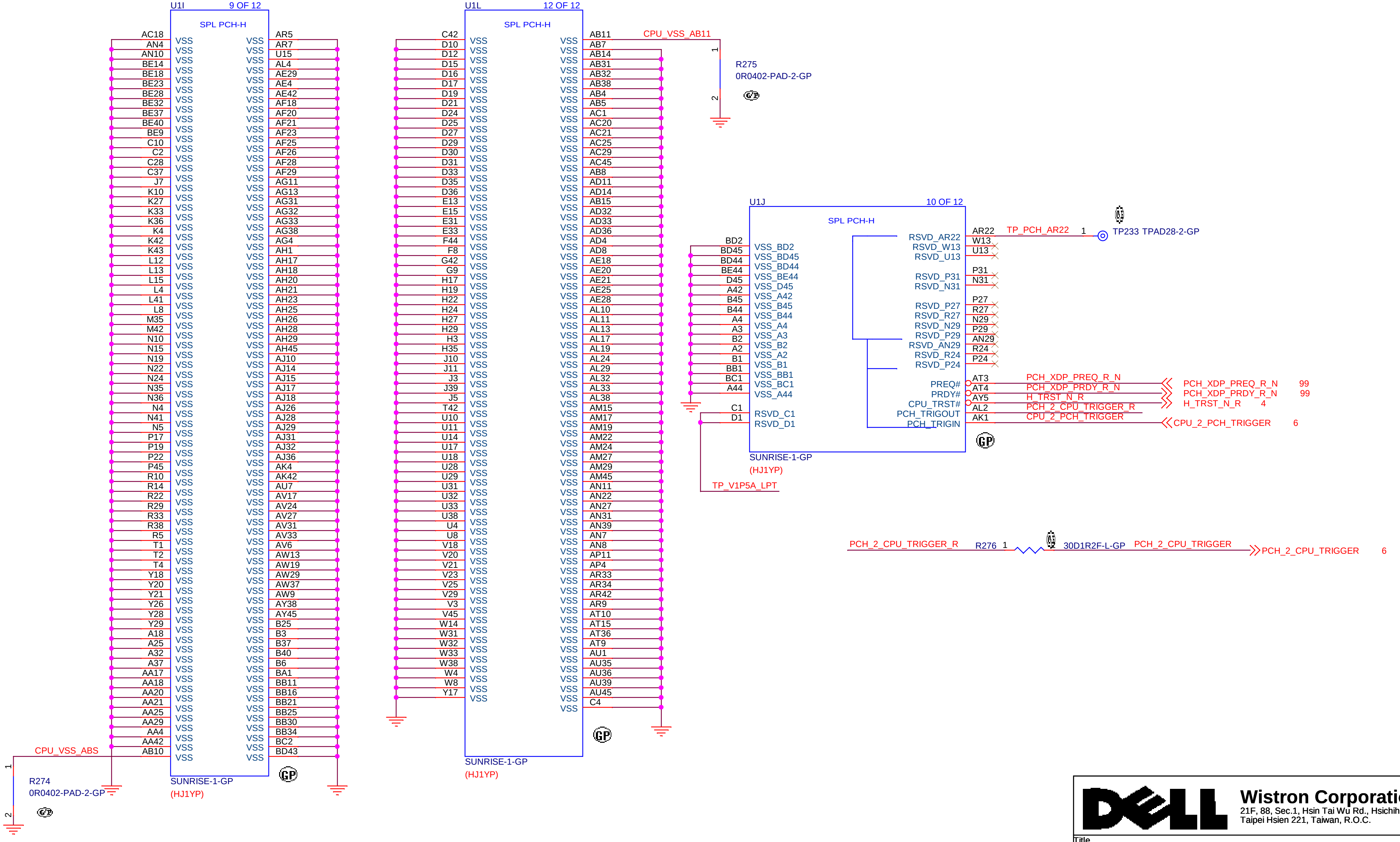
Title	PCH_(Strap Pin)	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 21 of 107	



Power rail CAP needed

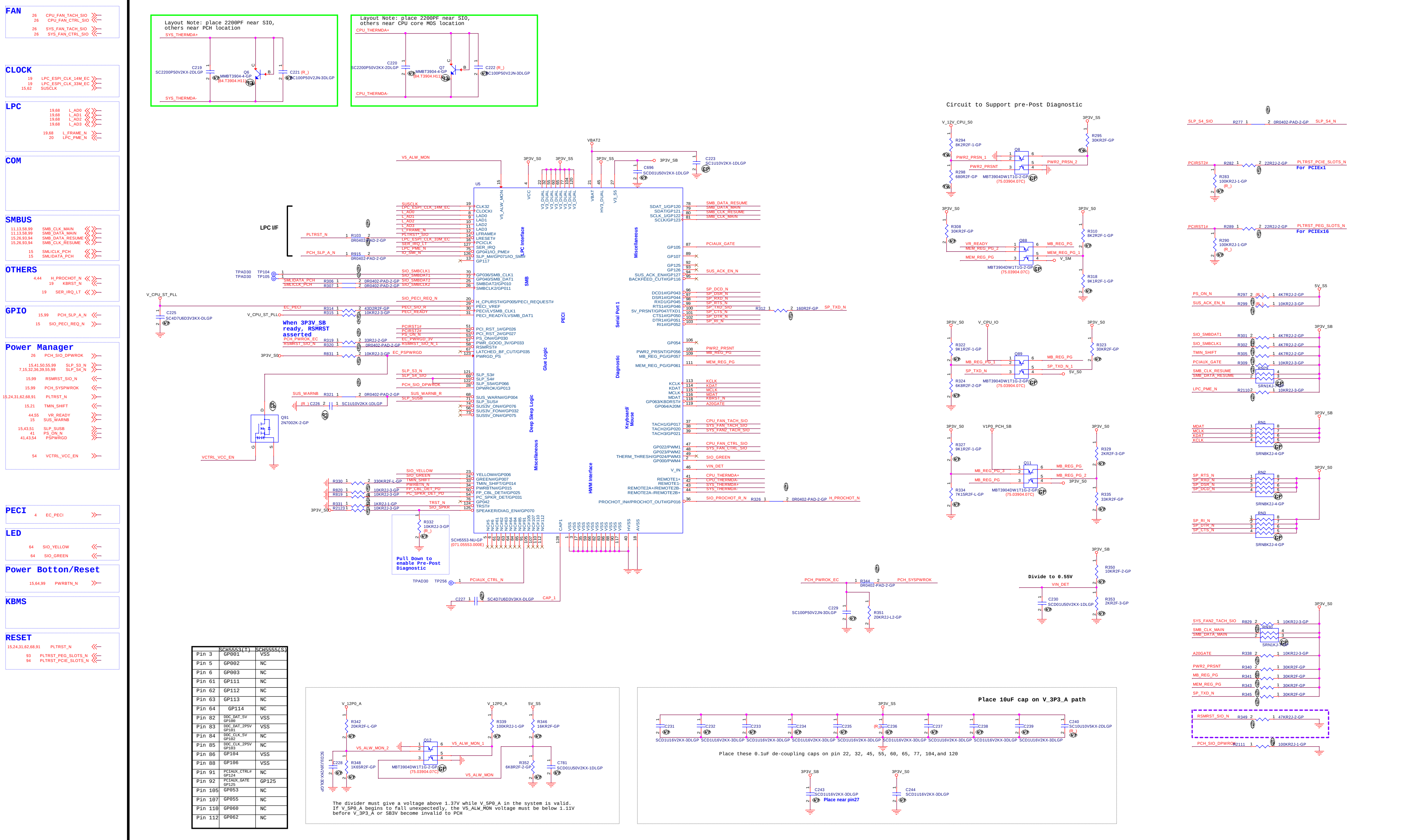
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	PCH_(VCC)	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 22 of 107	



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

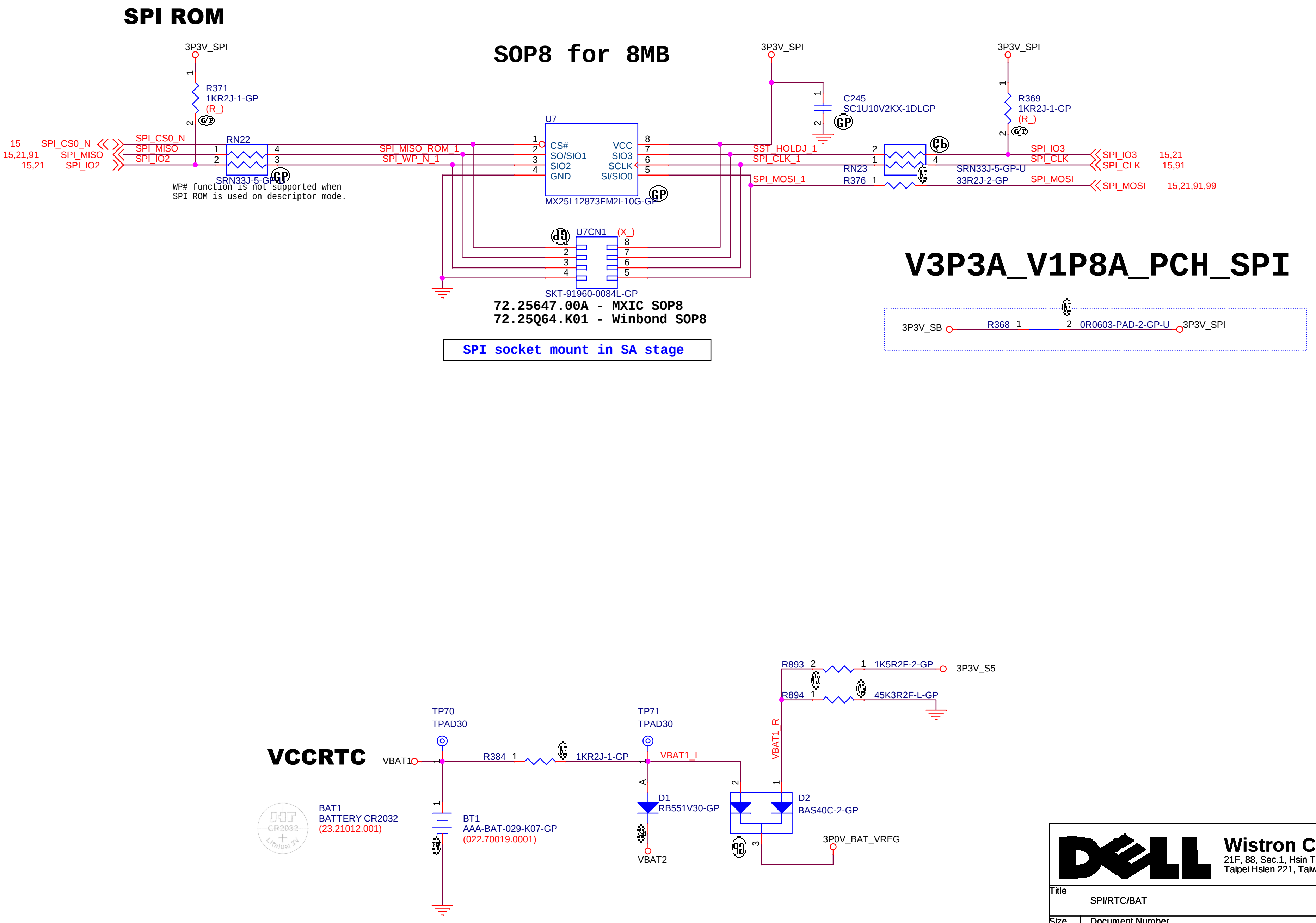
Title	PCH_(VSS/GPIO)	
Size B	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 23 of 107	



	SCH5553(T)	SCH5555(S)
Pin 3	GP001	VSS
Pin 5	GP002	NC
Pin 6	GP003	NC
Pin 61	GP111	NC
Pin 62	GP112	NC
Pin 63	GP113	NC
Pin 64	GP114	NC
Pin 82	DDC_DAT_5V GP100	VSS
Pin 83	DDC_DAT_2P5V GP101	VSS
Pin 84	DDC_CLK_5V GP102	NC
Pin 85	DDC_CLK_2P5V GP103	NC
Pin 86	GP104	VSS
Pin 88	GP106	VSS
Pin 91	PCIAUX_CTRL# GP124	NC
Pin 92	PCIAUX_GATE GP125	GP125
Pin 105	GP053	NC
Pin 107	GP055	NC
Pin 110	GP060	NC
Pin 112	GP062	NC

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

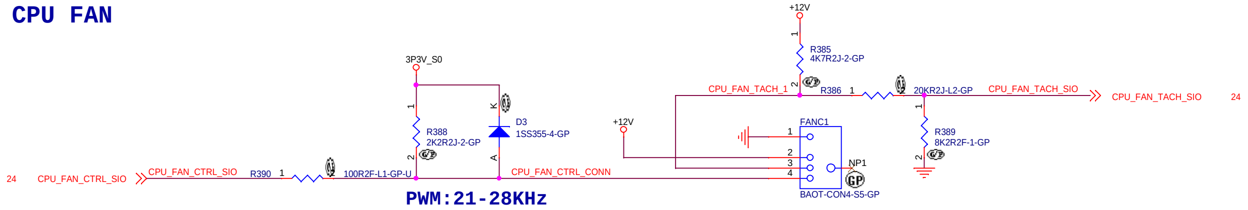
Title: SIO_(SCH5553)		
Size: D	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 24 of 107	



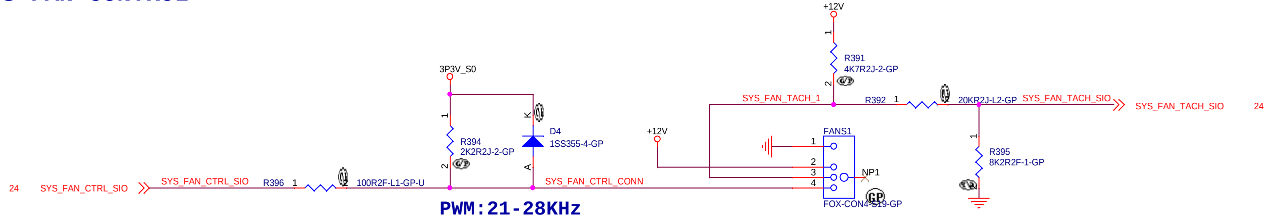
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	SPI/RTC/BAT	
Size B	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 25 of 107	

CPU FAN



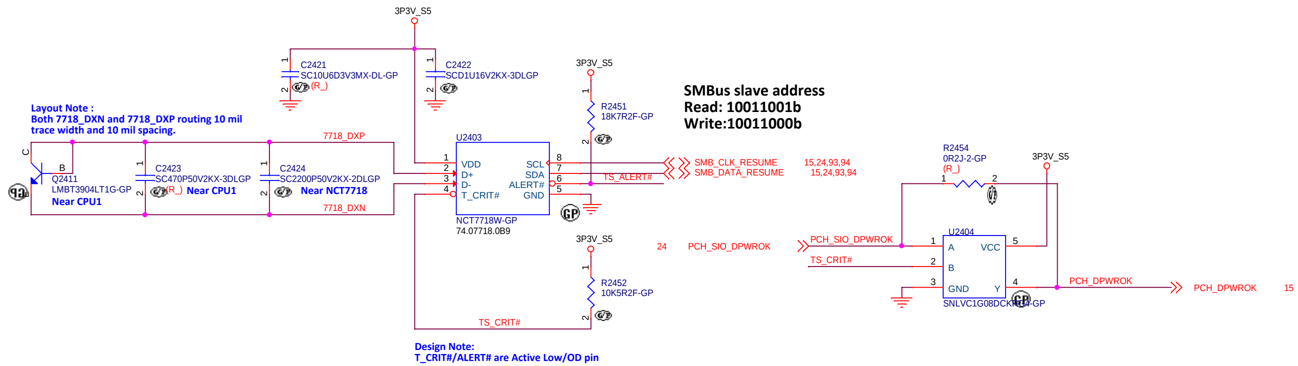
SYS FAN CONTROL

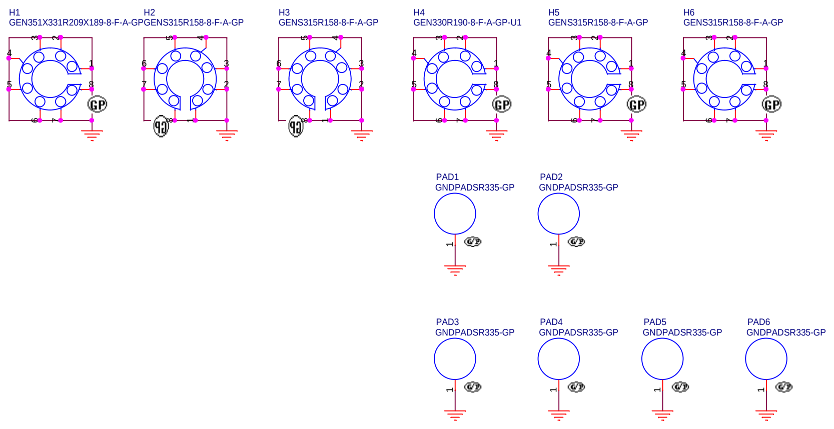


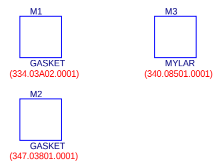
Thermal sensor NCT 7718W

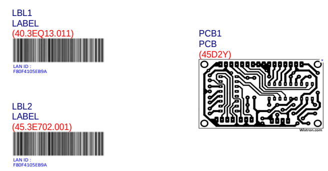
The default value is trapping after power up 100ms by different pull-up resistors of T_CRIT# and ALERT# pin:

TEMPERATURE (℃)		T_CRIT#				
		2KΩ	7.5KΩ	10.5KΩ	14KΩ	18.7KΩ
ALERT#	2KΩ	77	87	97	107	117
	7.5KΩ	79	89	99	109	119
	10.5KΩ	81	91	101	111	121
	14KΩ	83	93	103	113	123
	18.7KΩ	85	95	105	115	125



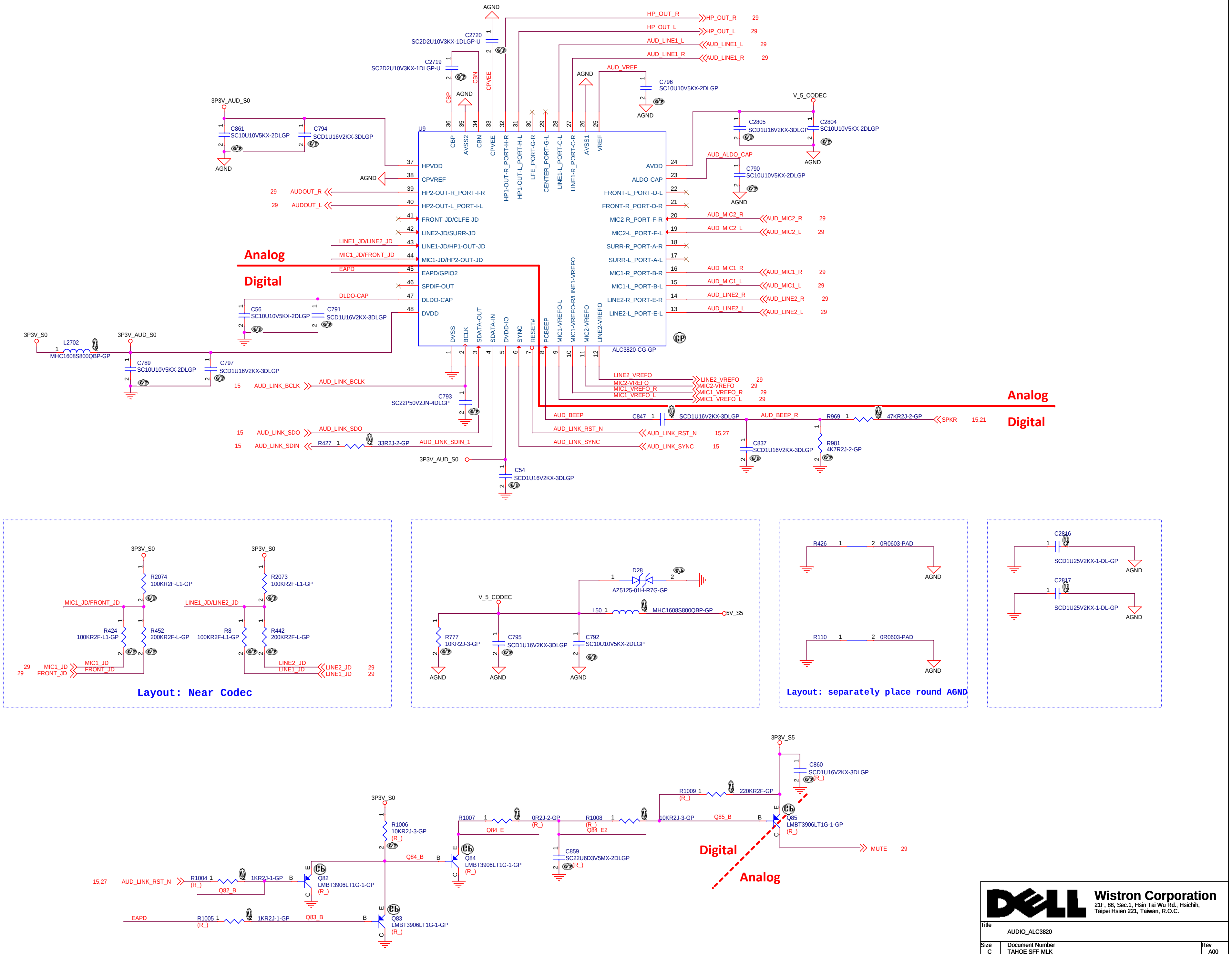






Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	FAN CIRCUITS/HOLE	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 26 of 107	

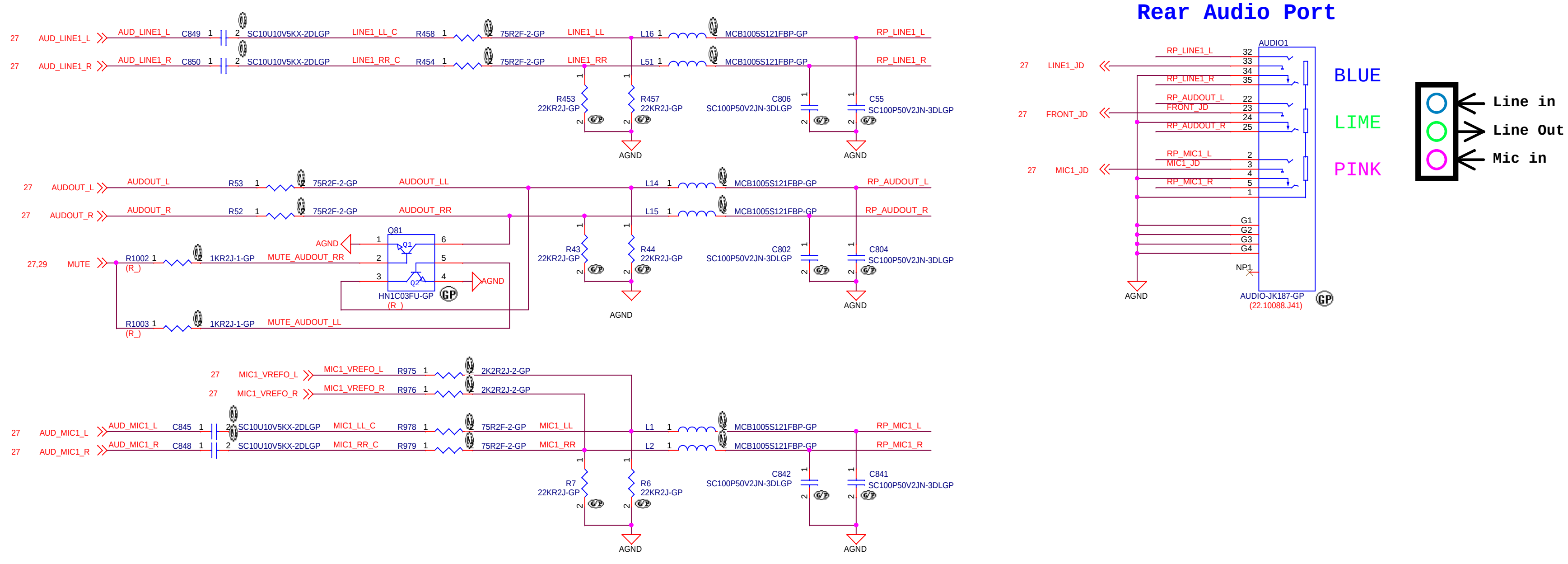


DELL

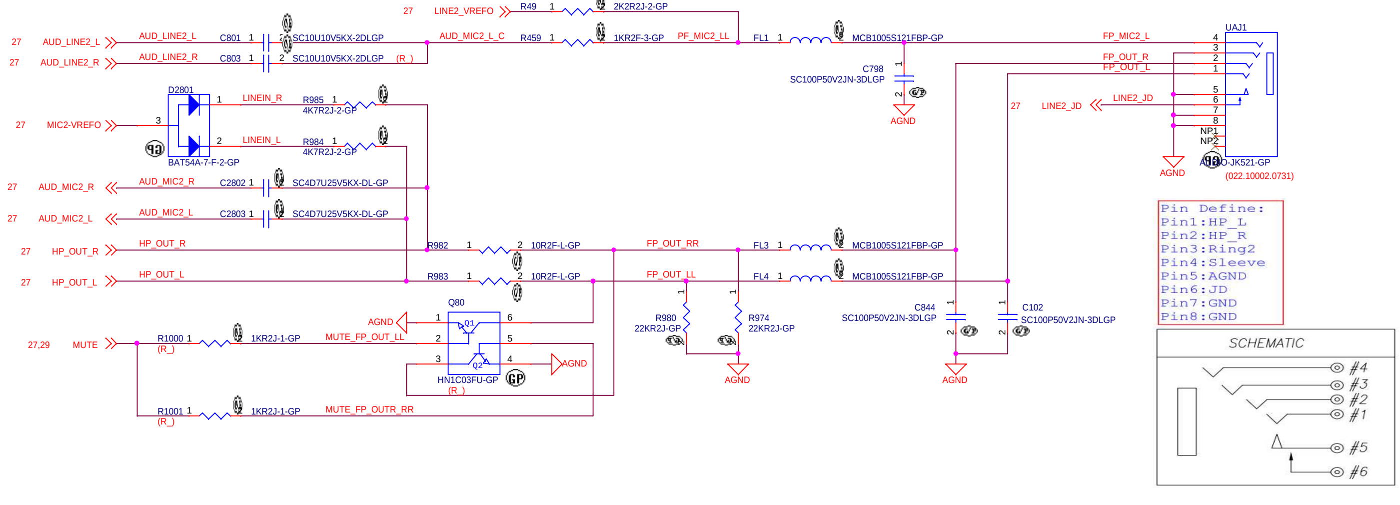
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title	AUDIO_ALC3820	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 27 of 107	

Rear Audio Port



Front Audio Port



4-pin 3.5mm Headset Connector Pinout

Nokia, Lenovo mobile

Pin Number	Pin Name	Description
1	Tip	Left Audio Out
2	Ring-1	Right Audio Out
3	Ring-2	**Microphone**
4	Sleeve	**Ground / Common**

iPhone, Samsung, Blackberry, HTC

Pin Number	Pin Name	Description
1	Tip	Left Audio Out
2	Ring-1	Right Audio Out
3	Ring-2	**Ground / Common**
4	Sleeve	**Microphone**

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

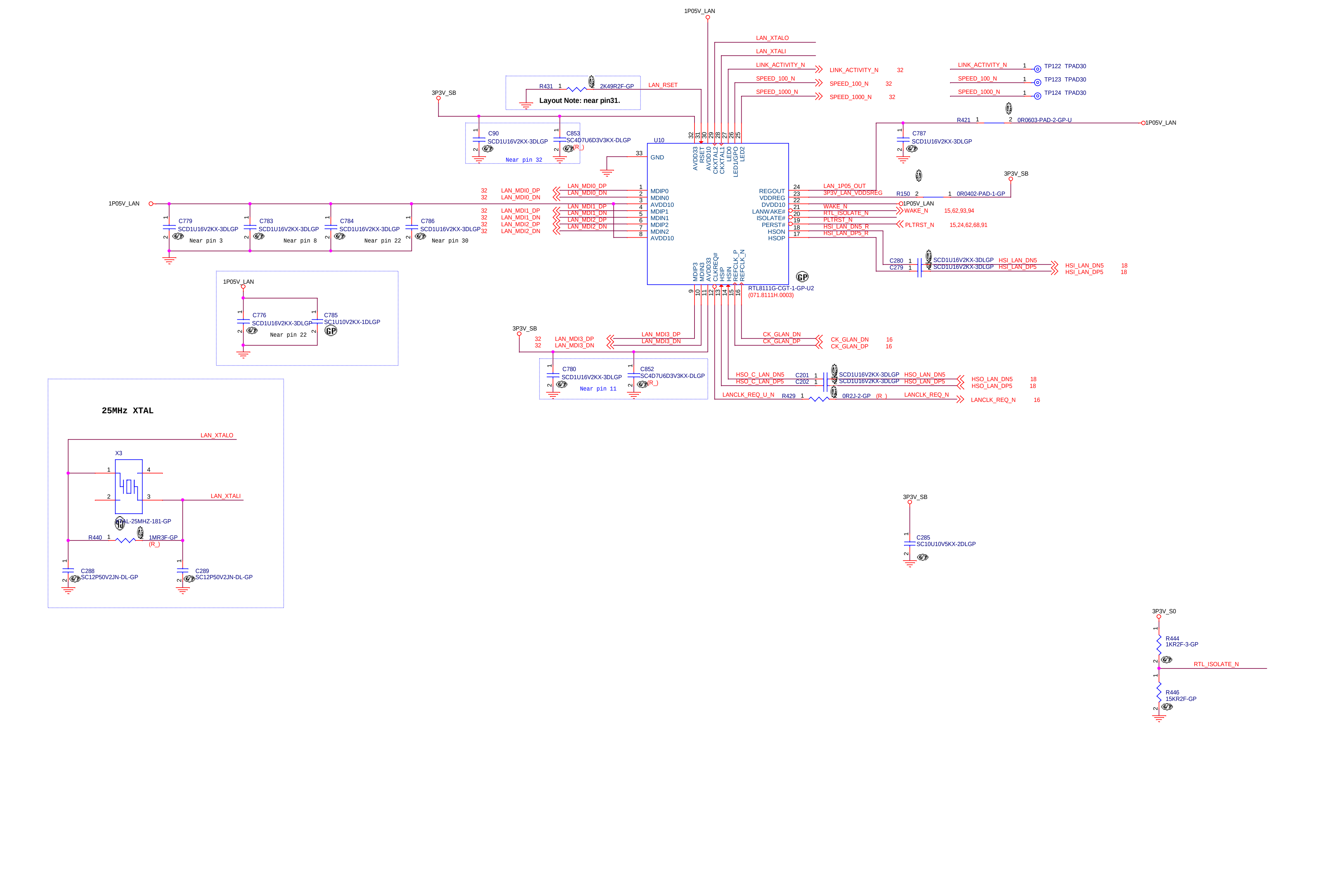
Title	AUDIO JACK	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 29 of 107	

5 4 3 2 1

D C B A

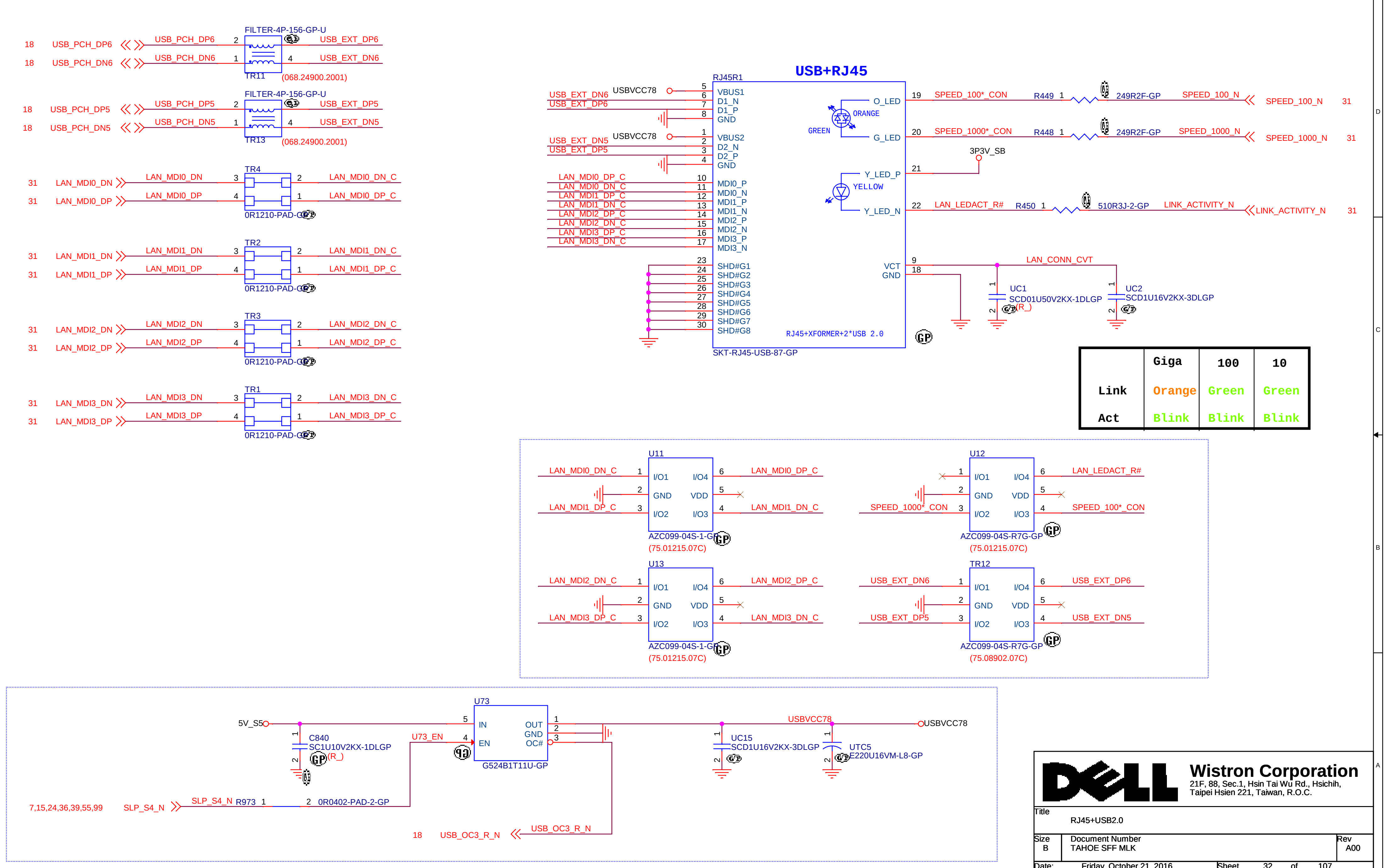
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	RTL8151GD(R)	
Size: A	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 30 of 107	



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

Title	LAN RTL8111H	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 31 of 107	



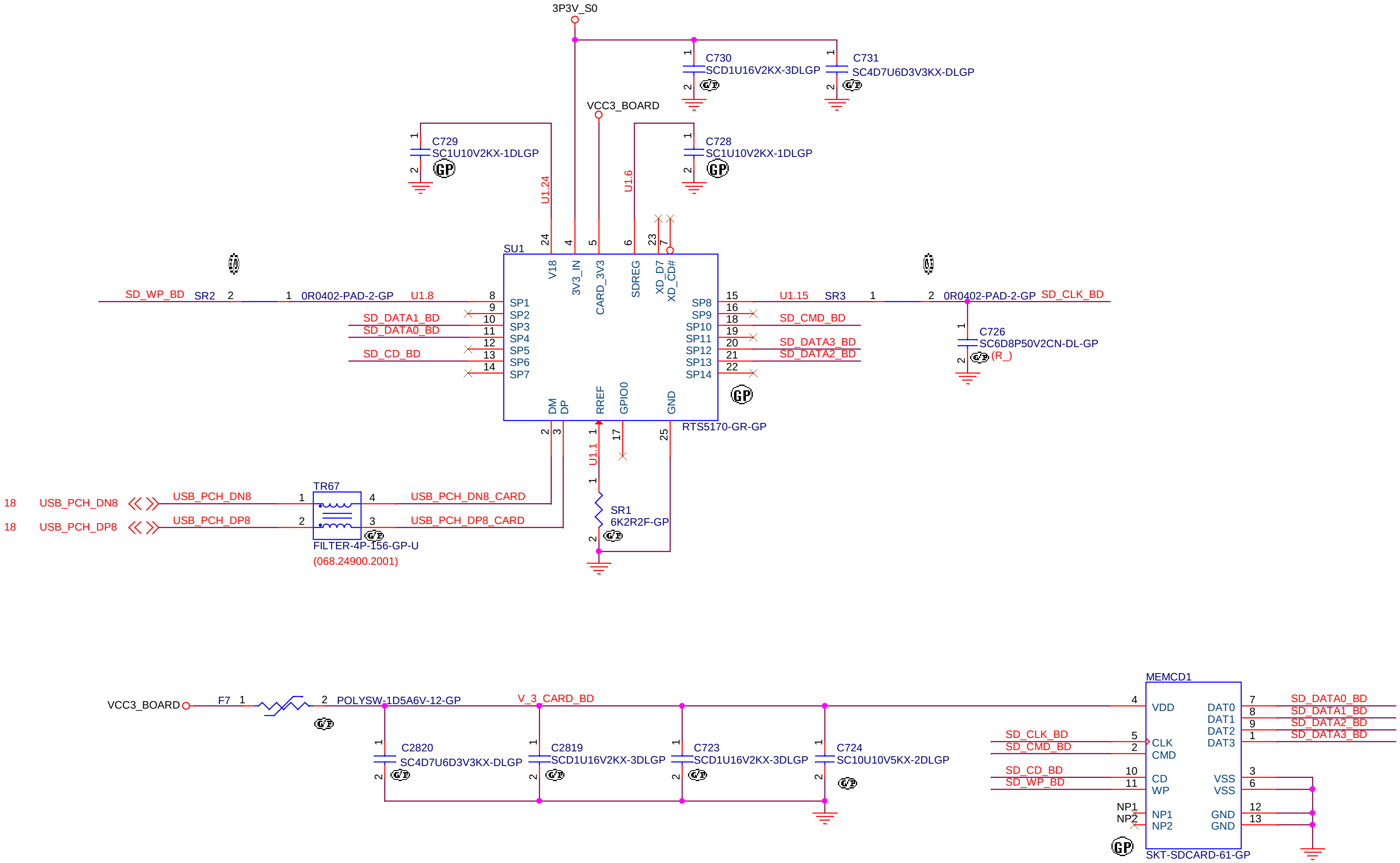
	Giga	100	10
Link	Orange	Green	Green
Act	Blink	Blink	Blink

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

Title: RJ45+USB2.0

Size	Document Number	Rev
B	TAHOE SFF MLK	A00

Date: Friday, October 21, 2016 — Sheet 32 of 107



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

Title	RTS5170	
Size: B	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 33 of 107	

5 4 3 2 1

D

C

B

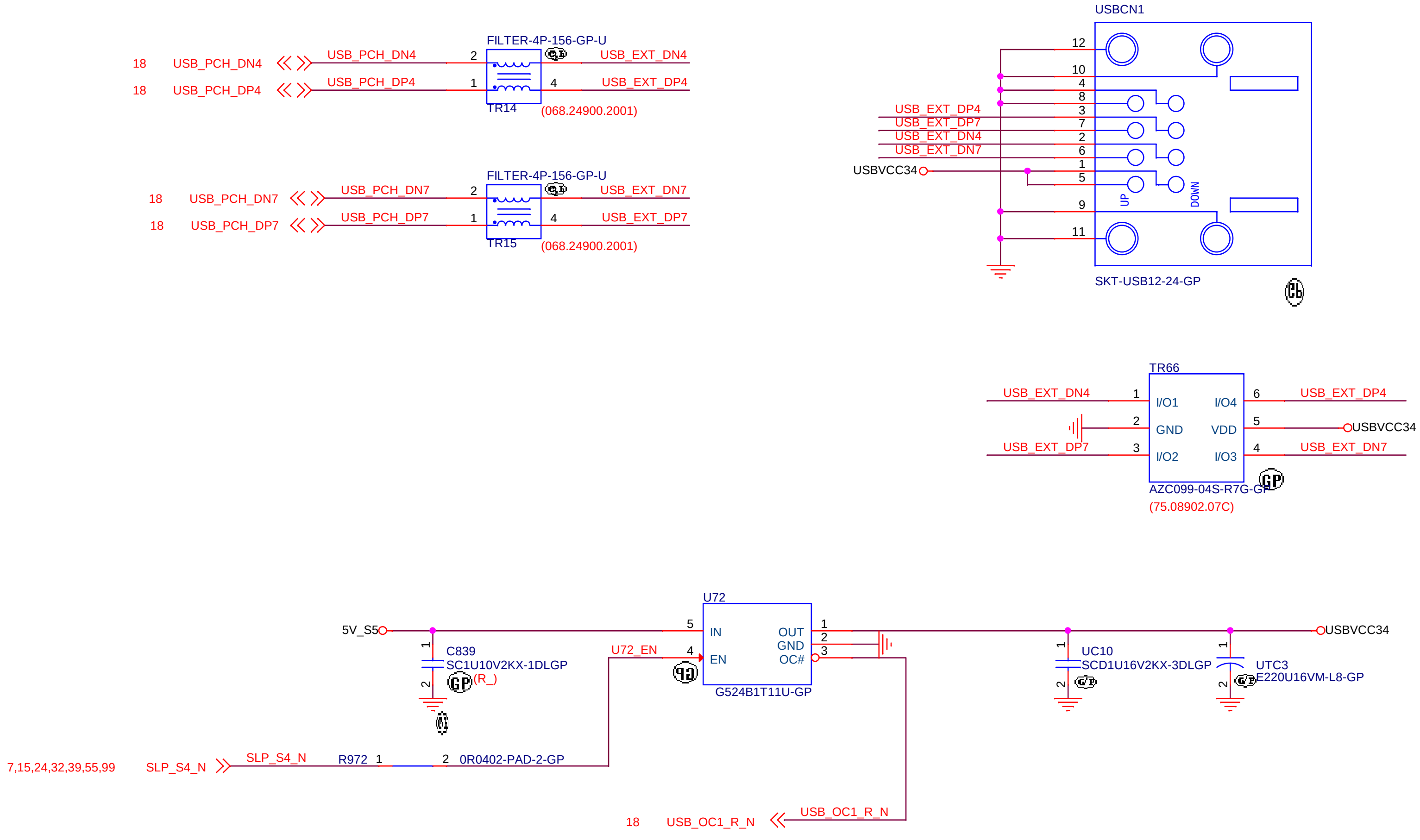
A

Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title Front USB2.0		
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 34 of 107	

5 4 3 2

5 4 3 2 1

D C B A



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

Title	REAR USB 2.0	
Size B	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 36 of 107	

5 4 3 2 1

D D

C C

B B

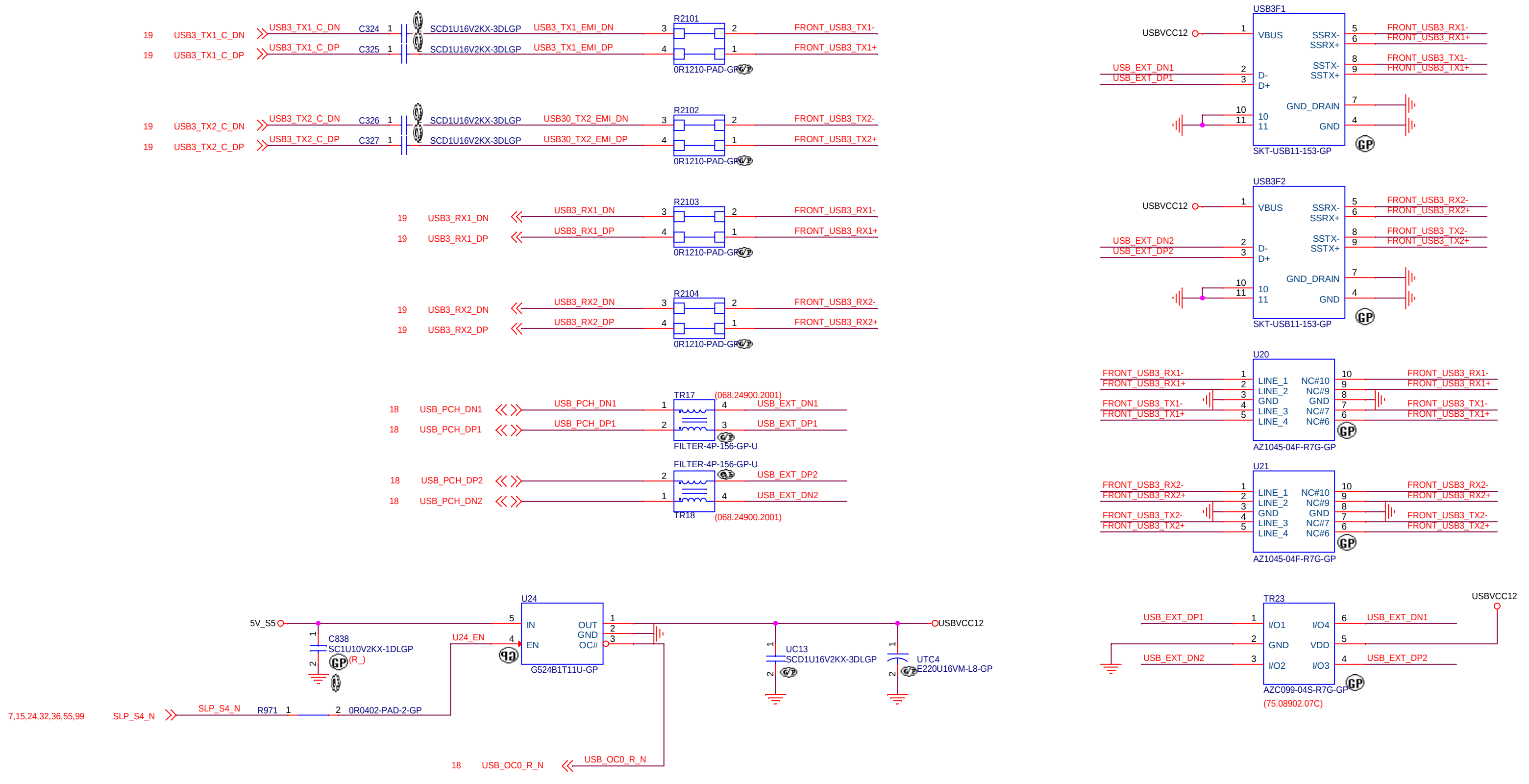
A A

DELL	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	Front USB2.0(R)
Size Custom	Document Number TAHOE SFF MLK — Rev A00
Date: Friday, October 21, 2016	Sheet 37 of 107

5 4 3 2

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

Title	Rear USB3.0*4		
Size: Custom	Document Number: TAHOE SFF MLK		Rev: A00
Date: Friday, October 21, 2016	Sheet 38 of 107		



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

Title	Front USB3.0	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 39 of 107	

5 4 3 2 1

D

C

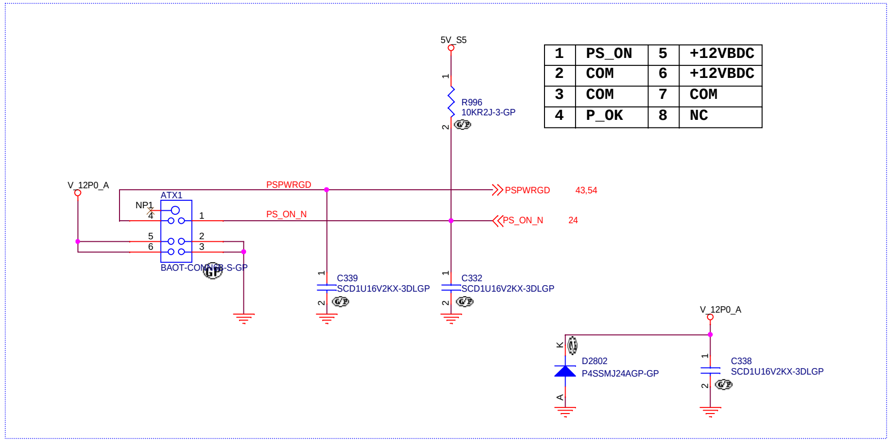
B

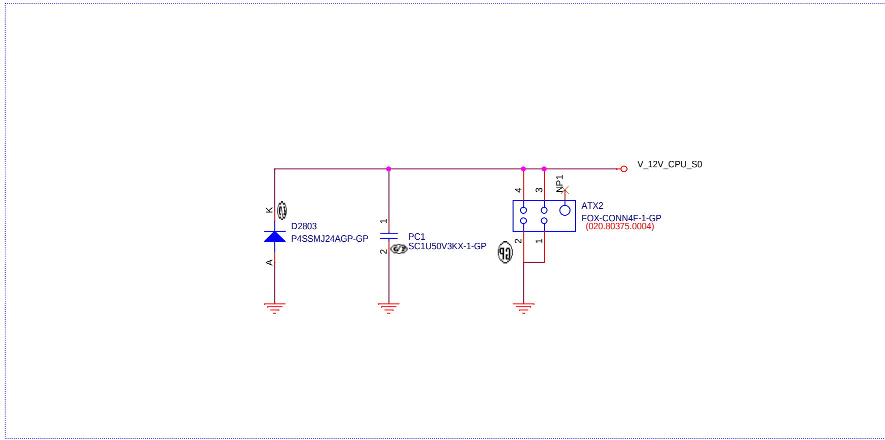
A

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

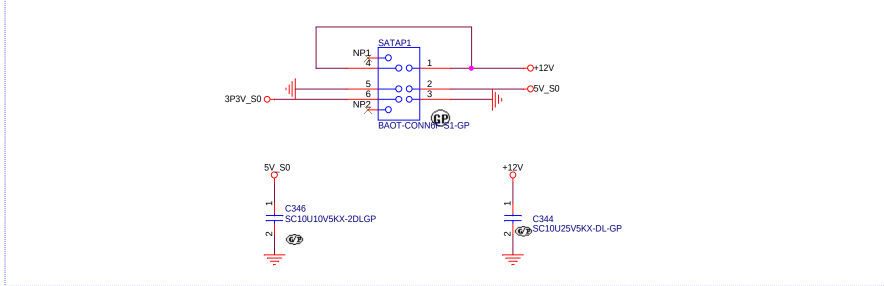
Title	TBD	
Size A	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 40 of 107	

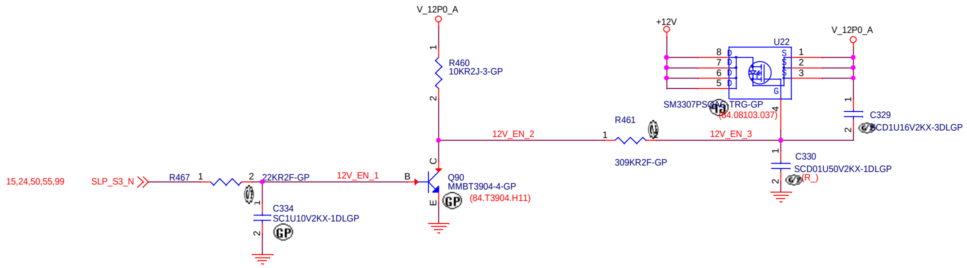
1	PS_ON	5	+12VBDC
2	COM	6	+12VBDC
3	COM	7	COM
4	P_OK	8	NC





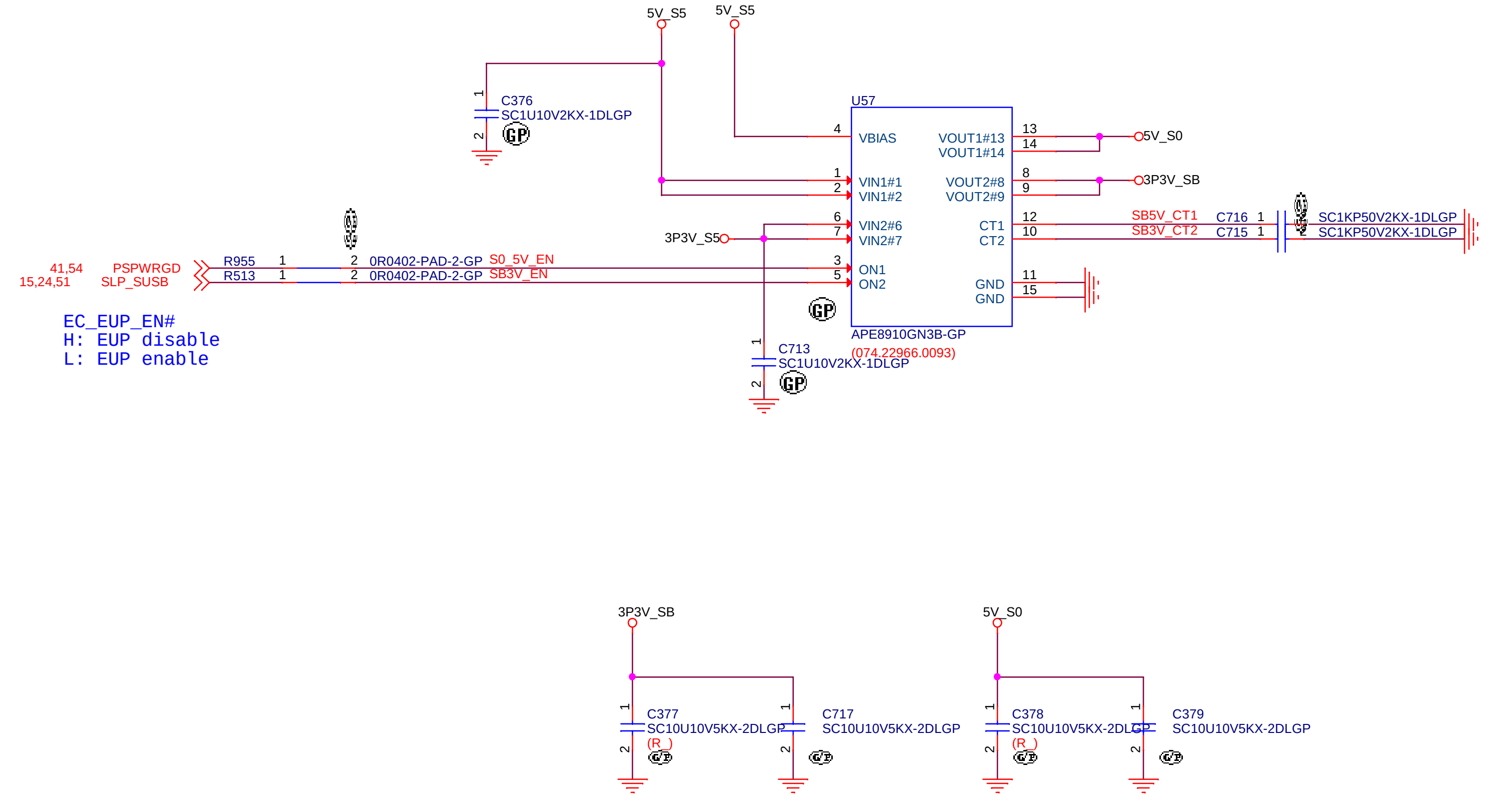
3.5" SATA POWER CONNECTOR





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

Title	ATX	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 41 of 107	



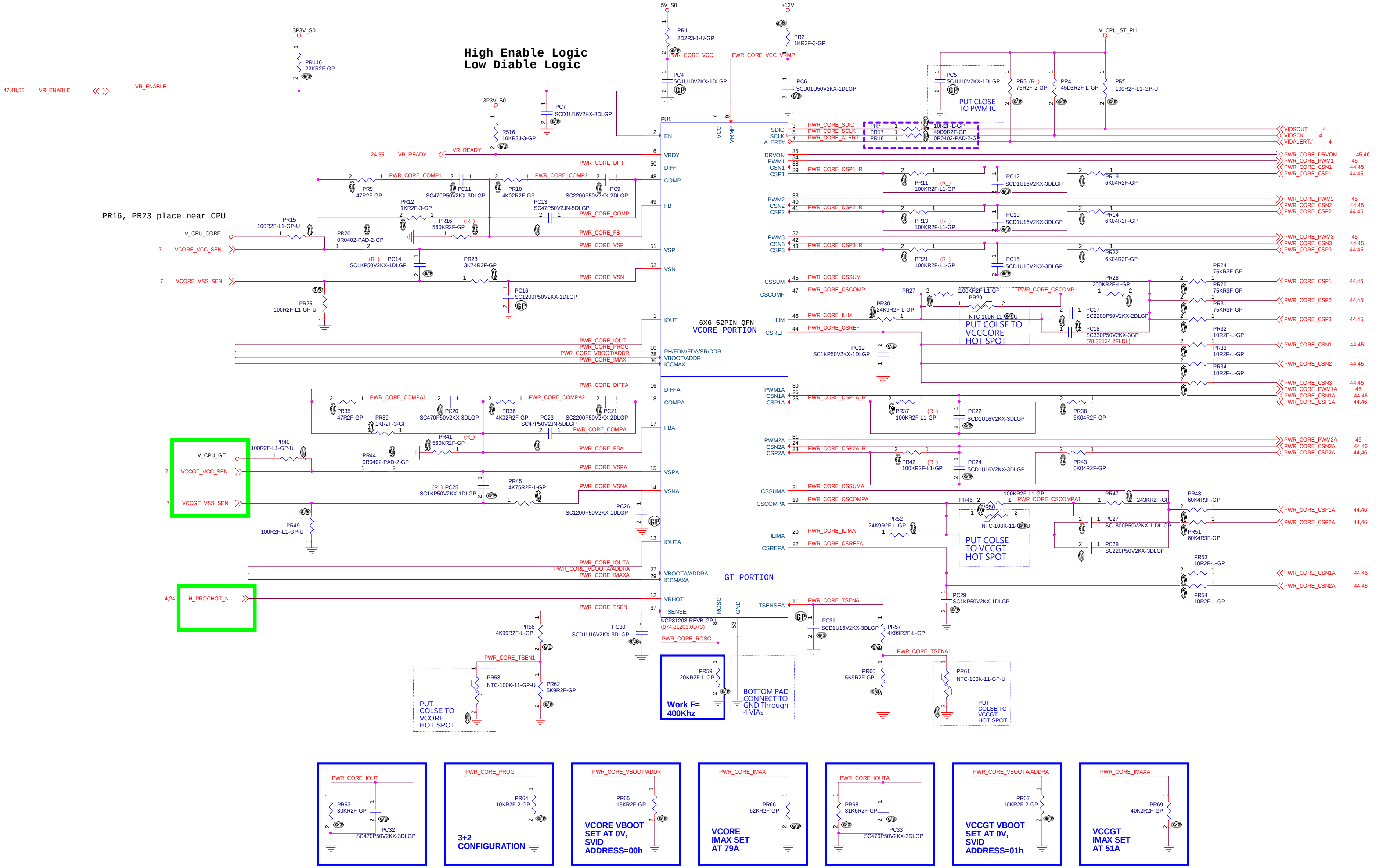
Wistron Corporation

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

Title	DSW_PWR_CTRL	
Size B	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 43 of 107	

Intel SKYLAKE IMVP8 POWER CKT 3+2 PHASE

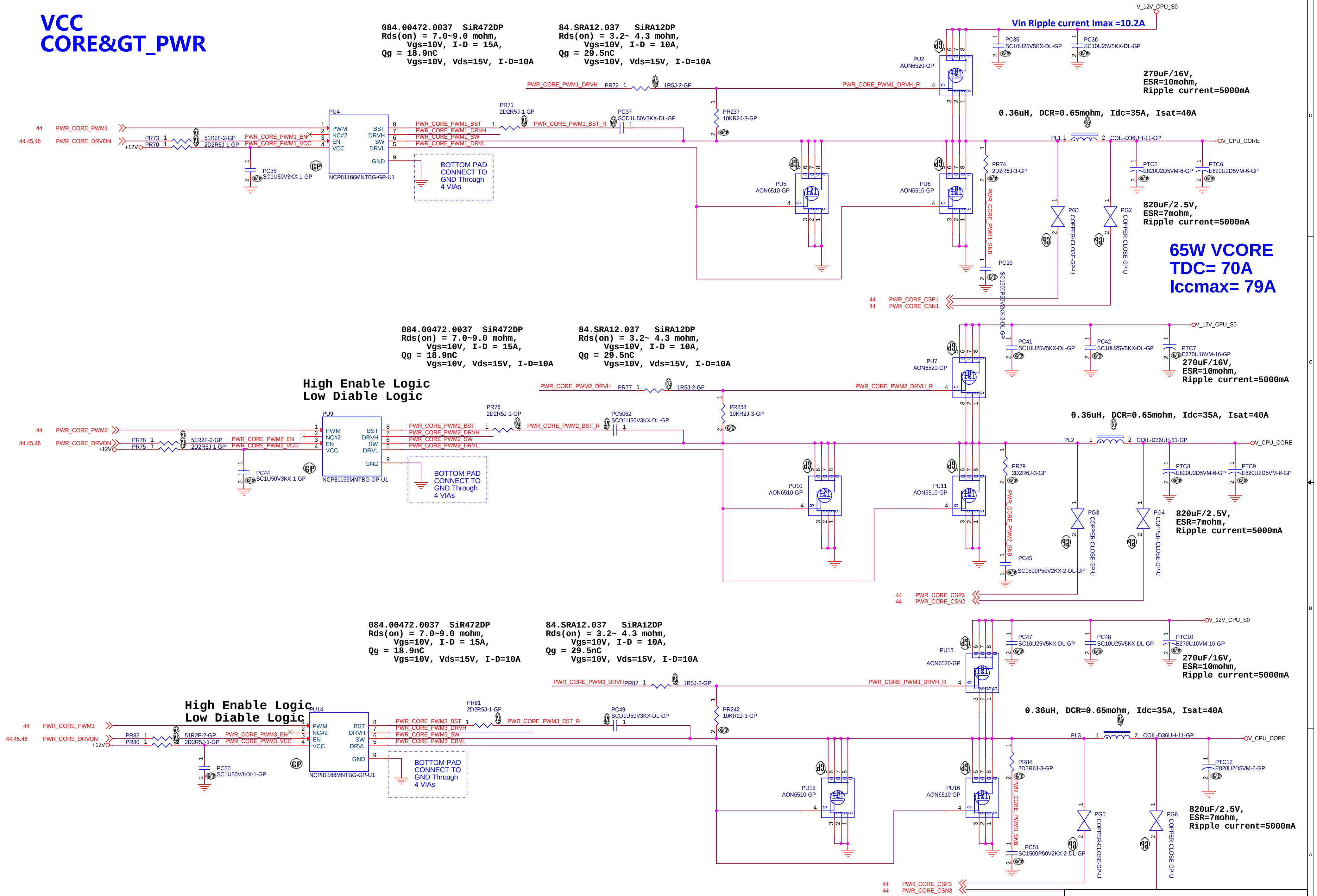
VCC CORE&GT_PWR



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

Title	VCORE & V_GT(NCP81203)	
Size: Custom	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 44 of 107	

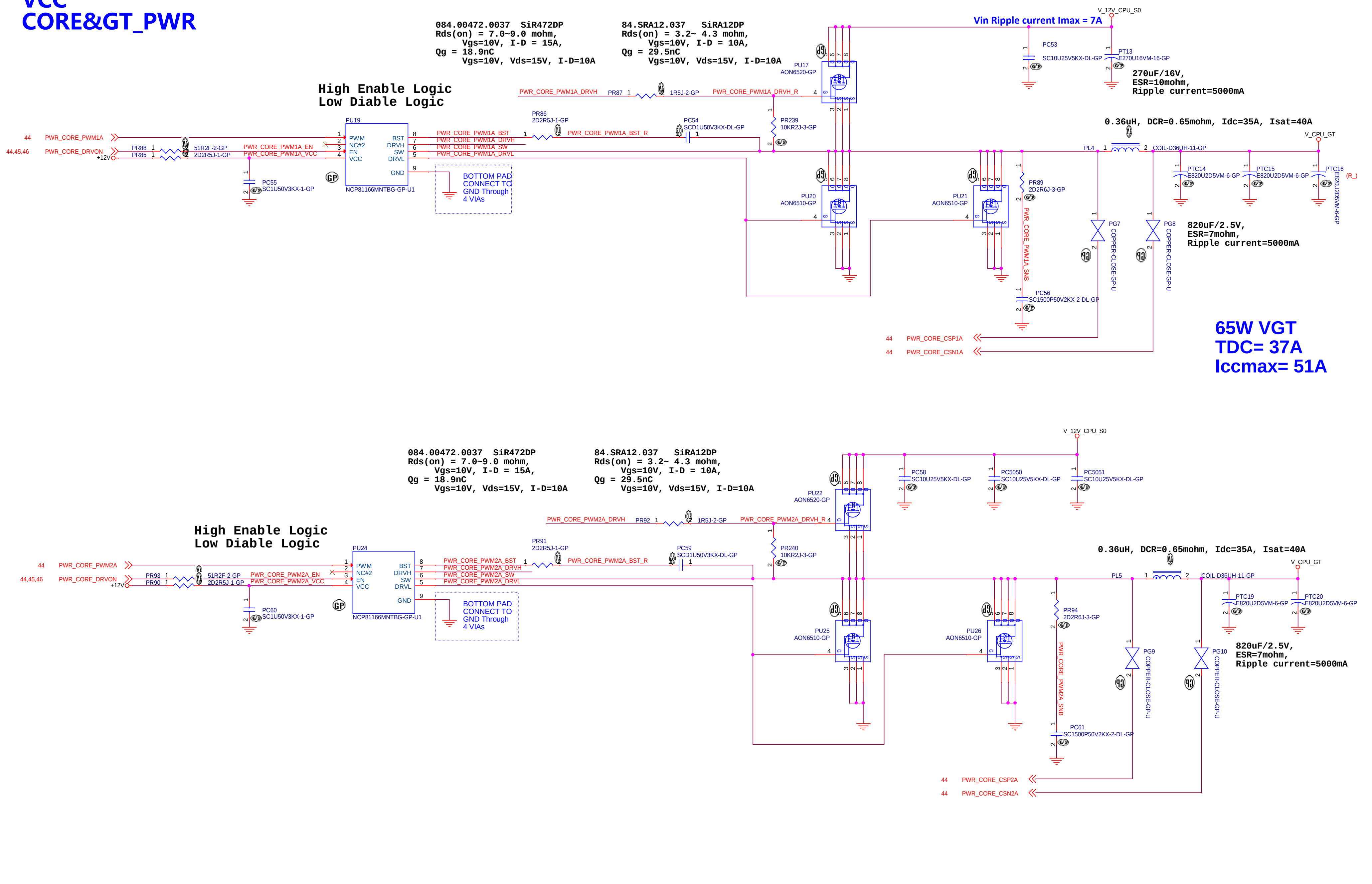
VCC CORE&GT_PWR



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

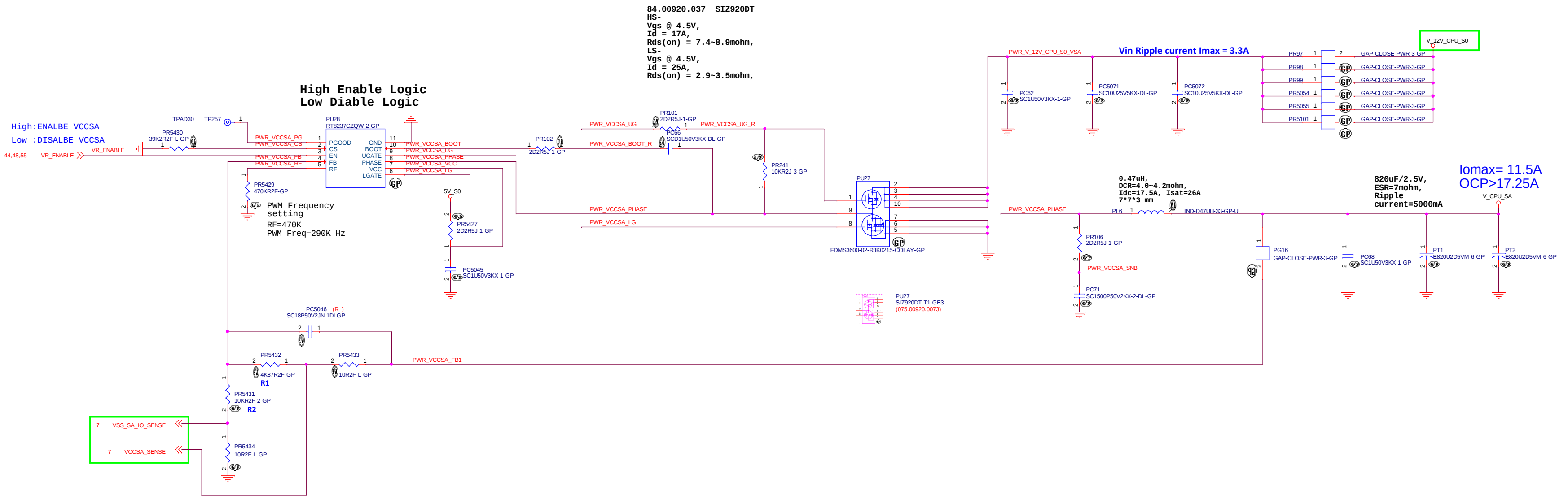
Title	VCORE Output(NCP81161)	
Size: C	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 45 of 107	

VCC CORE&GT_PWR

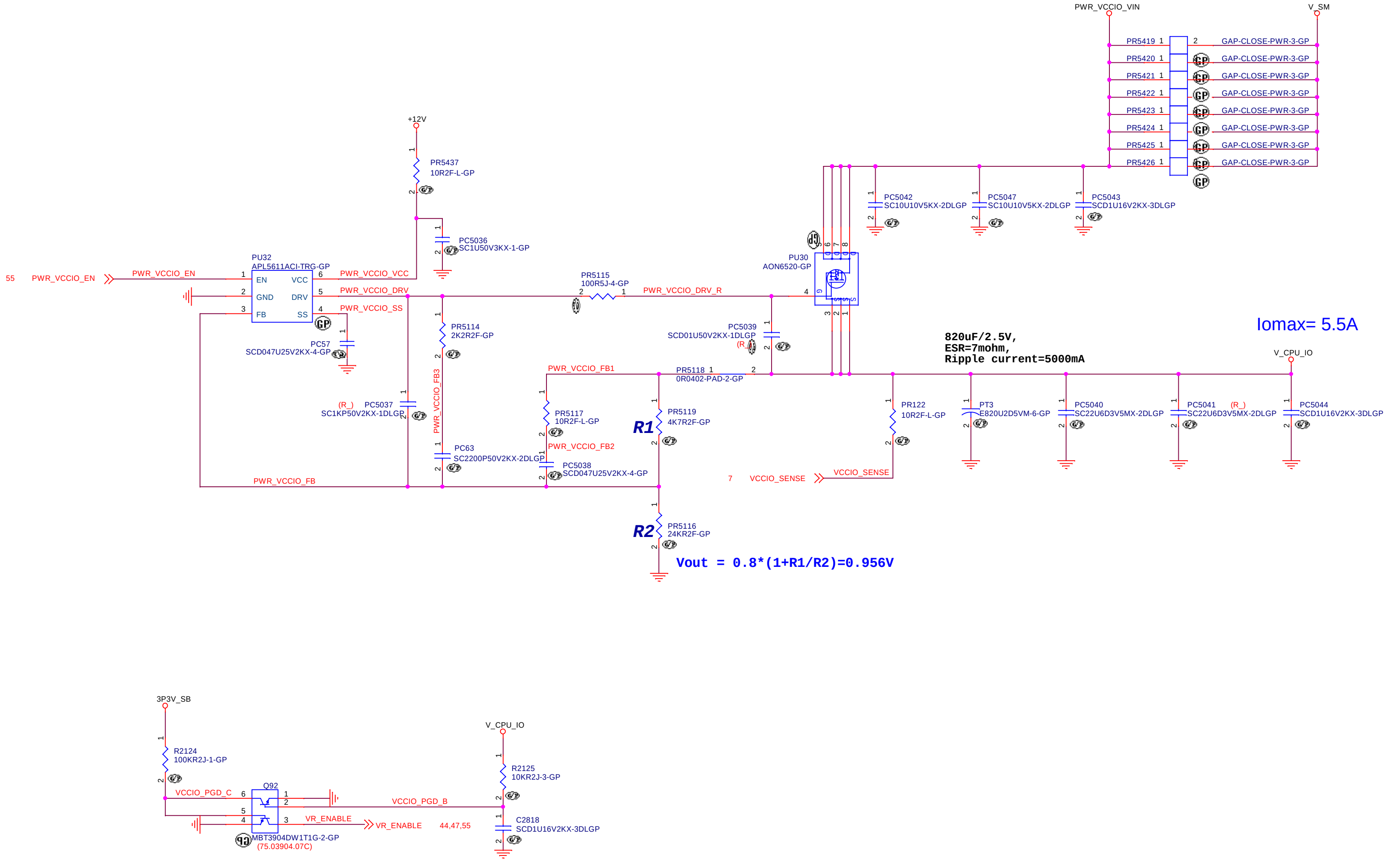


Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	V_GT Output(NCP81161)	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 46 of 107	

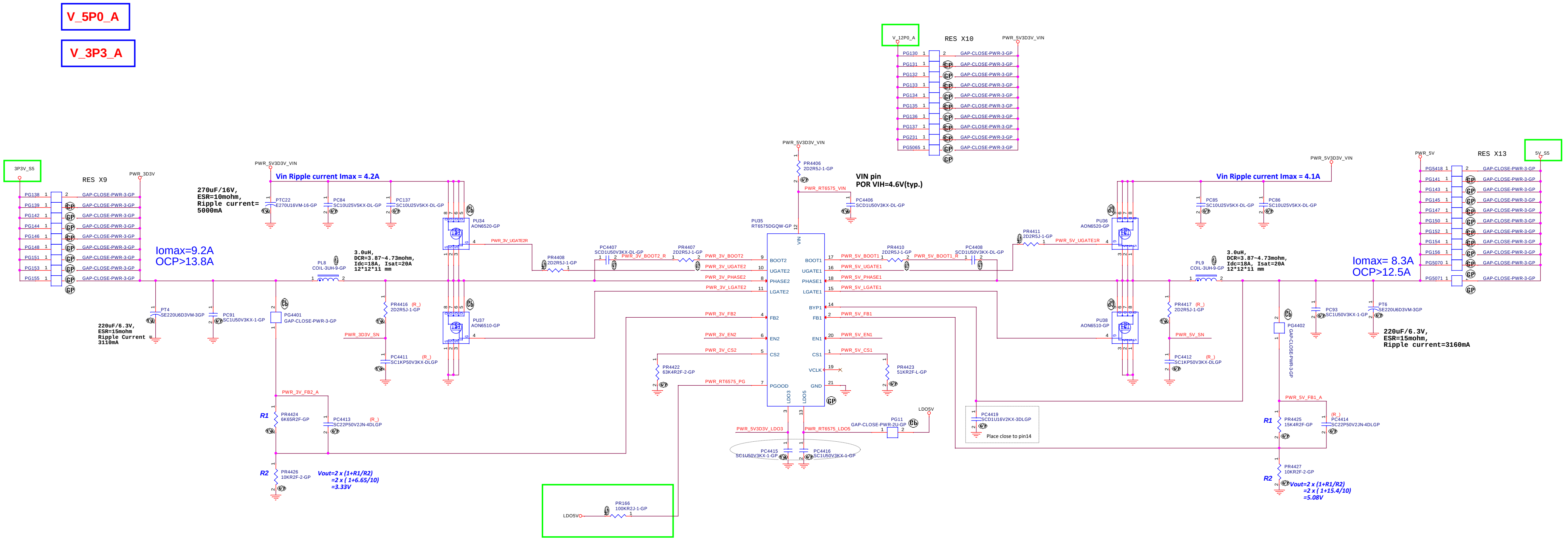


Wistron Corporation	21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	VCCSA(RT8237)
Size Custom	Document Number TAHOE SFF MLK
Rev	A00
Date:	Friday, October 21, 2016
Sheet	47 of 107



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

Title	VCCIO(APL5611)	
Size: Custom	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 48 of 107	



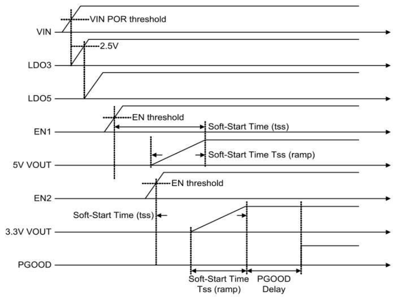


Figure 6. RT6575D Timing

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

Title	5V_S5 & 3P3V_S5 (RT6575D)	
Size D	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 49 of 107	

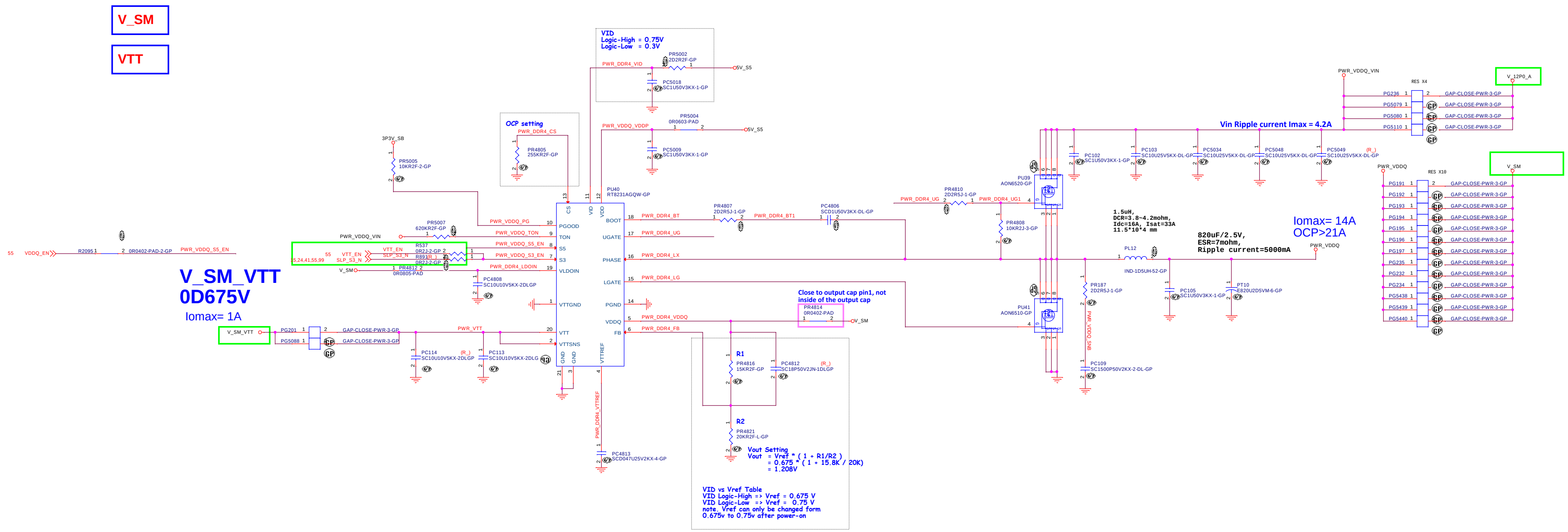
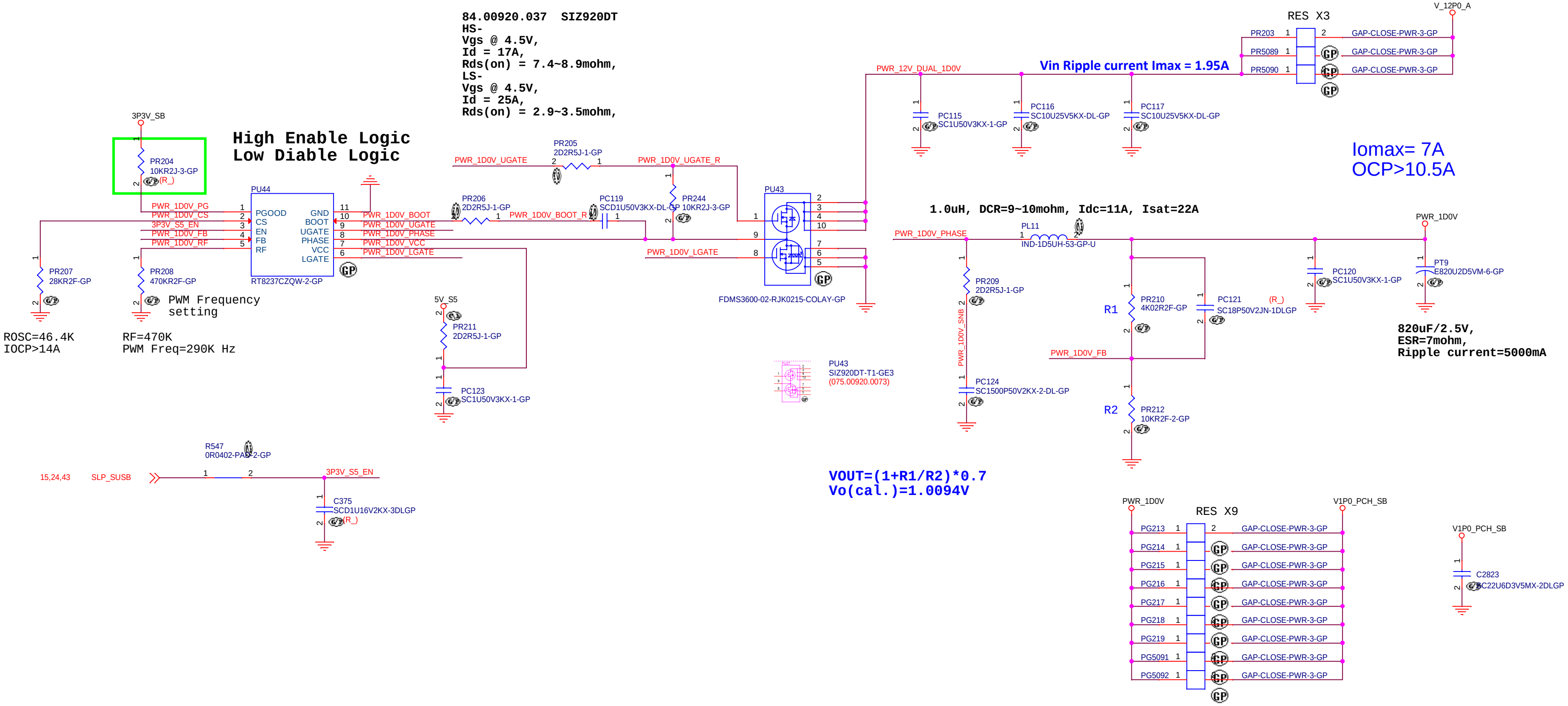


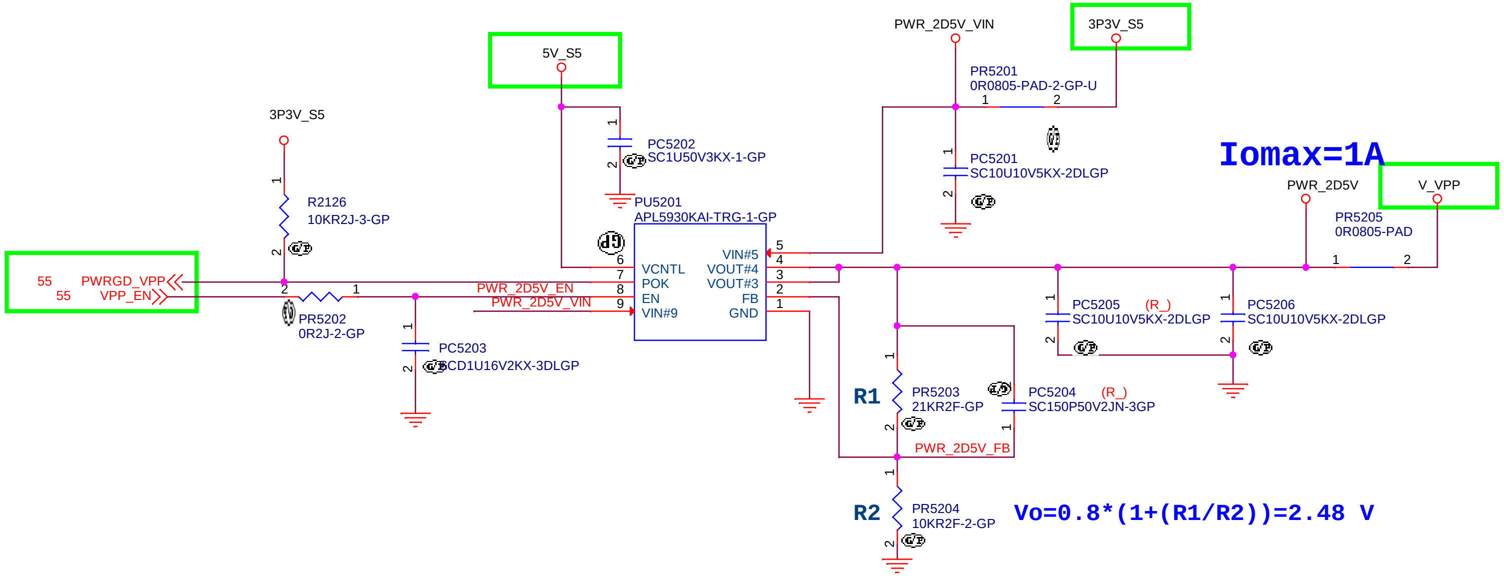
Table 1. VID and Reference Voltage Setting

VID	Reference Voltage (V)				
High	0.675				
Low	0.75				
S4/S5	Lo	Lo	Off (Discharge)	Off (Discharge)	Off (Discharge)



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

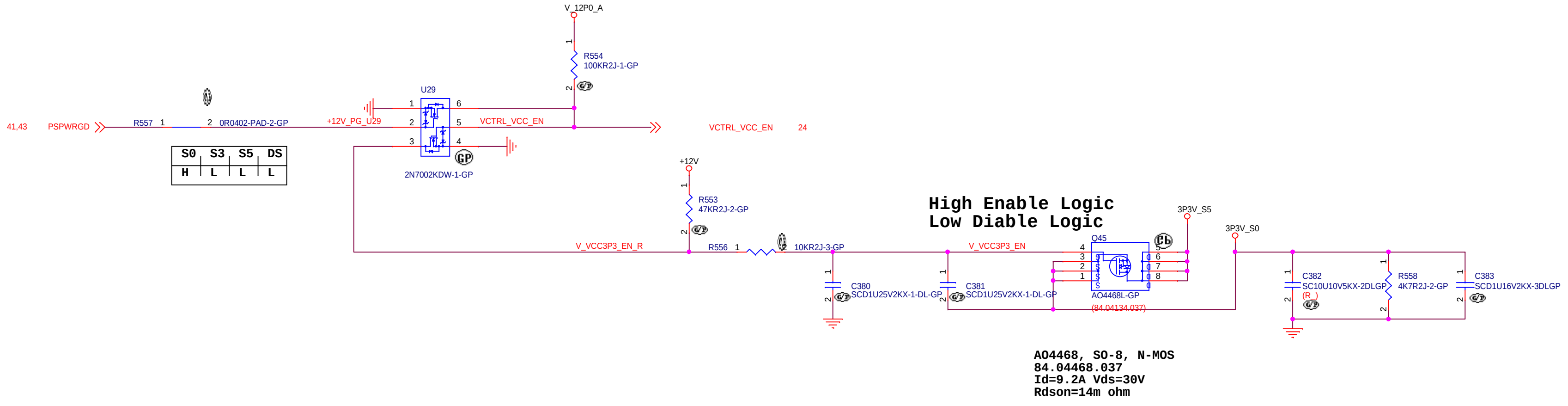
Title	PCH 1D0V(RT8237C)	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 51 of 107	



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

Title	DDR4_VPP_2.5V(APL5930)	
Size B	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 52 of 107	

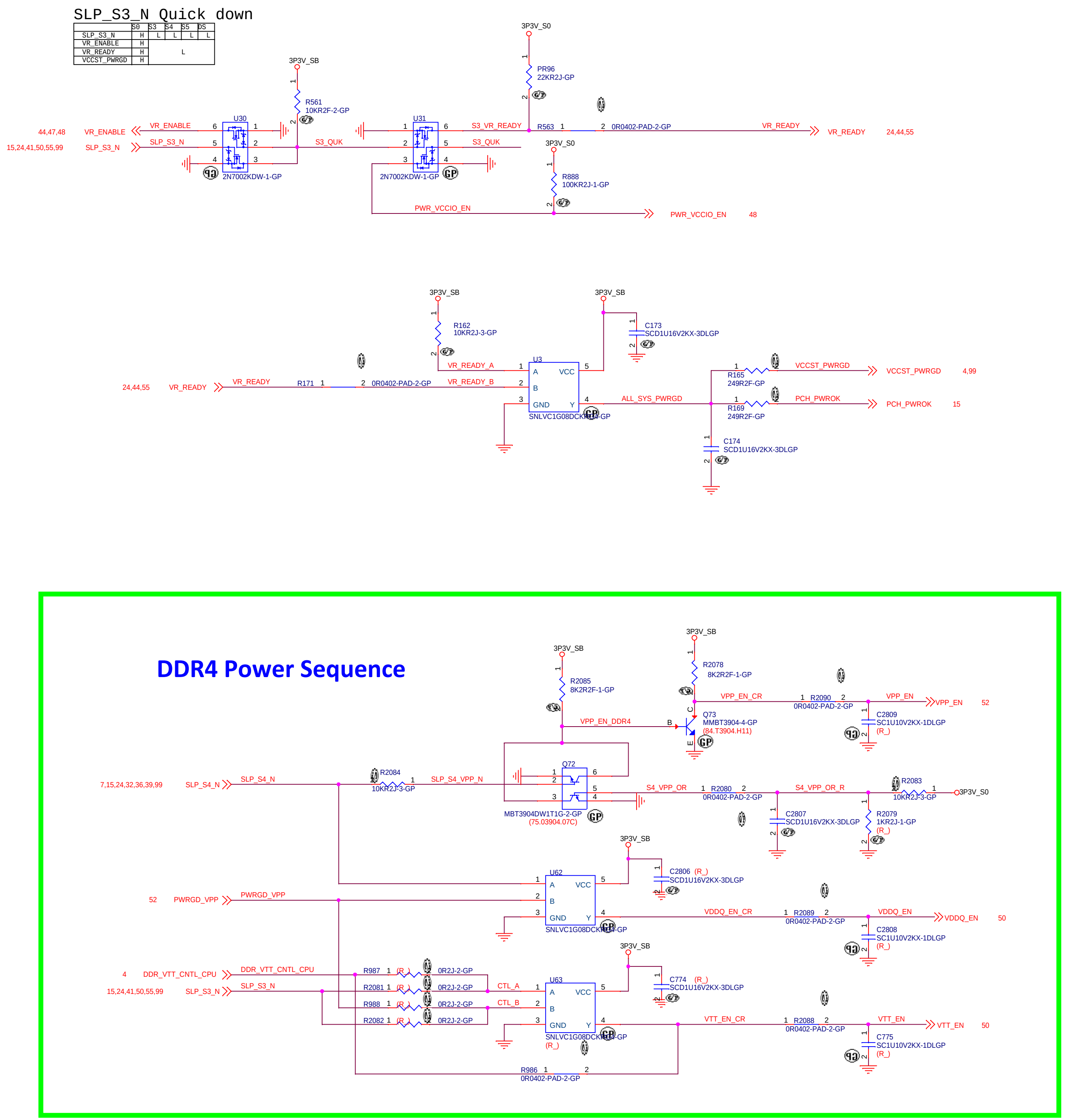
Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: TBD		
Size: B	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 53 of 107	



S0	S3	S5	DS
H	L	L	L

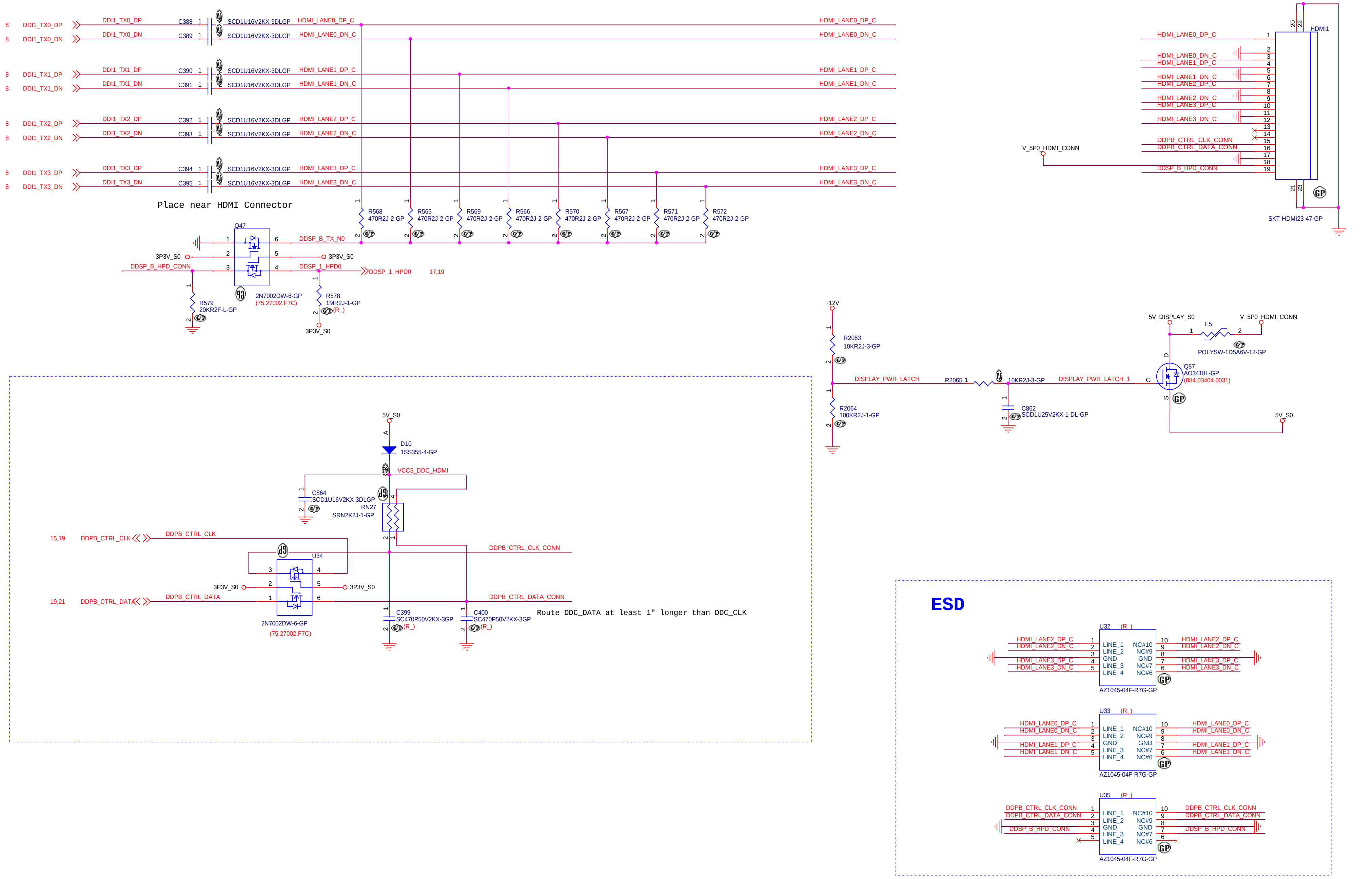
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	5V/3P3V_S0	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 54 of 107	



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

Title	Sequence Circuit	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 55 of 107	



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

Title: HDMI(Input)

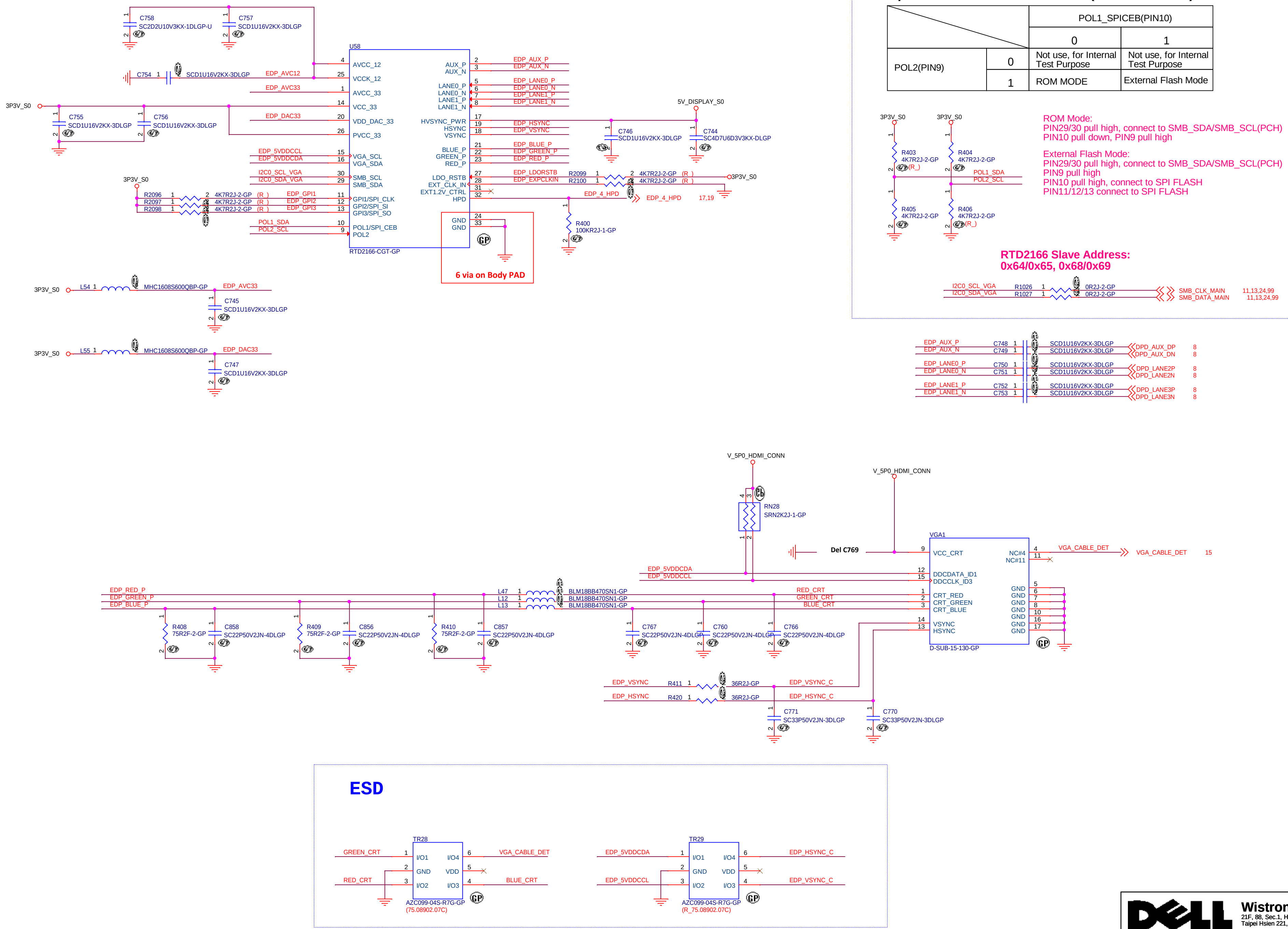
Size	Document Number	Rev
C	TAHOE SFF MLK	A00

Date: Friday, October 21, 2016 Sheet 56 of 107

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

Title
Disply Port(Input/Output)

Size	Document Number	Rev
C	TAHOE SFF MLK	A00



Operation Mode Selection Table(Power on latch)

		POL1_SPICEB(PIN10)	
		0	1
POL2(PIN9)	0	Not use, for Internal Test Purpose	Not use, for Internal Test Purpose
	1	ROM MODE	External Flash Mode

ROM Mode:
PIN29/30 pull high, connect to SMB_SDA/SMB_SCL(PCH)
PIN10 pull down, PIN9 pull high

External Flash Mode:
PIN29/30 pull high, connect to SMB_SDA/SMB_SCL(PCH)
PIN9 pull high
PIN10 pull high, connect to SPI FLASH
PIN11/12/13 connect to SPI FLASH

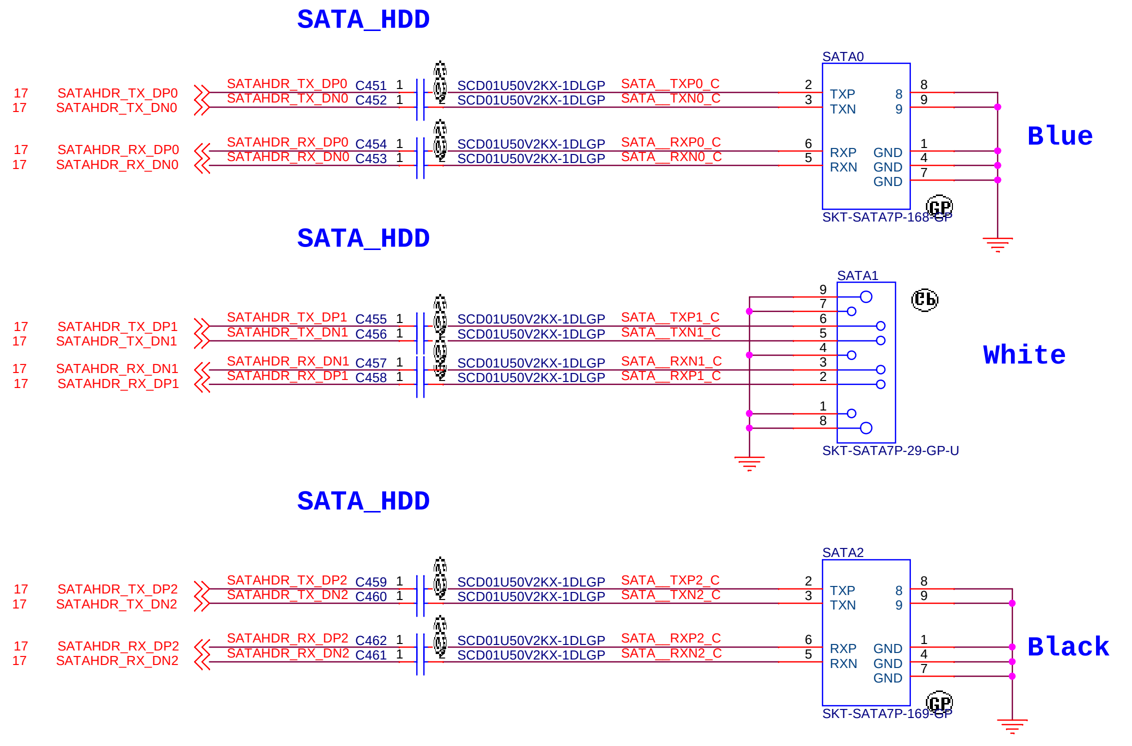
RTD2166 Slave Address:
0x64/0x65, 0x68/0x69

5 4 3 2 1

D C B A

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

Title: Reserved		
Size: A	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 59 of 107	

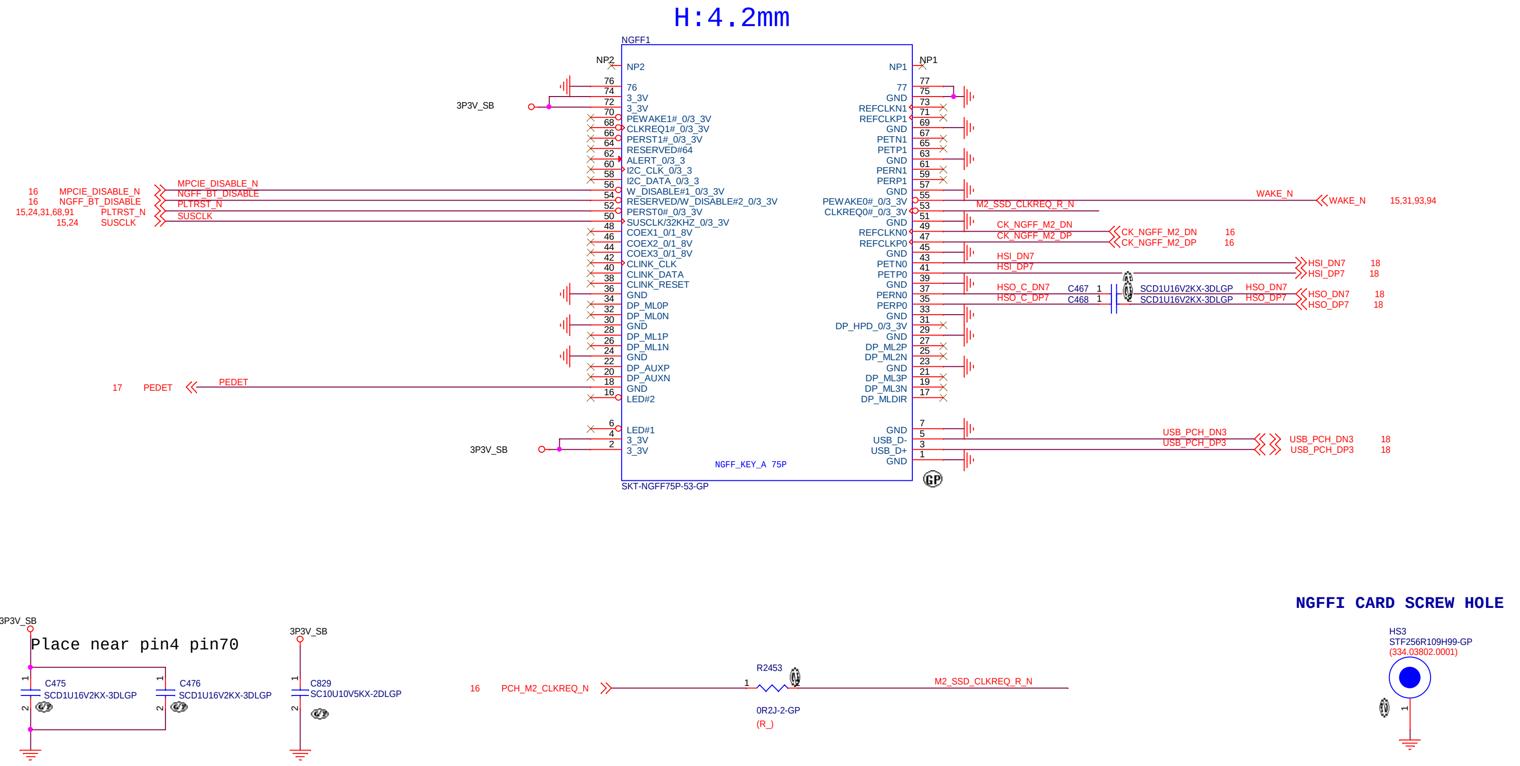


Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	HDD/ODD	
Size B	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 60 of 107	

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

Title: CLINK/BT Header		
Size: Custom	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 61 of 107	



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

Title	M2_SSD	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 62 of 107	

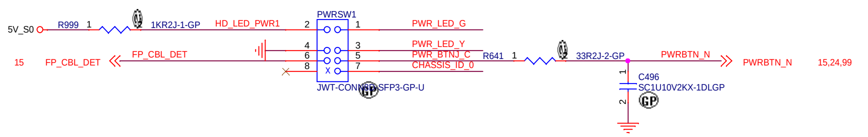
5 4 3 2 1

D C B A

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

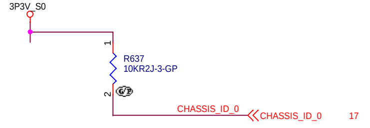
Title	TBD	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 63 of 107	

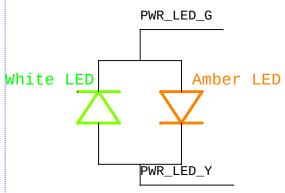
POWER BUTTON



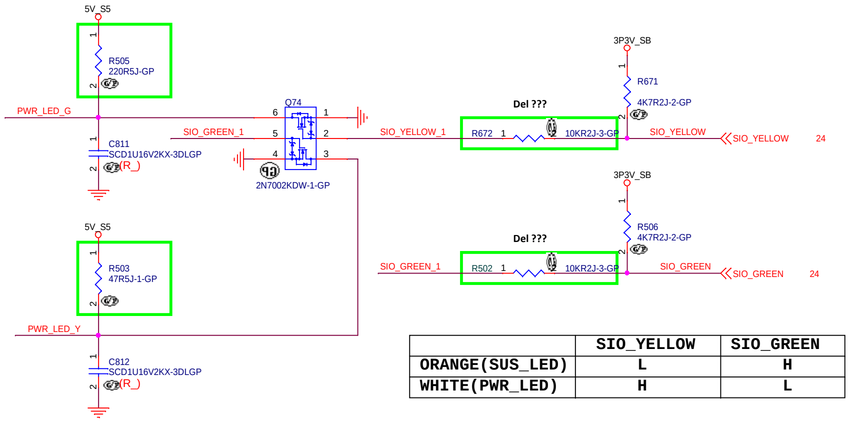
CHASSIS ID

TYPE	ID_0
Inspiron	1
Vostro	0

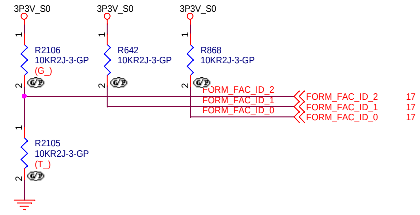




S0	White
S3	Amber
S4	LED off
No Post	Amber
Failure to Post	Amber (blinking)

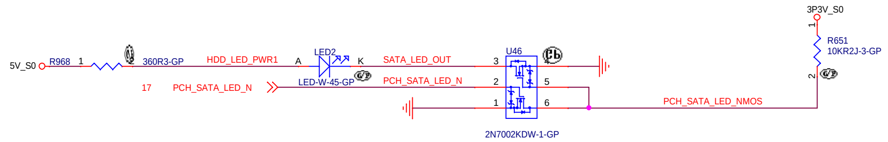


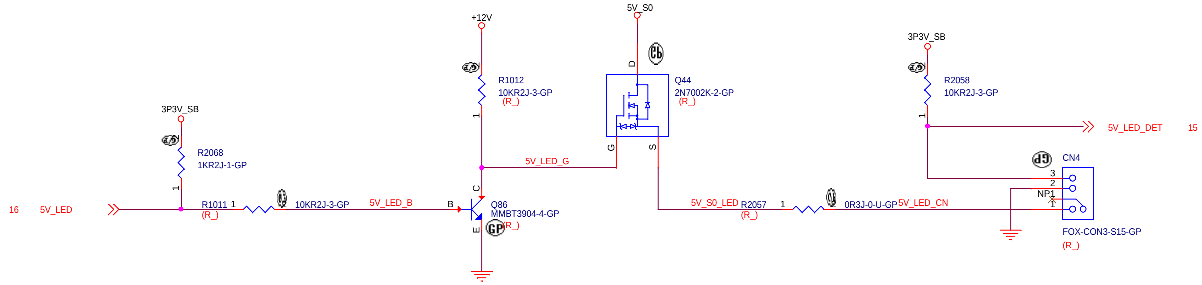
	SIO_YELLOW	SIO_GREEN
ORANGE(SUS_LED)	L	H
WHITE(PWR_LED)	H	L



SKU ID

Type	ID_2	ID_1	ID_0
Tahoe MT MLK with TPM	0	0	0
Tahoe MT MLK w/o TPM	1	0	0
Tahoe CBB MT MLK with TPM	0	0	1
Tahoe CBB MT MLK w/o TPM	1	0	1
Tahoe SFF MLK with TPM	0	1	1
Tahoe SFF MLK w/o TPM	1	1	1





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

Title	Reserved
Size	A
Document Number	TAHOE SFF MLK
Rev	A00
Date:	Friday, October 21, 2016
Sheet	65 of 107

5 4 3 2 1

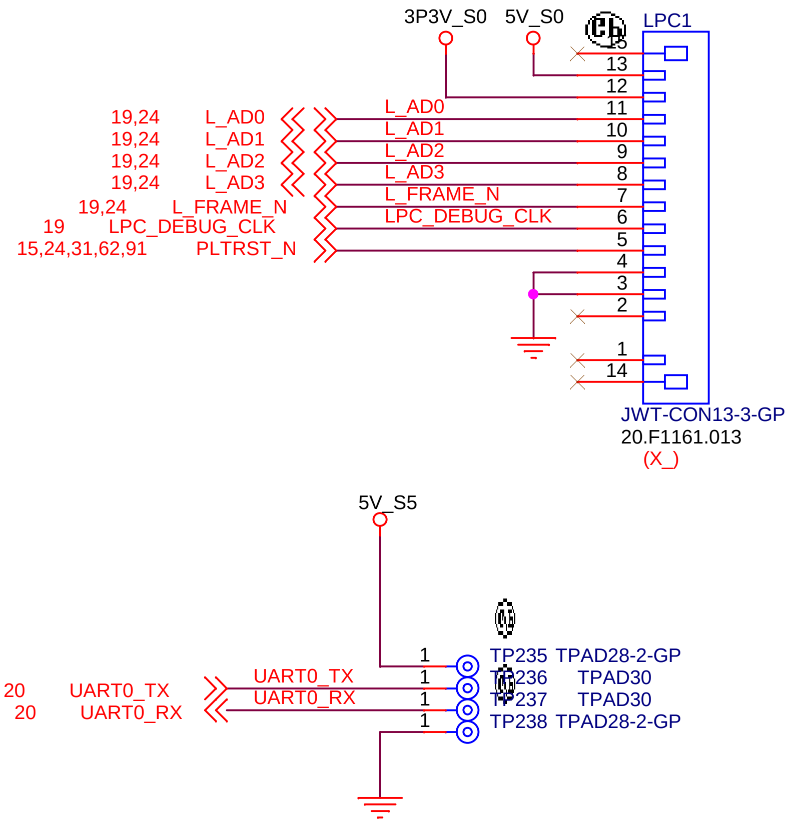
D C B A

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

Title	Reserved	
Size A	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 66 of 107	

Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title Reserved		
Size A	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 67 of 107	

LPC DEBUG PORT



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

Title	LPC/UART	
Size A	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 68 of 107	

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

Title
Reserved

Size	Document Number	Rev
A	TAHOE SFF MLK	A00

Date: Friday, October 21, 2016 Sheet 69 of 107

5	4	3	2	1

D

C

B

A

Wistron Corporation

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

Title	Reserved	
Size A	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 70 of 107	

	Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	Reserved	
Size A	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 71 of 107	

5 4 3 2 1

D D

C C

B B

A A

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

Title	Reserved	
Size: A	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 72 of 107	

5 4 3

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

Title	Reserved	
Size A	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 73 of 107	

5 4 3 2 1

D C B A

Wistron Corporation

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

Title	Reserved	
Size A	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 74 of 107	

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

Title	Reserved
Size	A
Document Number	TAHOE SFF MLK
Rev	A00
Date:	Friday, October 21, 2016
Sheet	75 of 107

Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: Reserved		
Size: C	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 76 of 107	

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

Title	Reserved	
Size: A	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 77 of 107	

5 4 3 2 1

D C B A

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

Title	Reserved	
Size D	Document Number TAHOE SFF MLK	Rev A00
Date: 1 Friday, October 21, 2016	Sheet 78 of 107	

PU for I2CC

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

Title	Reserved	
Size: Custom	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 79 of 107	

5 4 3 2 1

D C B A

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

Title: Reserved		
Size: D	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 81 of 107	

5 4 3 2 1

D C B A

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

Title	Reserved	
Size A	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 83 of 107	

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

Title		
	Reserved	
Size A	Document Number TAHOE SFF MLK	Rev A00
Date:	Friday, October 21, 2016	Sheet 84 of 107

5 4 3 2 1

D C B A

5 4 3 2 1

D C B A

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

Title	Reserved	
Size Custom	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 86 of 107	

	Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	Reserved
Size: A3	Document Number: TAHOE SFF MLK
Rev	A00
Date:	Friday, October 21, 2016
Sheet	88 of 107

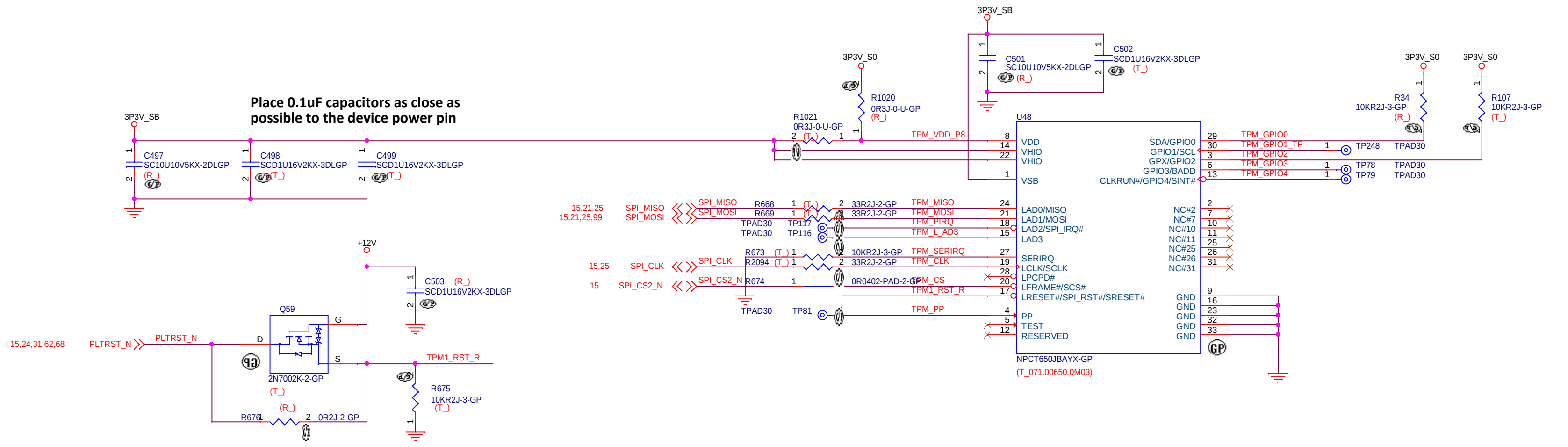
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	Reserved	
Size A1	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 89 of 107	

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

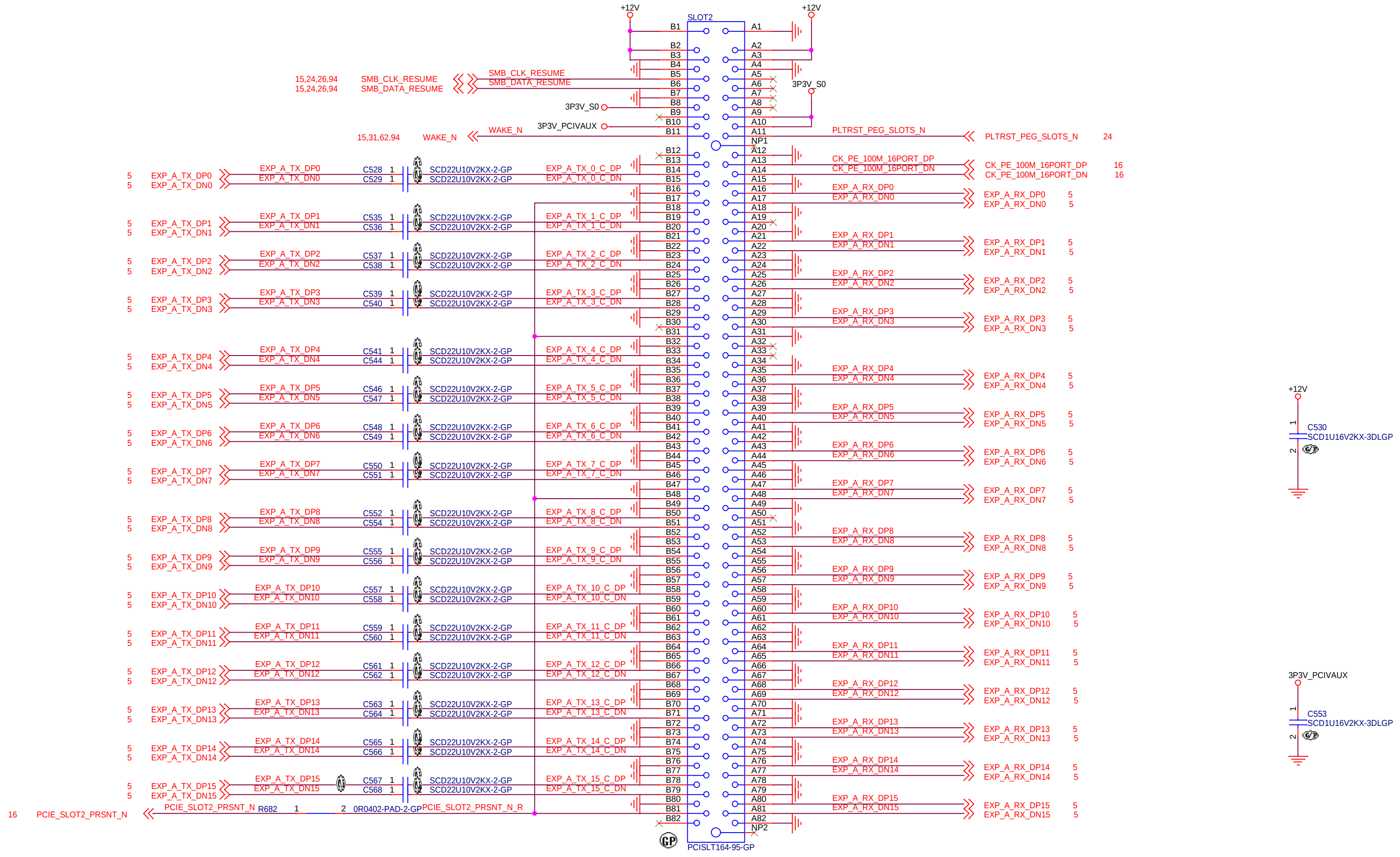
Title	Reserved	
Size A3	Document Number TAHOE SFF MLK	Rev A00
Date:	Friday, October 21, 2016	Sheet 90 of 107

Nuvoton TPM



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

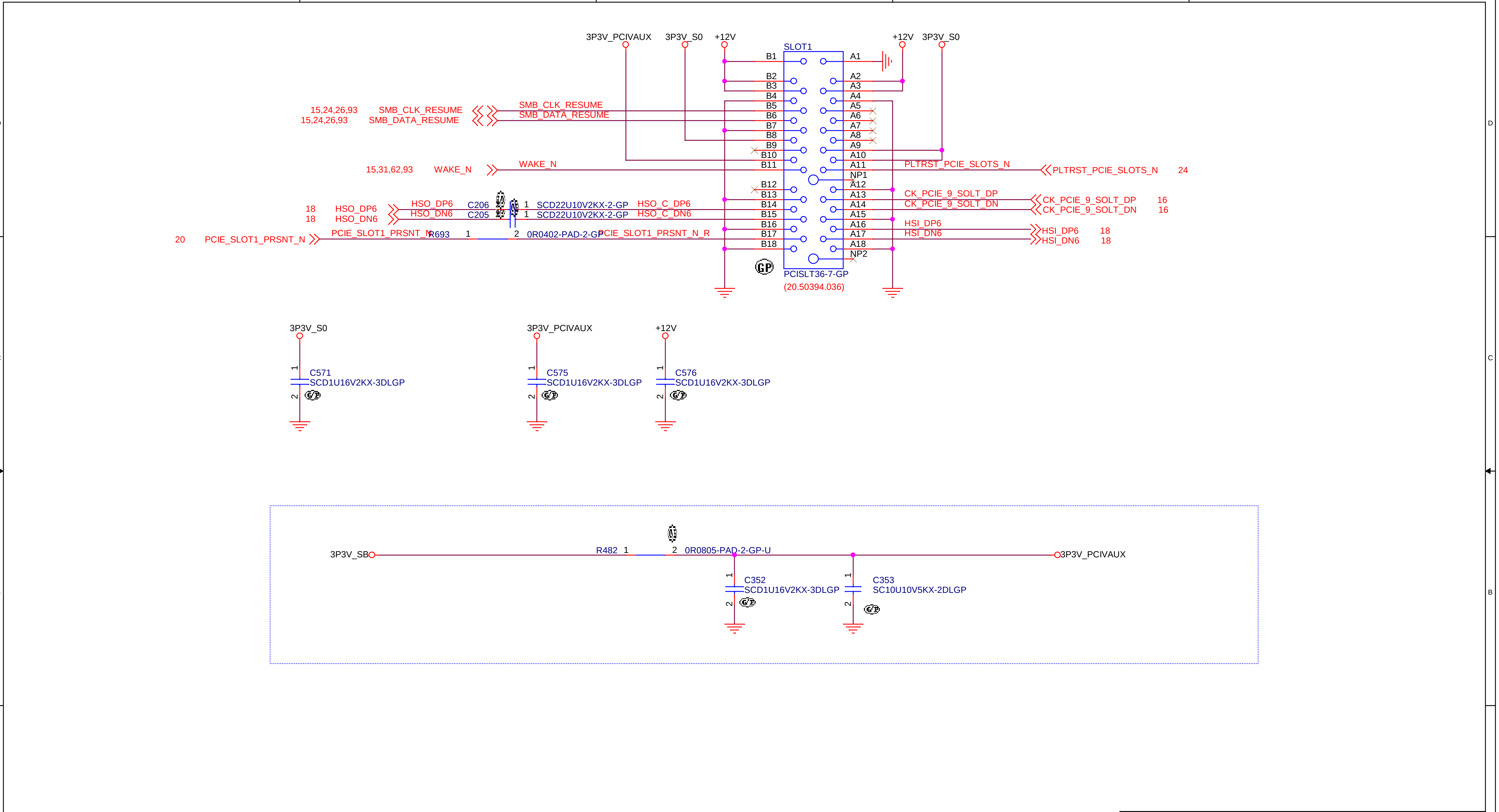
Title: TPM/TCM		
Size: C	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 91 of 107	



PCIeX16

Title	PCIeX16
Size	C
Document Number	TAHOE SFF MLK
Rev	A00
Date:	Friday, October 21, 2016
Sheet	93 of 107

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



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

Title: PCIeX1/X4		
Size: B	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 94 of 107	

5 4 3 2 1

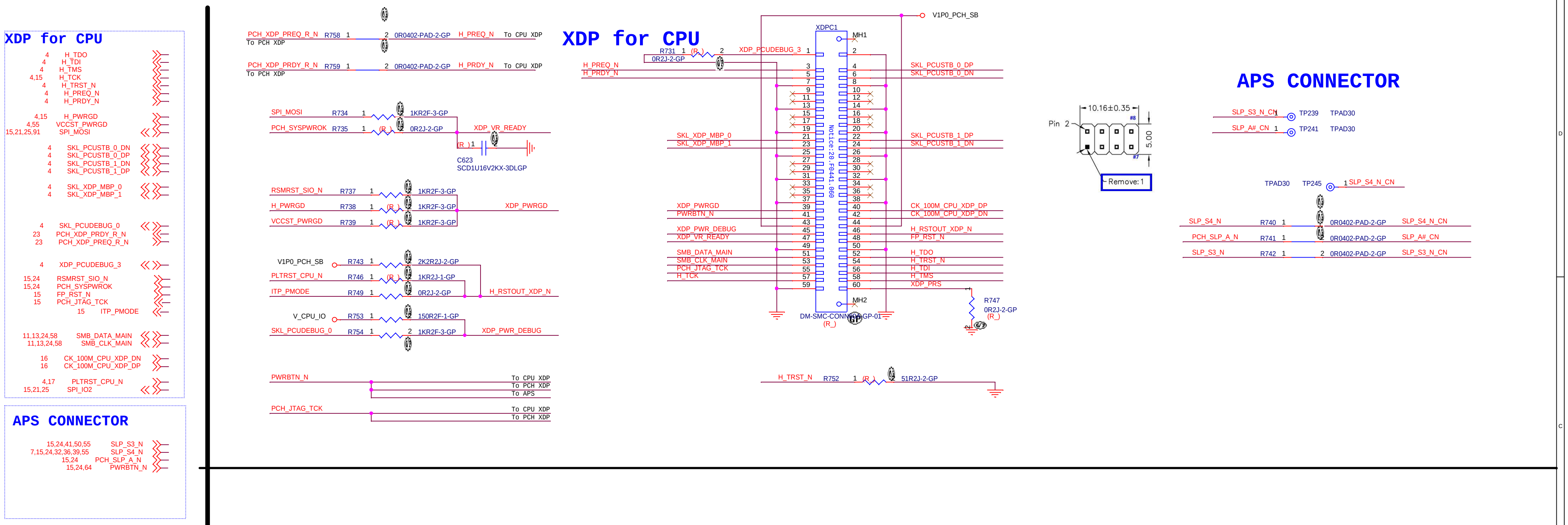
D C B A

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

Title	TBD	
Size A	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 95 of 107	

(Blanking)

Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.			
Title: Reserved			
Size: A4	Document Number: TAHOE SFF MLK		Rev: A00
Date: Friday, October 21, 2016	Sheet 98 of 107		



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

Title	XDP/80 PORT HEADER/APS	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 99 of 107	

5 4 3 2 1

D

C

B

A

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

Title	Reserved	
Size A4	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 100 of 107	

5 4 3 2 1

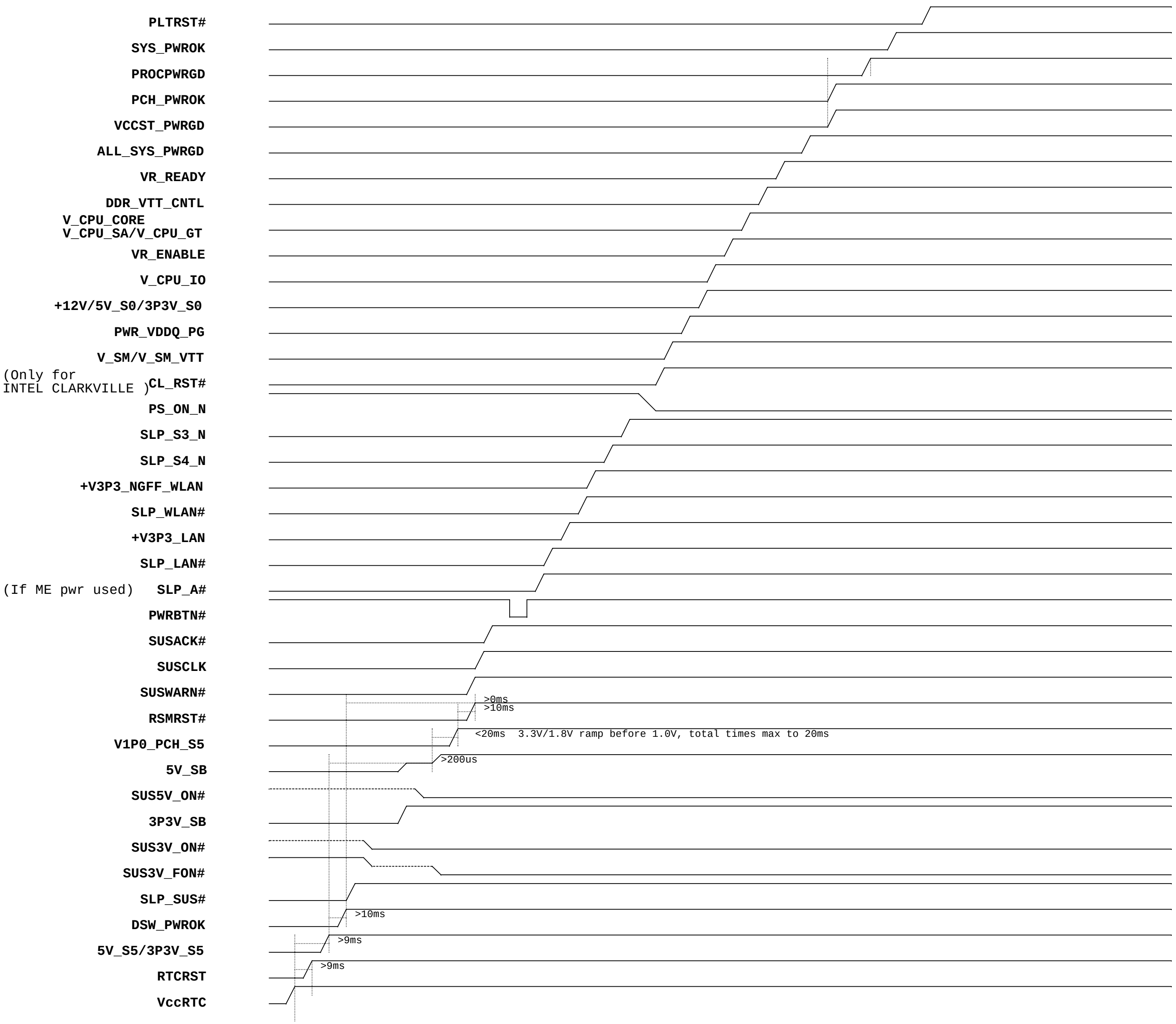
D C B A

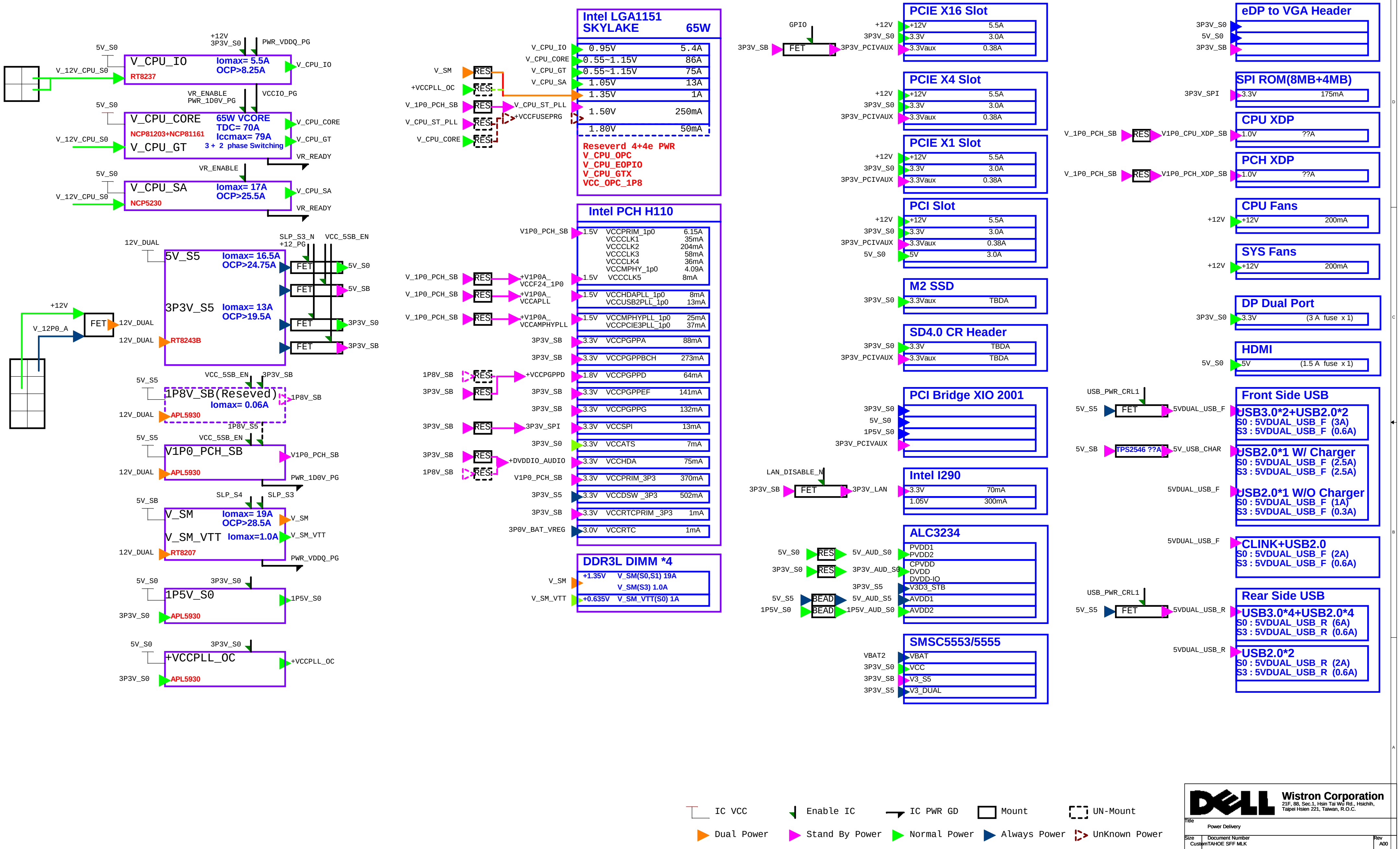
Wistron Corporation

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

Title	GPIO Table	
Size A4	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 101 of 107	

POWER ON SEQUENCE



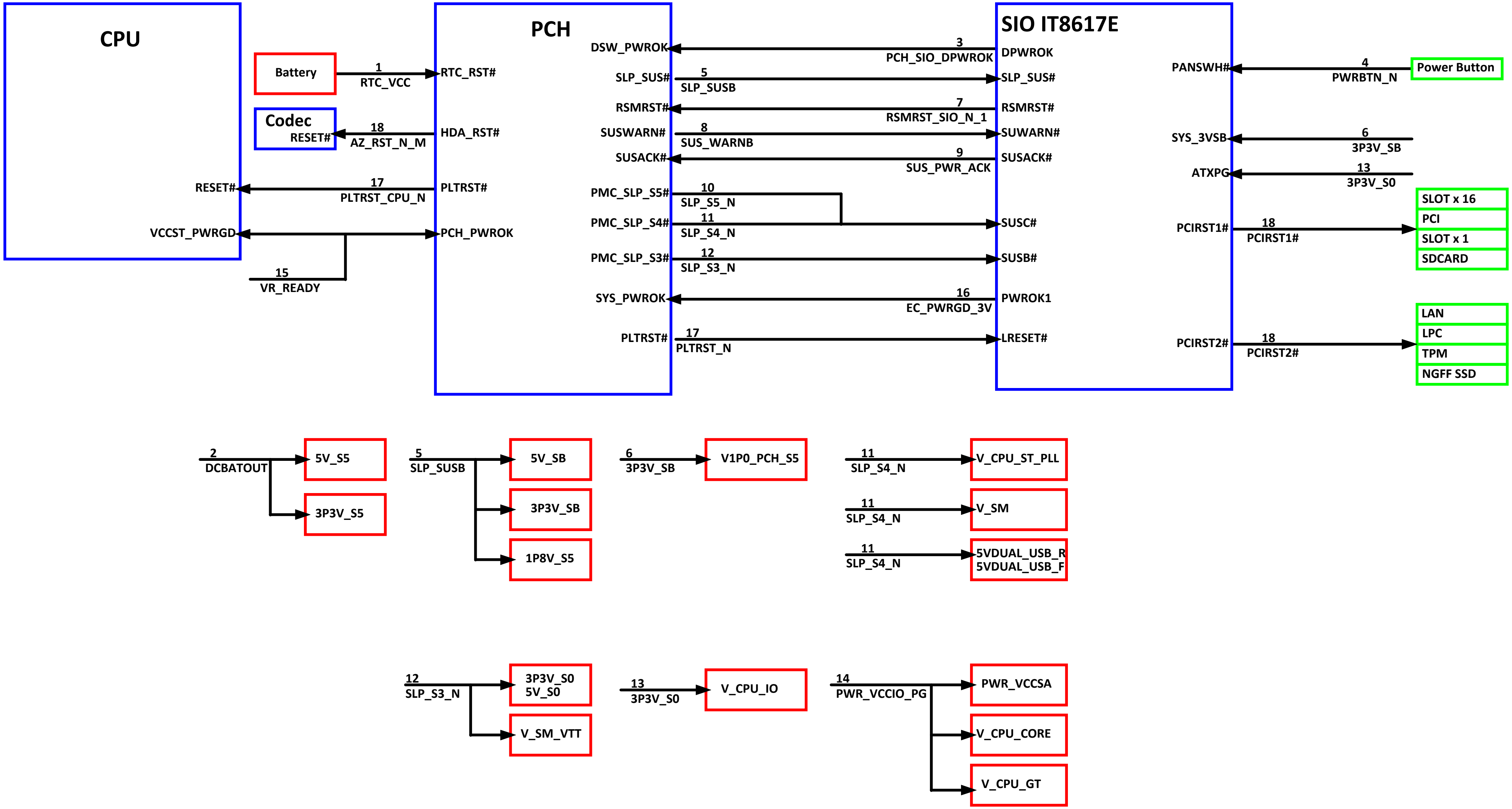


Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: Power Delivery

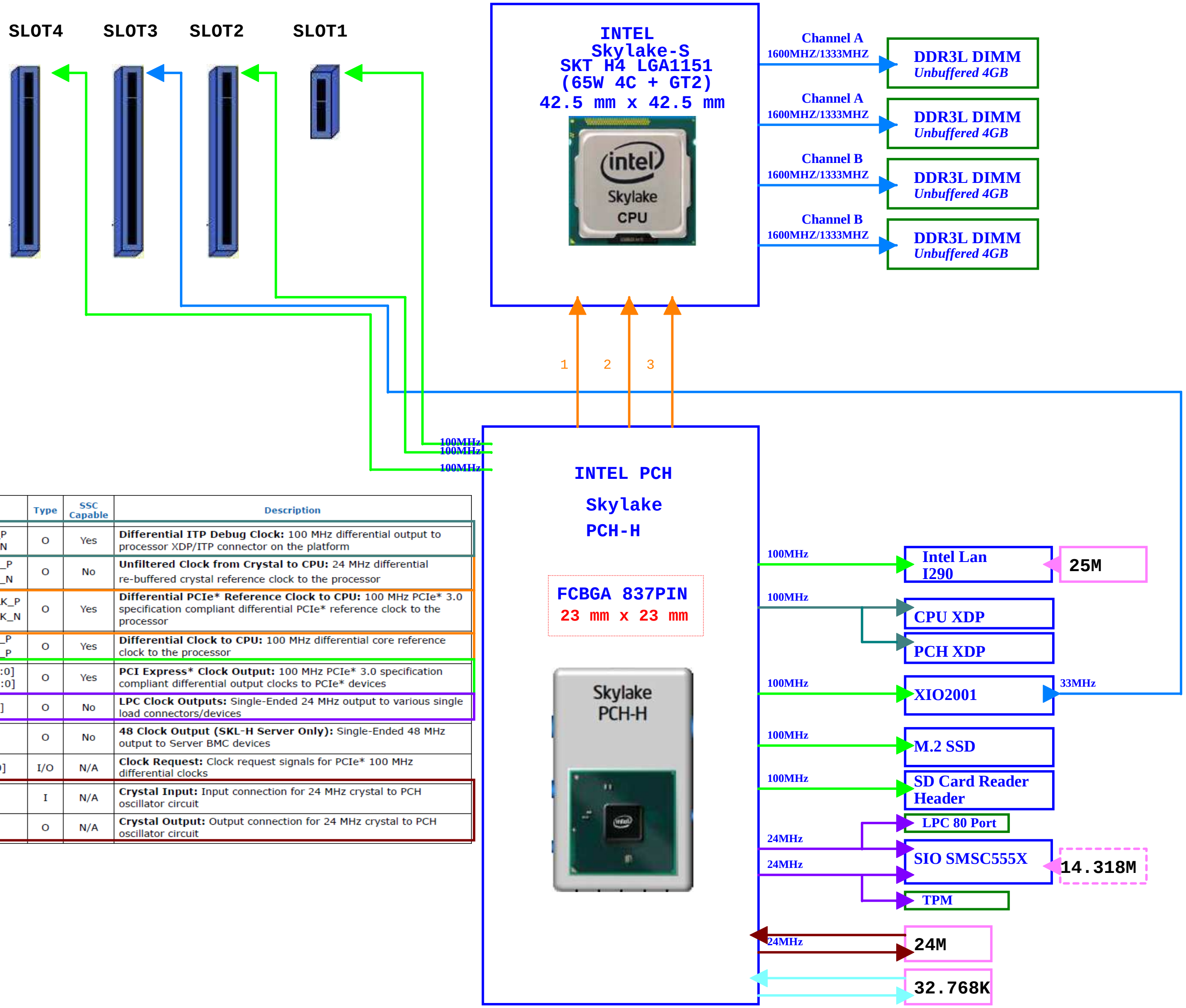
Size	Document Number	Rev
Custom	TAHOE SFF MLK	A00

Date: Friday, October 21, 2016 Sheet 103 of 107



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

Title	Power Good & Reset Diagram	
Size: D	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 104 of 107	



	Name	Type	SSC Capable	Description
	CLKOUT_ITPXDP_P CLKOUT_ITPXDP_N	O	Yes	**Differential ITP Debug Clock:** 100 MHz differential output to processor XDP/ITP connector on the platform
1	CLKOUT_CPUNSSC_P CLKOUT_CPUNSSC_N	O	No	**Unfiltered Clock from Crystal to CPU:** 24 MHz differential re-buffered crystal reference clock to the processor
2	CLKOUT_CPUPCIBCLK_P CLKOUT_CPUPCIBCLK_N	O	Yes	**Differential PCIe* Reference Clock to CPU:** 100 MHz PCIe* 3.0 specification compliant differential PCIe* reference clock to the processor
3	CLKOUT_CPUBCLK_P CLKOUT_CPUBCLK_P	O	Yes	**Differential Clock to CPU:** 100 MHz differential core reference clock to the processor
	CLKOUT_SRC_P[15:0] CLKOUT_SRC_N[15:0]	O	Yes	**PCI Express* Clock Output:** 100 MHz PCIe* 3.0 specification compliant differential output clocks to PCIe* devices
	CLKOUT_LPC[1:0]	O	No	**LPC Clock Outputs:** Single-Ended 24 MHz output to various single load connectors/devices
	CLKOUT_48	O	No	**48 Clock Output (SKL-H Server Only):** Single-Ended 48 MHz output to Server BMC devices
	SRCCLKRQ#[15:0]	I/O	N/A	**Clock Request:** Clock request signals for PCIe* 100 MHz differential clocks
	XTAL24_IN	I	N/A	**Crystal Input:** Input connection for 24 MHz crystal to PCH oscillator circuit
	XTAL24_OUT	O	N/A	**Crystal Output:** Output connection for 24 MHz crystal to PCH oscillator circuit

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

Title	Clock Diagram	
Size C	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 105 of 107	

Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title: REST Flow Chart	
Size: A	Document Number: TAHOE SFF MLK	Rev: A00
Date: Friday, October 21, 2016	Sheet 106 of 107

5	4	3	2	1

D

C

B

A

Wistron Corporation

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

Title	Change History	
Size A	Document Number TAHOE SFF MLK	Rev A00
Date: Friday, October 21, 2016	Sheet 107 of 107	

5	4	3	2	1