

Model:TIGRIS_SFF
PCB Ver: A00
PCB Number: 12125 -2
PCB P/N:
SCH Ver: A00
PCBA:

PCB BOARD SIZE
4 Layers
200mmX 244mm

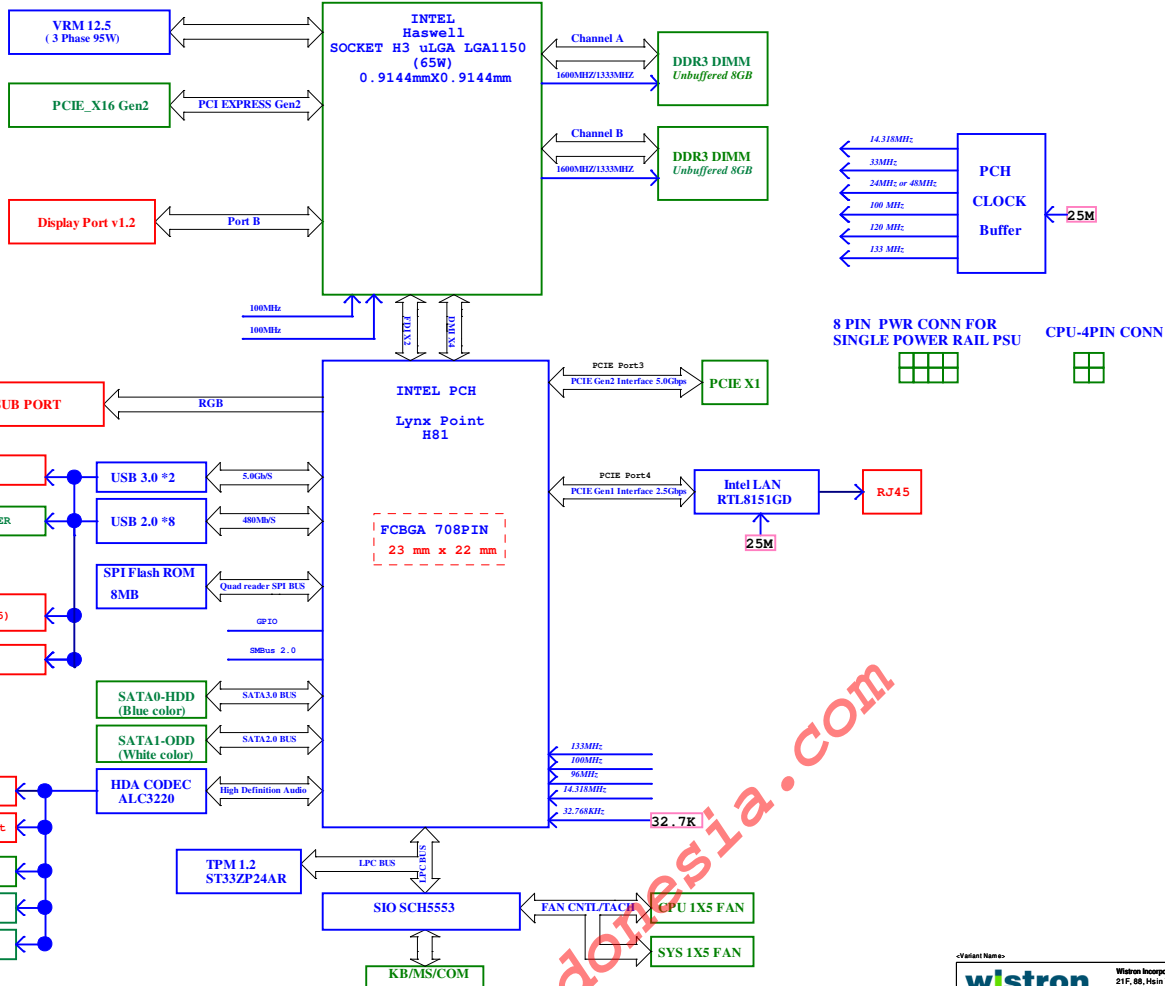
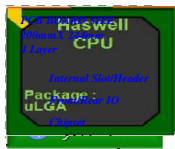
BOM Configuration
Unmount: (R)

1 BUILD
Shark Bay :
LGA1150 : Haswell
Chipset : Lynx Point H81
LAN : Gb LAN RTL8151GD

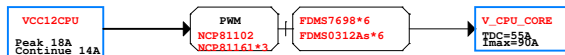
PAGE	TITLE	Quantity
01	Cover Page	
02	BLOCK DIAGRAM	
03	Power Delivery	
04	POWER GOOD AND RESET DIAGRAM	
05	CLOCKS DIAGRAM	
06	Power Sequence	
07	POWER Map	
08	GPIO TABLE	
09	TBD	
10	CPU uLGA 1150_1	
11	CPU uLGA 1150_2	
12	CPU uLGA 1150_3	
13	CPU uLGA 1150_4	
14	XDP/80 PORT HEADER	
15	DDR3 CHA DIMM 0	
16	TBD	
17	DDR3 CHB DIMM 0	
18	TBD	
19	Lynxpoint AUDIO/GPIO/SPI	
20	Lynxpoint CLK	
21	Lynxpoint SATA/FAN/DP/VGA	
22	Lynxpoint FDI/PCIE/DMI/USB	
23	Lynxpoint GND/STRAPS	
24	Lynxpoint POWER	
25	SATA Port	
26	PCIEX16 CONNECTOR	
27	VGA Port	
28	Display Port	
29	HDMI PORT	
30	FRONT USB20 HEADER	

PAGE	TITLE	Quantity
31	TPM6TCM	
32	USB+RJ45	
33	REAR USB30_1	
34	REAR USB20_2	
35	LAN RTL8151G	
36	AUDIO CODEC ALC3220	
37	AUDIO CODEC JACKS	
38	DSW	
39	SIO SCH55553	
40	FAN CIRCUITS/HOLE	
41	KB/MS/Serial Port	
42	PCIEX1_ CONN	
43	MINI PCIE SLOT	
44	EMC	
45	PWR/FNT PNL	
46	DUAL POWER	
47	DC to DC 5V/3D3V(RT8243B)	
48	Run power/USB power	
49	DDR POWER	
50	SYSTEM POWER	
51	CPU VRD 12-5_1	
52	CPU VRD 12-5_2	

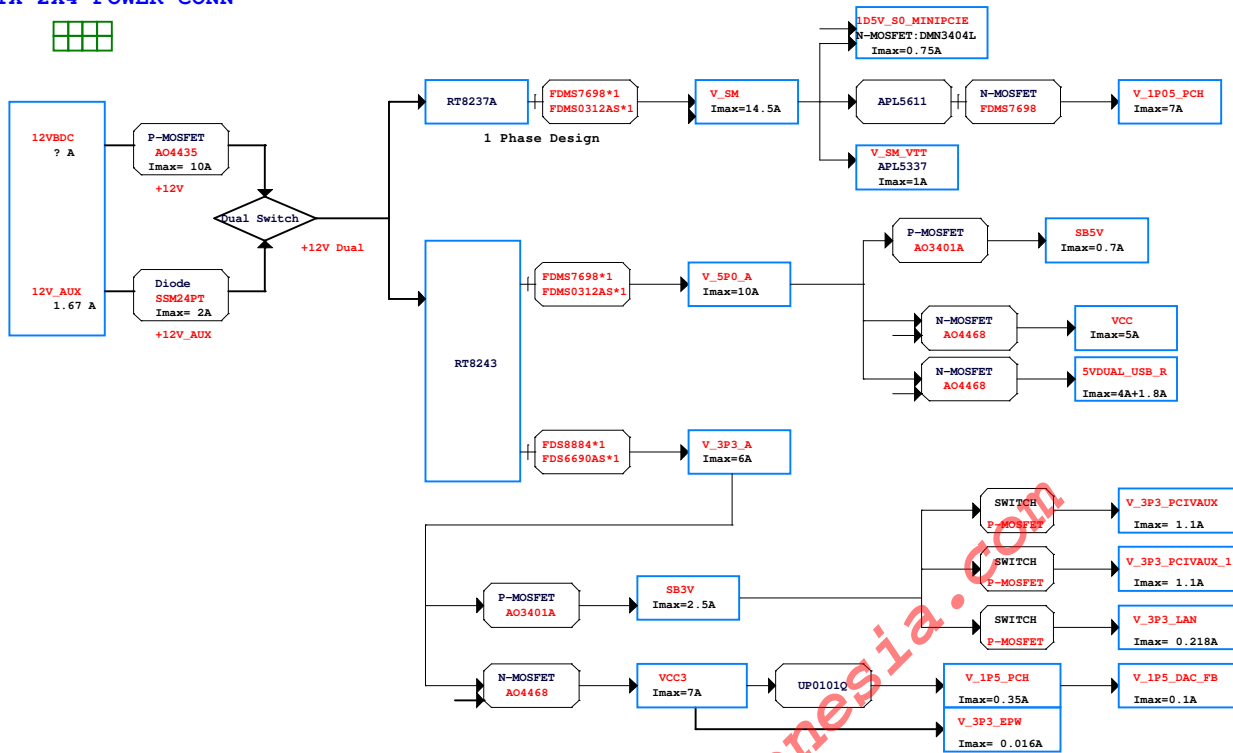
www.teknisi-indonesia.com



<Variant Name>		Wistron Incorporated 21 F, 88, Hsin Tai Wu Rd Hsichih, Taipei	
wistron			
File Block Diagram			
Size C	Document Number ROSA TIGRIS SFF		Rev 1
Date:	1 Thursday, April 03, 2014	Sheet 2 of 52	



3 Phase Design



<Variant Name>



Wistron Incorporated
21F, 88, Hsin Tai Wu Rd
Hsichih, Taipei

Title	Power Delivery
-------	----------------

Size	Document Number
C	ROSA TIGRIS SFF
Date:	Thursday, April 03, 2014

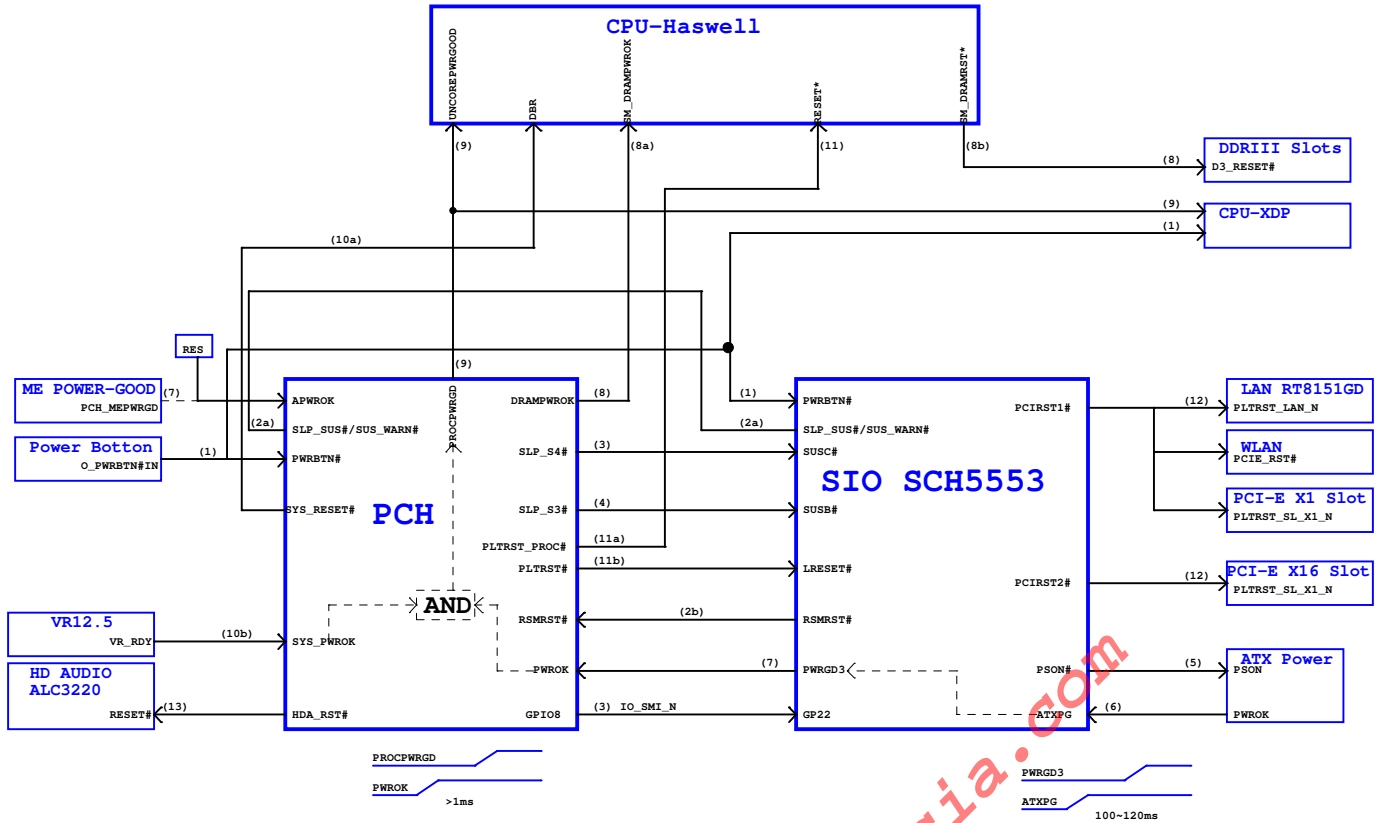
Page 1	Row 1
--------	-------

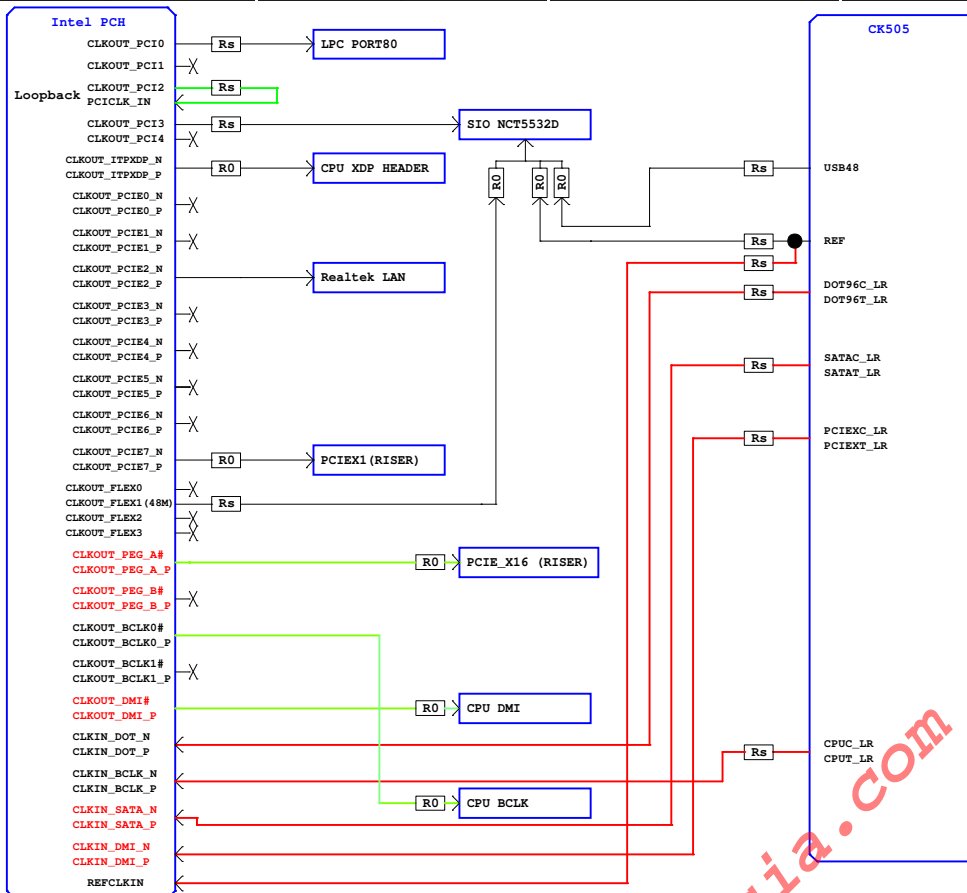
The diagram illustrates a power supply system for a motor. It consists of the following components and connections:

- Power MOSFETs:**
 - P-MOSFET AO3401A:** Connected to a 3.3V source (SB3V, Imax=2.5A).
 - N-MOSFET AO4468:** Connected to a 7A source (VCC3, Imax=7A).
- Motor:** UP0101Q, connected to the output of the MOSFETs.
- Output Voltage Sources:**
 - V_1P5_PCH:** 1.5V source, Imax=0.35A.
 - V_3P3_EPW:** 3.3V source, Imax=0.016A.

The circuit is designed to provide a 1.5V supply to the motor, with a 3.3V supply also available for other components.

RESET / Power Good MAP



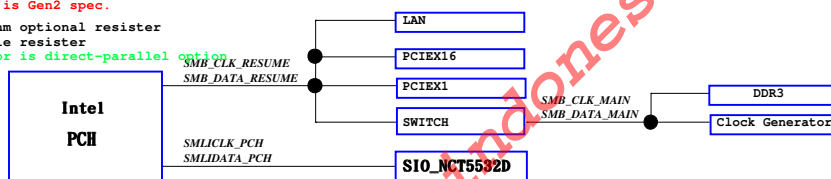


Note: Red Color is Gen2 spec.

Note: R0 is 0 ohm optional resistor

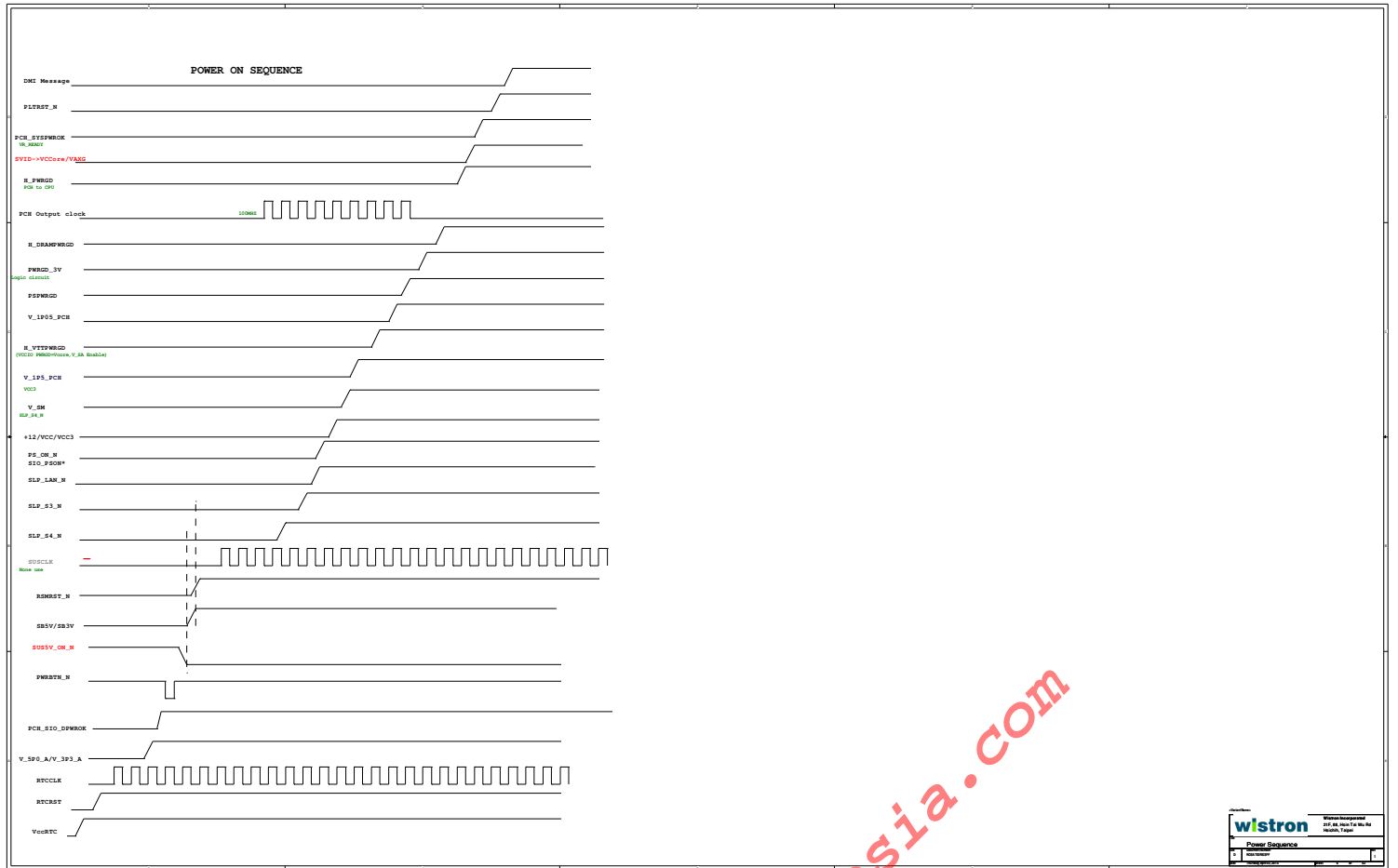
Note: Rs is serie resistor

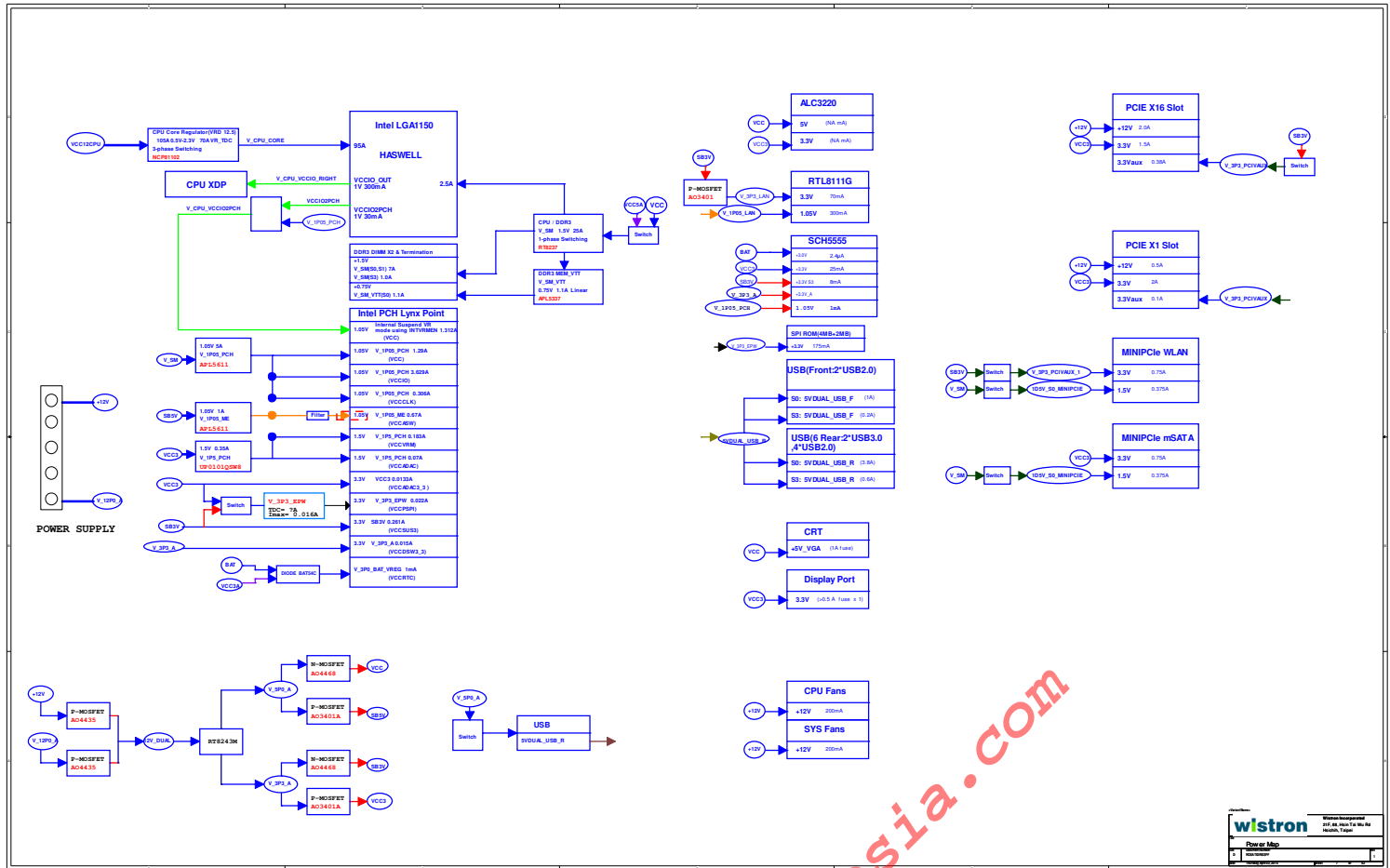
Note: Green Color is direct-parallel option



BTM: Buffer Through Mode
Need CK505 to provide 4 clock to PCH
FCIM: Full Clock Intergration Mode
Remove CK505

<Variant Name>		Wistron Incorporated 21F, 88, Hsin Tai Wu Rd Hsichih, Taipei	
			
File			
Clock Diagram			
Size C	Document Number ROSA TIGRIS SFF	Rev 1	
Date:	Thursday, April 03, 2014	Sheet 5	of 52






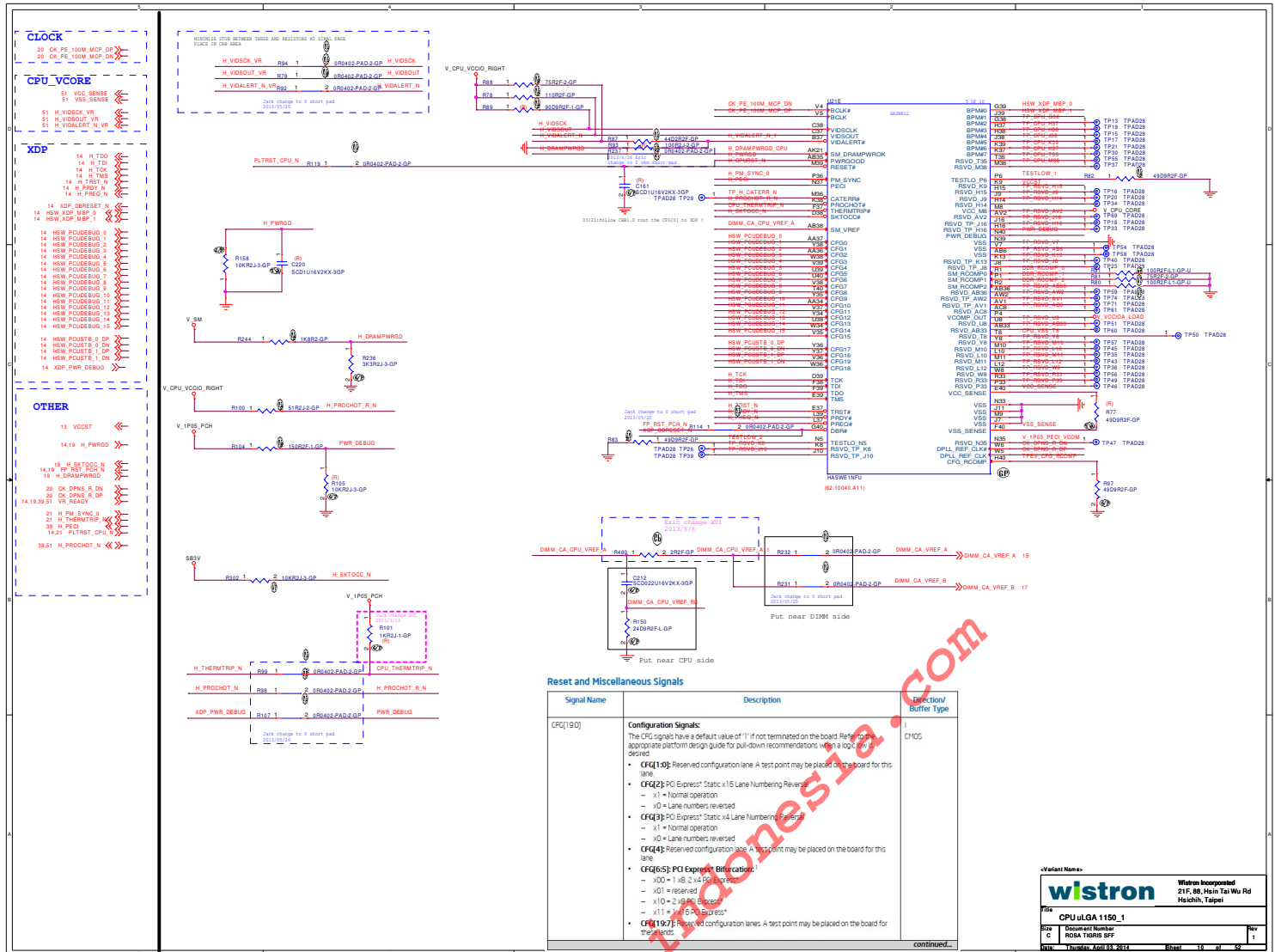
www.teknisi-indonesia.com

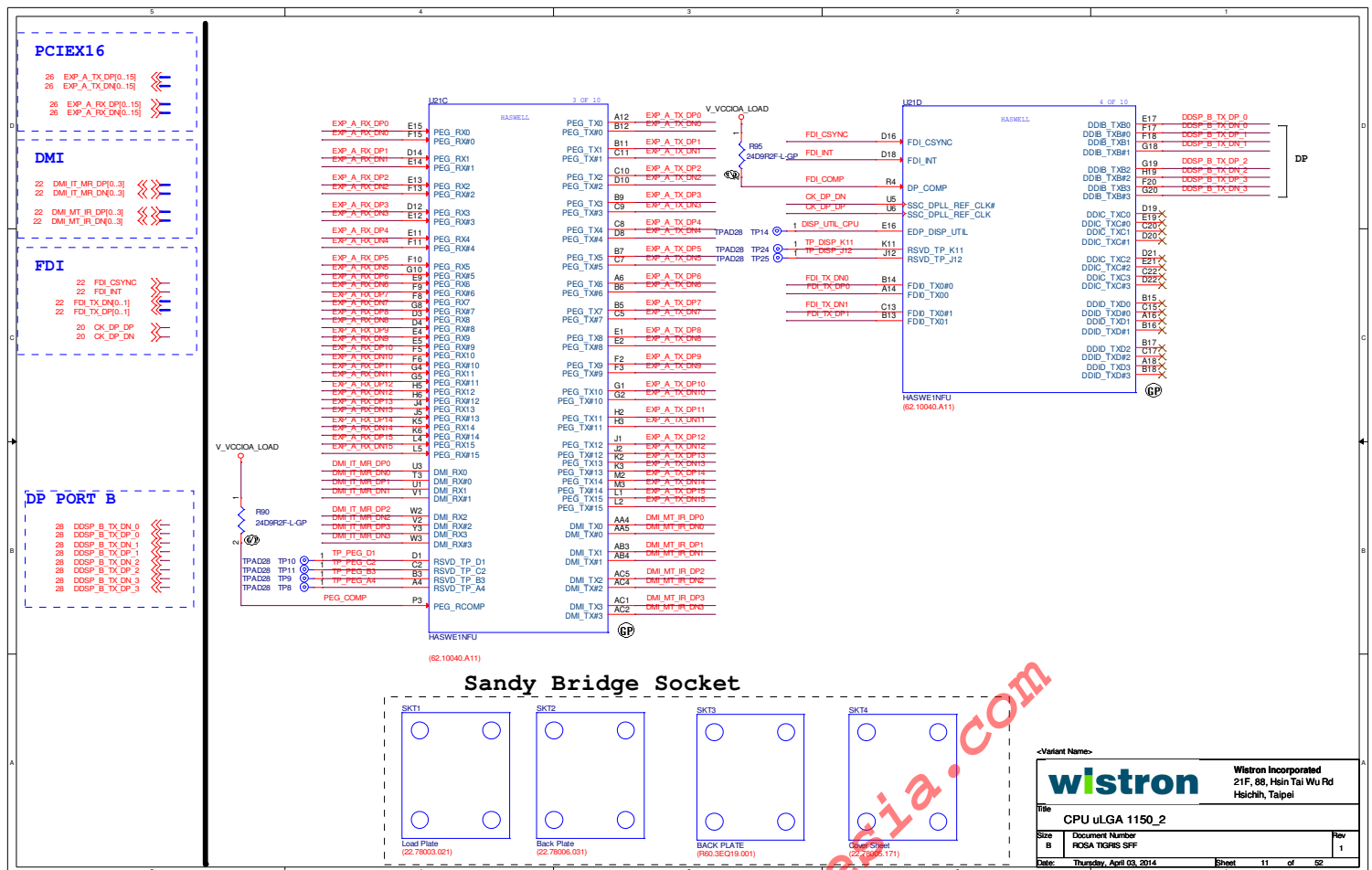
TBD

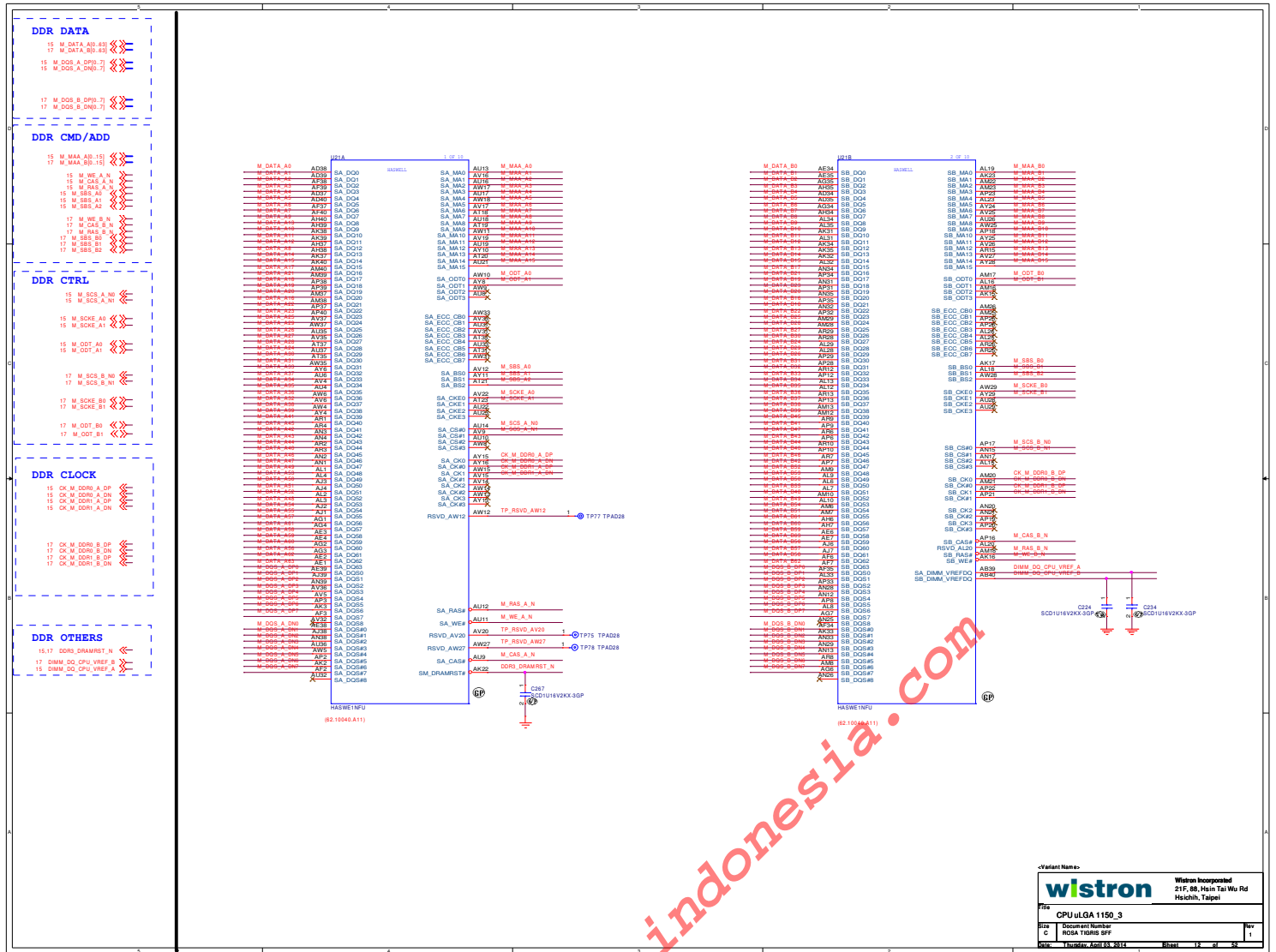
www.teknisi-indonesia.com

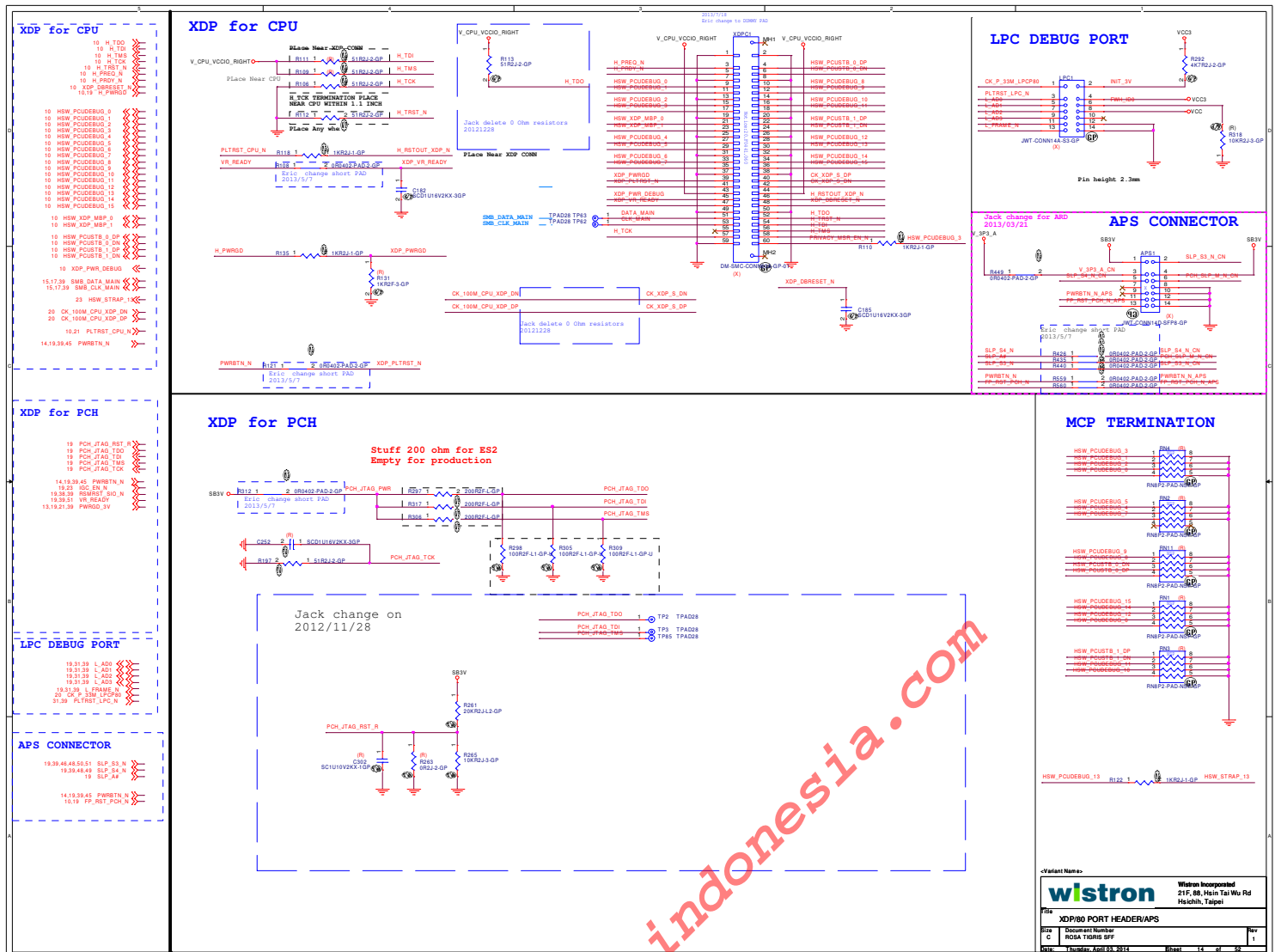
-Variant Name-	
 Wistron Incorporated 21F, 88, Hsin Tai Wu Rd Hsichih, Taipei	
File	
Size	Document Number
1.0	WISDA T1000G-001
Date: 1/20/2014 10:00:00 AM Rev: 1	

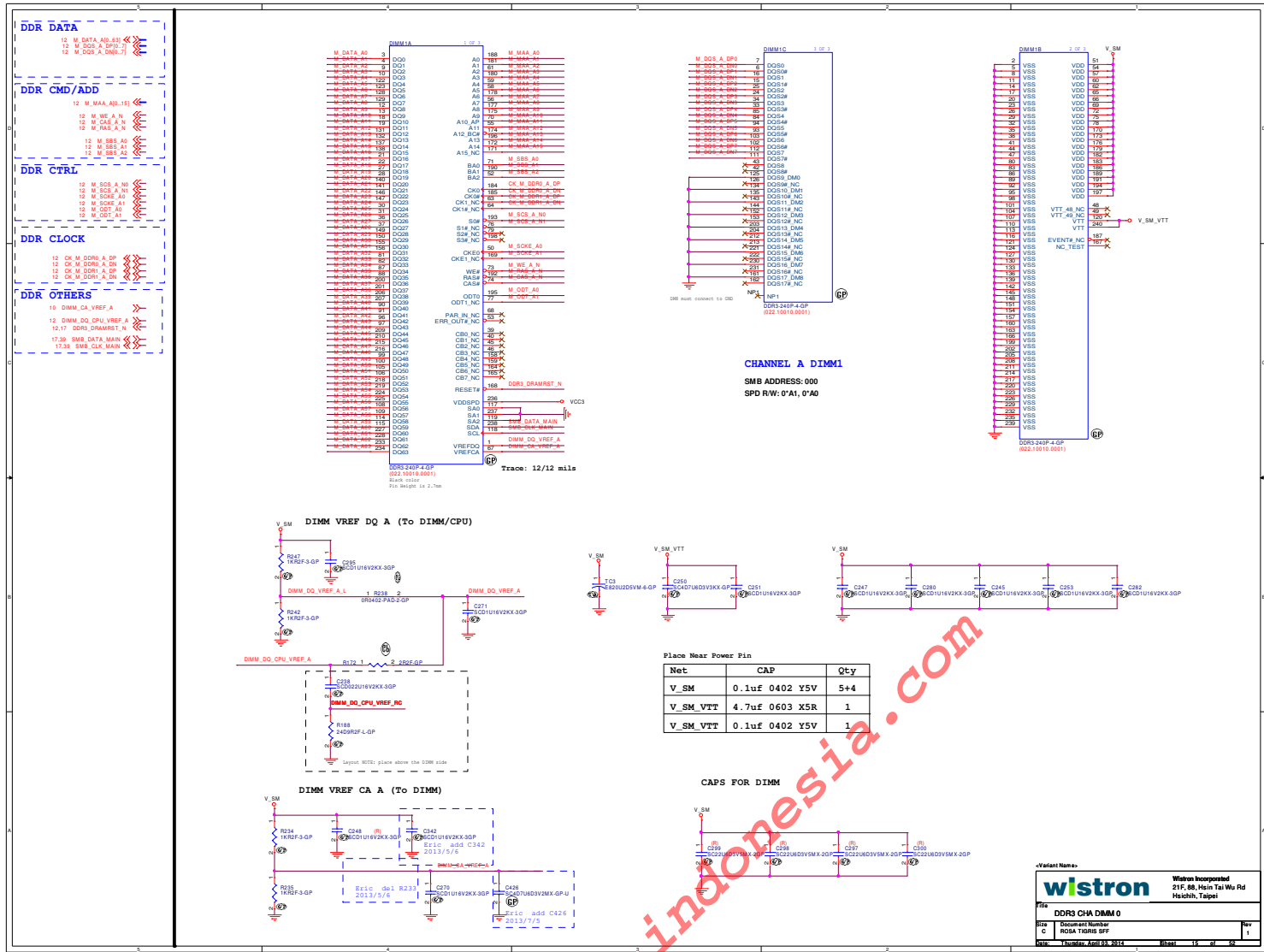
Title		TBD	
Size	Document Number	Rev	
A	ROSA TIGRIS SFF	1	
Date: Thursday, April 03, 2014		Sheet	9 of 52











www.teknisi-indonesia.com

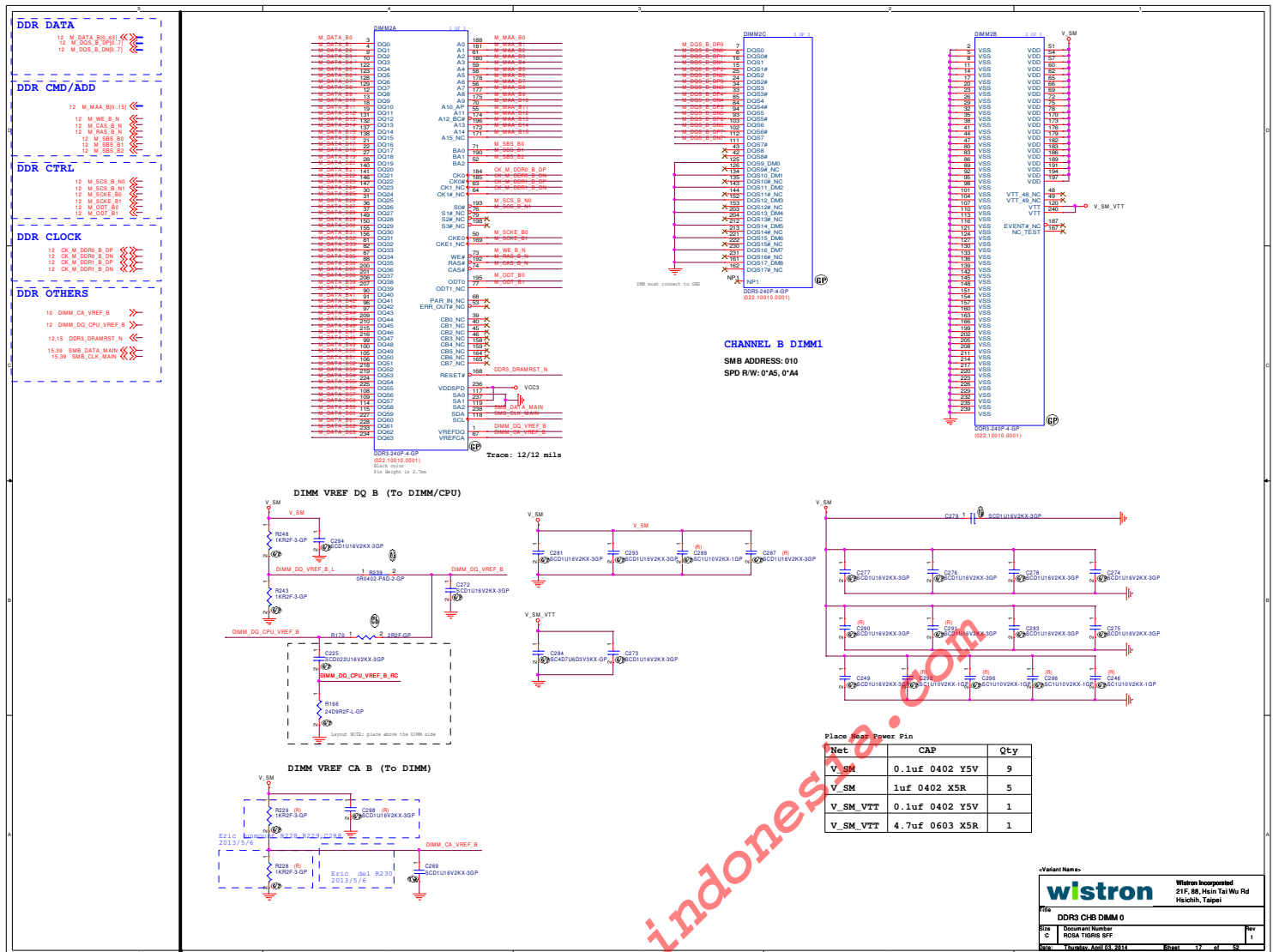
Wistron Incorporated
21F, 88, Heintai Wu Rd
Hsinchu, Taipei

Doc: DDR3 CHA DIMM 0

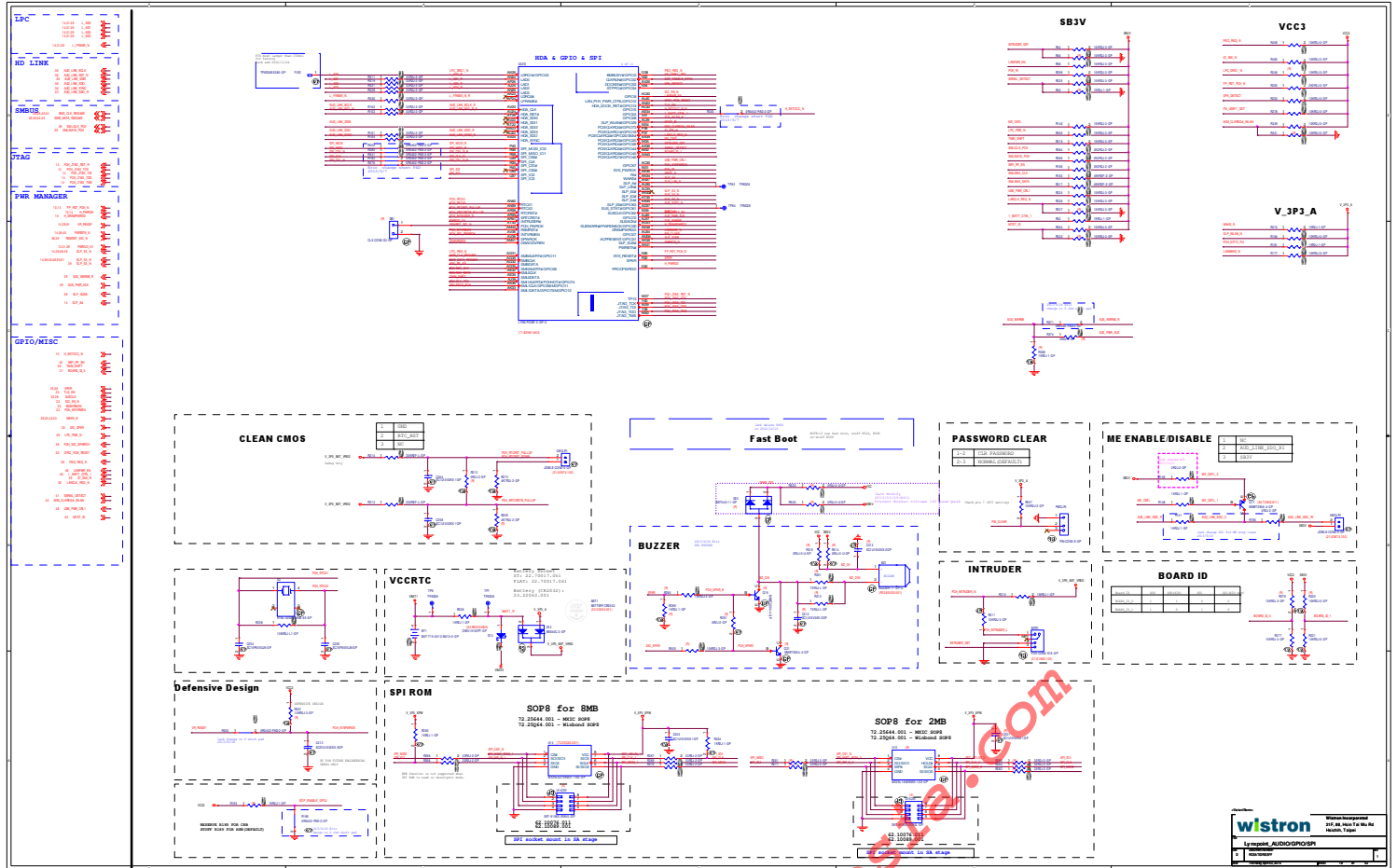
Rev: 1

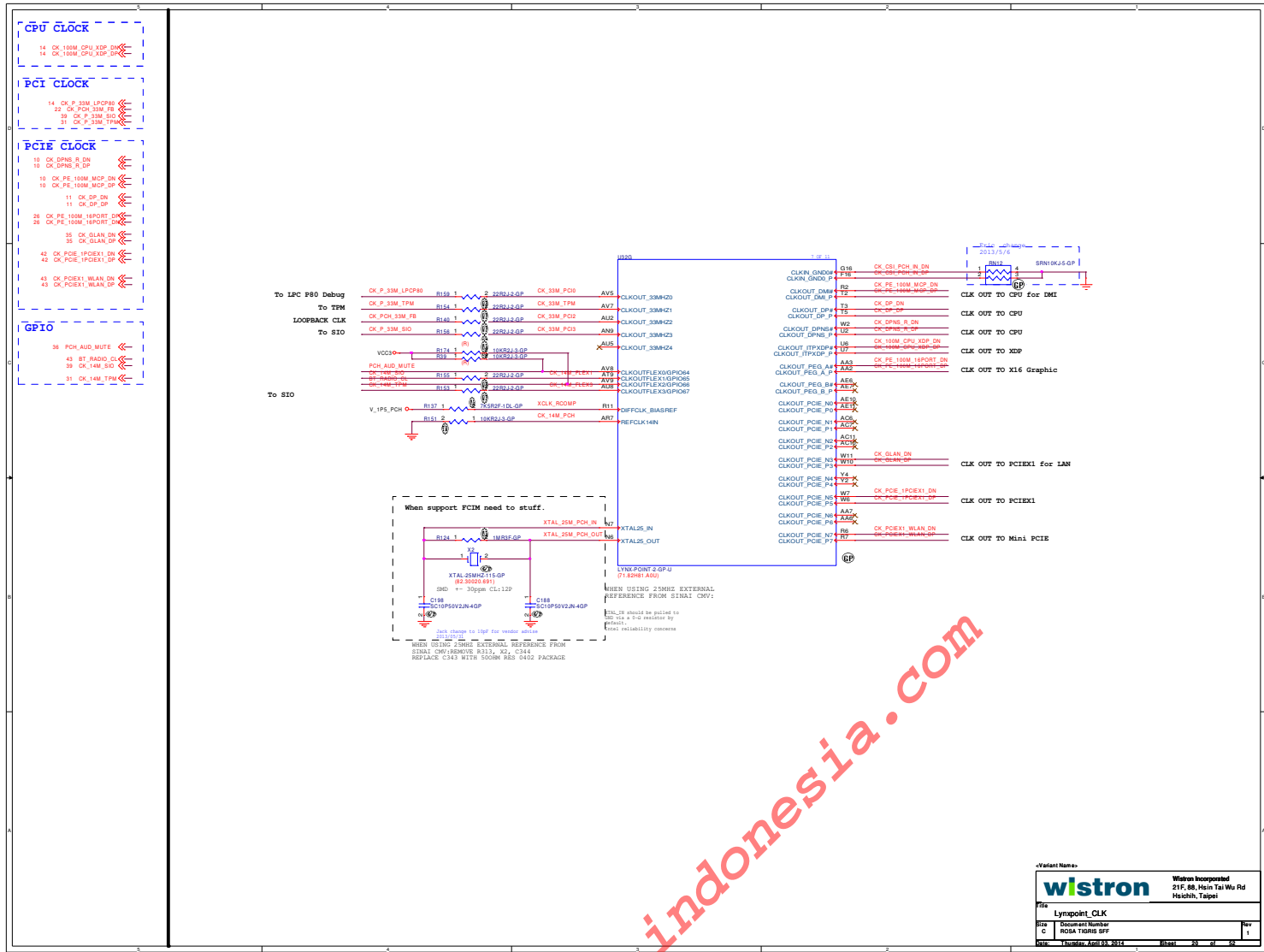
Date: 1/10/2014


Sheet 16 of 52

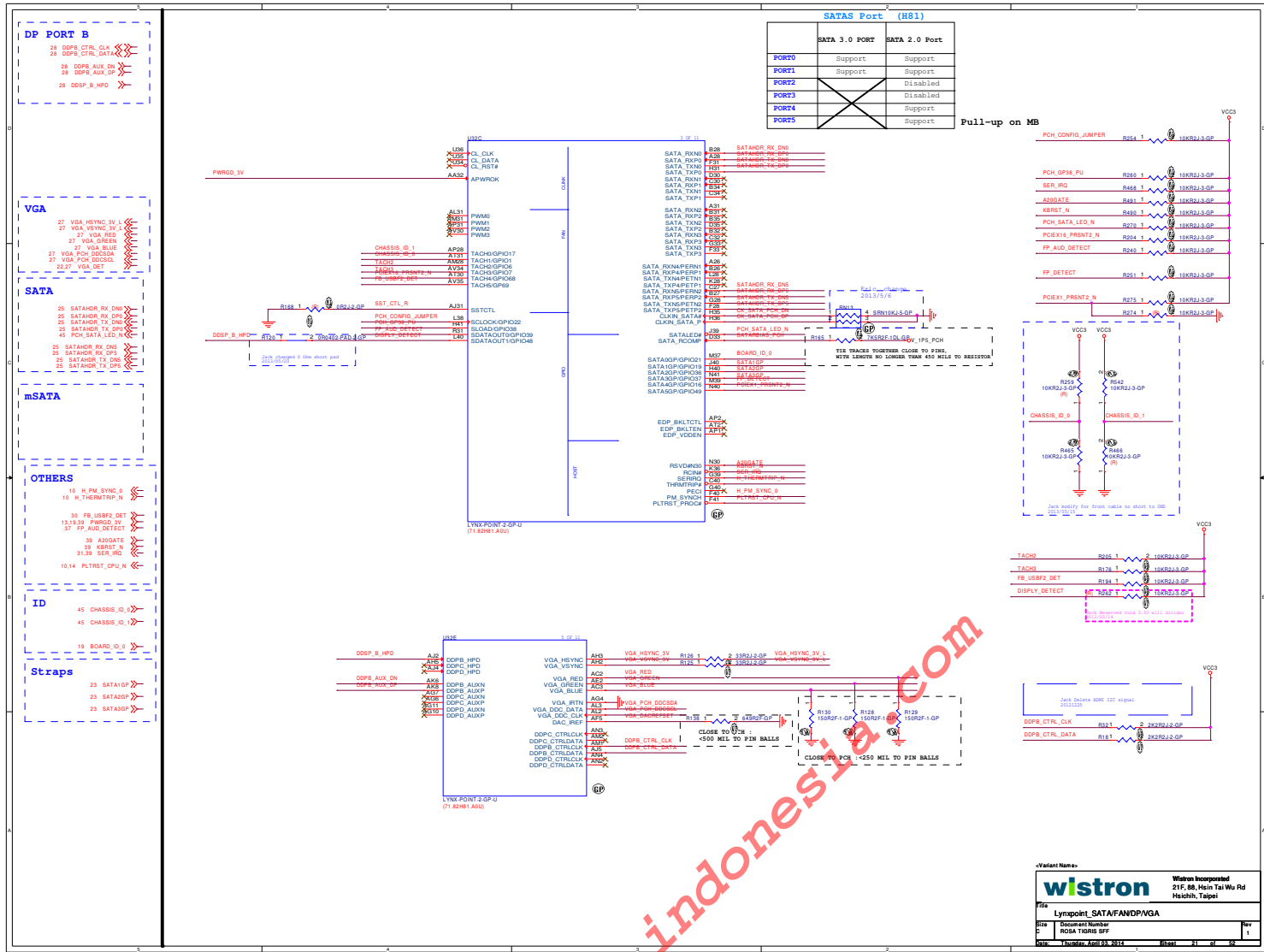


Sheet 18 of 52





<Variant Name>		Wistron Incorporated 21F, 88, Hsin Tai Wu Rd Hsichih, Taipei	
			
File Lynxpoint_CLK			
Size	Document Number ROSA TIGRIS OFF	Rev 1	
Date:	Thursday, April 03 2014	Sheet	26 of 52



SATA Port (H81)		
	SATA 3.0 Port	SATA 2.0 Port
PORT0	Support	Support
PORT1	Support	Support
PORT2	Support	Disabled
PORT3	Support	Disabled
PORT4	Support	Support
PORT5	Support	Support

Pull-up on MB

Variant Name:

wlstron

Site

Lynxpoint_SATA/FANDP/VGA

Doc. No.

Doc. No. 1000000000

Rev.

1

Wistron Incorporated

21F, 88, Heintai Wu Rd

Hsinchu, Taipei

DATE

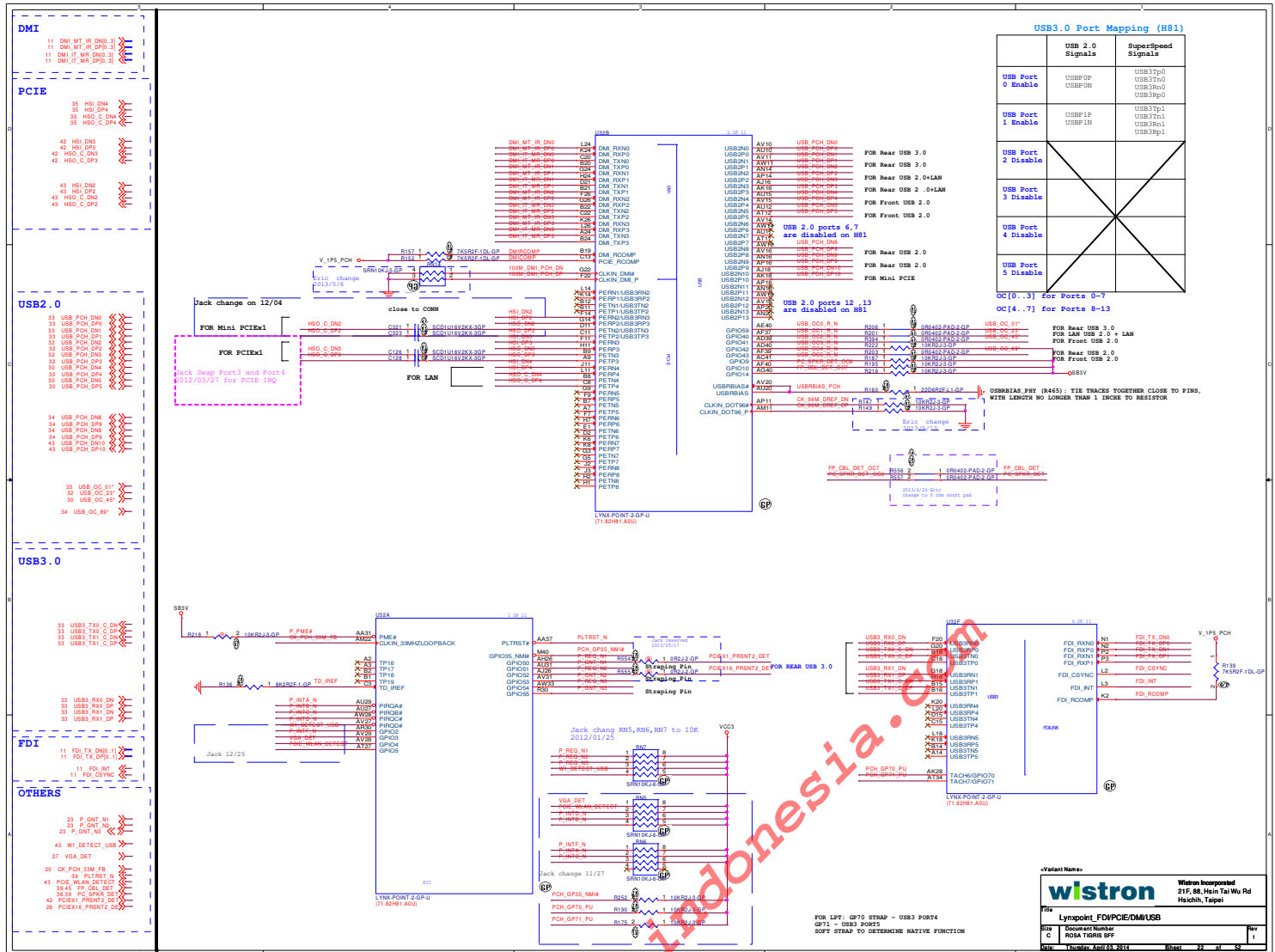
1/10/2014

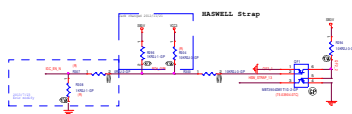
REVISED

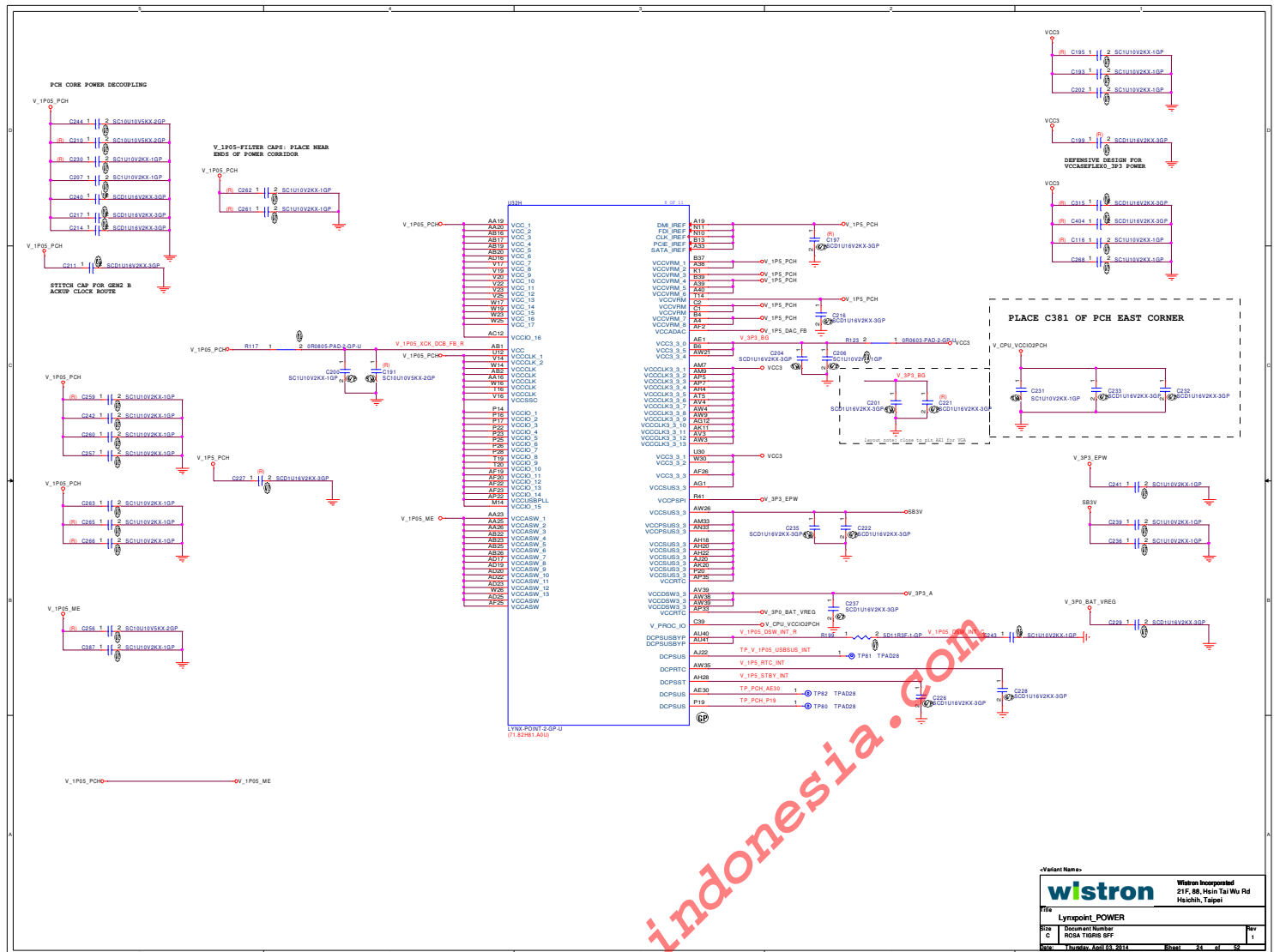
21

OF

26



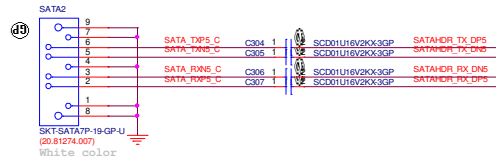
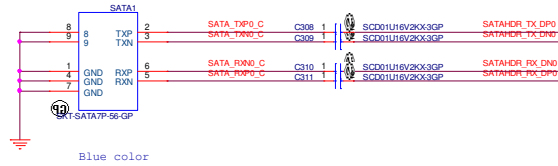




SATA

21 SATAHDR_RX_DP0
21 SATAHDR_RX_DN0
21 SATAHDR_TX_DP0
21 SATAHDR_TX_DN0

21 SATAHDR_RX_DPS
21 SATAHDR_RX_DNS
21 SATAHDR_TX_DNS
21 SATAHDR_TX_DPS



-Variant Name-

wlstron

Wistron Incorporated
21F, 88, Hsin Tai Wu Rd
Hsichih, Taipei

Title
SATA Port

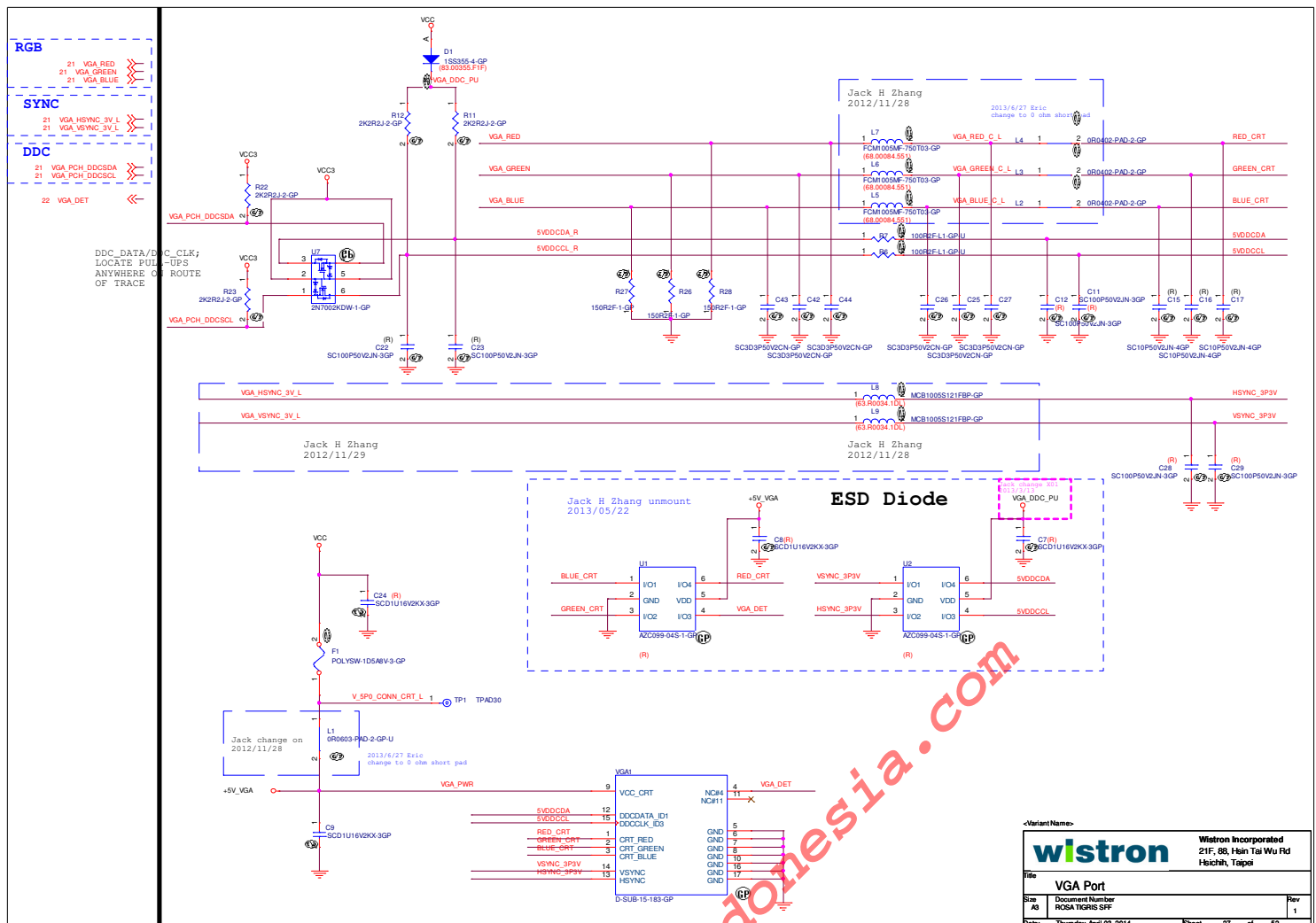
Size B Document Number
ROSA TKRIS SFF

Date: Thursday, April 03, 2014

Sheet 26 of 52

Rev
1

www.teknisi-indonesia.com



```

11  DOSP_B_TX_DP_0  >>>
11  DOSP_B_TX_DN_0  >>>

11  DOSP_B_TX_DP_1  >>>
11  DOSP_B_TX_DN_1  >>>

11  DOSP_B_TX_DP_2  >>>
11  DOSP_B_TX_DN_2  >>>

11  DOSP_B_TX_DP_3  >>>
11  DOSP_B_TX_DN_3  >>>

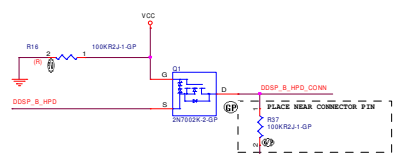
21  DOPS_CTRL_CLK  >>>
21  DOPS_CTRL_DATA >>>

      21  DOSP_B_HPD <<<

      21  DOPS_AUX_DP <<<
      21  DOPS_AUX_DN <<<

```

DDBP_B_TX_DP_0	C14	1	SC00116V2KX.SDP	DDBP_B_TX_DP_0_C
DDBP_0_TX_DP_0	C15	1	SC00116V2KX.SDP	DDBP_0_TX_DP_0_C
DDBP_B_TX_DP_1	C16	1	SC00116V2KX.SDP	DDBP_B_TX_DP_1_C
DDBP_0_TX_DP_1	C17	1	SC00116V2KX.SDP	DDBP_0_TX_DP_1_C
DDBP_B_TX_DP_2	C18	1	SC00116V2KX.SDP	DDBP_B_TX_DP_2_C
DDBP_0_TX_DP_2	C19	1	SC00116V2KX.SDP	DDBP_0_TX_DP_2_C
DDBP_B_TX_DP_3	C49	1	SC00116V2KX.SDP	DDBP_B_TX_DP_3_C
DDBP_0_TX_DP_3	C41	1	SC00116V2KX.SDP	DDBP_0_TX_DP_3_C
DDBP_AUX_DP	C61	1	SC00116V2KX.SDP	DDBP_AUX_DP_C
DDBP_AUX_DP	C62	1	SC00116V2KX.SDP	DDBP_AUX_DP_C

[illegible]

Pin connections for the ADXL345 accelerometer:

- Pin 1: AUX, NC
- Pin 2: NC
- Pin 3: NC
- Pin 4: NC
- Pin 5: NC
- Pin 6: I2C SDA
- Pin 7: I2C SCL
- Pin 8: GND
- Pin 9: GND
- Pin 10: NC

The ADXL345 is connected to a 5V supply and a GND supply.

Jack Delete NDMI
20121225

www.teknisi-indonesia.com

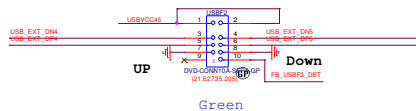
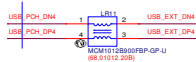
-Variant Name-	
	
Wistron Incorporated 21F, 88, Hsin Tai Wu Rd Hsinchu, Taiwan	
P/n	
TBD	
Rev	Document Number
C	ROSA TIGRIS SFF
Rev 1	
Date: Thursday, April 26, 2012	
Page 20 of 53	

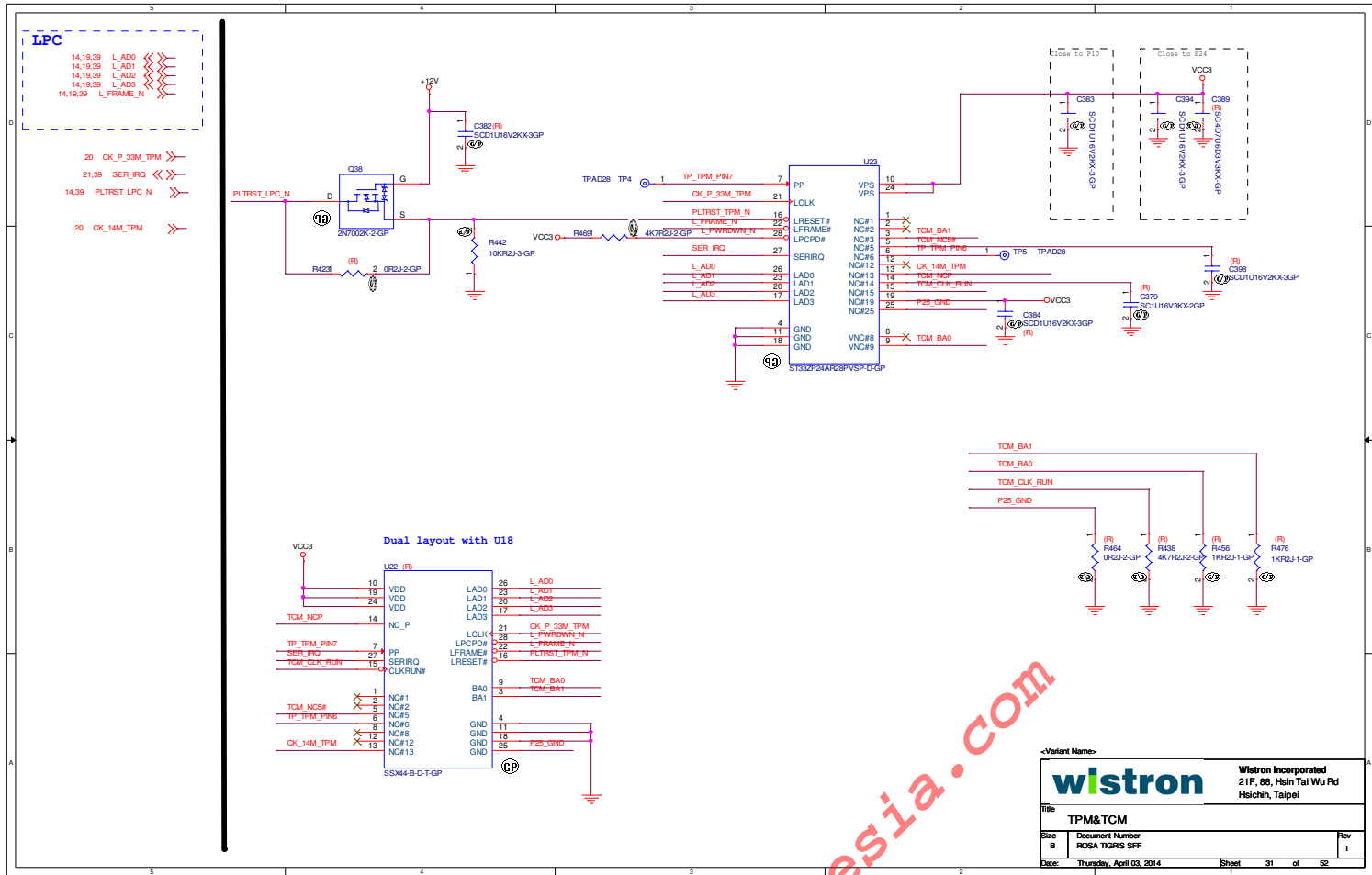
FRONT_USB_PORT

[illegible]

Jack H Zhang delete
2013/1/11

Jack H Zhang delete
2013/1/11





www.teknisi-indonesia.com

Title		TPM&TCM	
Size	Document Number	ROSA TIGRIS SFF	
Date	Thursday, April 03, 2014	Sheet	31 of 52

```

22 USB_PCH_DP2 << >>
22 USB_PCH_DN2 << >>
22 USB_PCH_DN3 << >>
22 USB_PCH_DP3 << >>
22 USB_OC_23* << >>

```

```

35 LAN_MDIO2_DP
35 LAN_MDIO2_DN
35 LAN_MDIO1_DP
35 LAN_MDIO1_DN
35 LAN_MDIO0_DP
35 LAN_MDIO0_DN
35 LAN_MDIO3_DP
35 LAN_MDIO3_DN
35 SPEED_100_N
35 SPEED_1000_N
35 LINK_ACTIVITY_N

```

[illegible][illegible]

Jack change on
2012/11/28

EMI

LAN_MDI0_EN 100ns 200ns LAN_MDI0_DN LAN_MDI0_DP LAN_MDI0_DP_C

LAN_MDI1_EN 100ns 200ns LAN_MDI1_DN LAN_MDI1_DP LAN_MDI1_DP_C

LAN_MDI2_EN 100ns 200ns LAN_MDI2_DN LAN_MDI2_DP LAN_MDI2_DP_C

LAN_MDI3_EN 100ns 200ns LAN_MDI3_DN LAN_MDI3_DP LAN_MDI3_DP_C

MON10112800RFBP-G-U (95 P0038.04L)

MON10112800RFBP-G-U (95 P0038.04L)

MON10112800RFBP-G-U (95 P0038.04L)

MON10112800RFBP-G-U (95 P0038.04L)

[illegible]

	Giga	100	10
Link	Orange	Green	X
Act	Blink	Blink	Blink

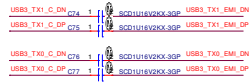
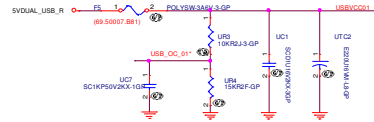
<Variant Name>

		Wistron Incorporated 21F, 88, Hsin Tai Wu Rd Hsichih, Taipei	
File USB+RJ45			
Size C	Document Number ROSA TIGRIS SFF	Rev 1	

Rear USB3.0

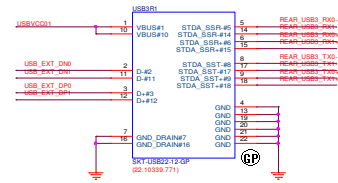
22 USB3_RX0_DN
22 USB3_RX0_DP
22 USB3_TX0_C_DP
22 USB3_TX0_C_DP
22 USB3_RX1_DN
22 USB3_RX1_DP
22 USB3_TX1_C_DP
22 USB3_TX1_C_DP
22 USB_PCH_DN0
22 USB_PCH_DP0
22 USB_PCH_DN1
22 USB_PCH_DP1
22 USB_OC_01

REAR USB3.0



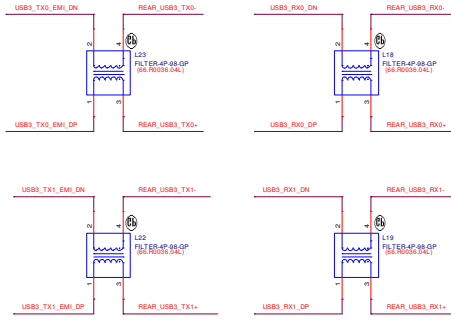
Jack H Zhang change CONN
2012/11/29

REAR USB3.0 CONN

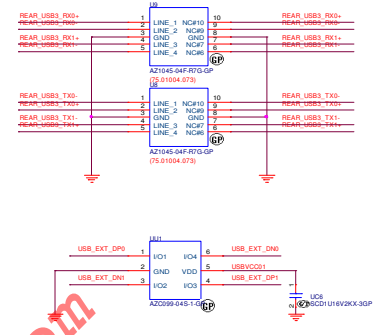


Jack H Zhang change
2012/11/29

EMI



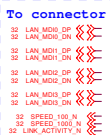
ESD Diodes



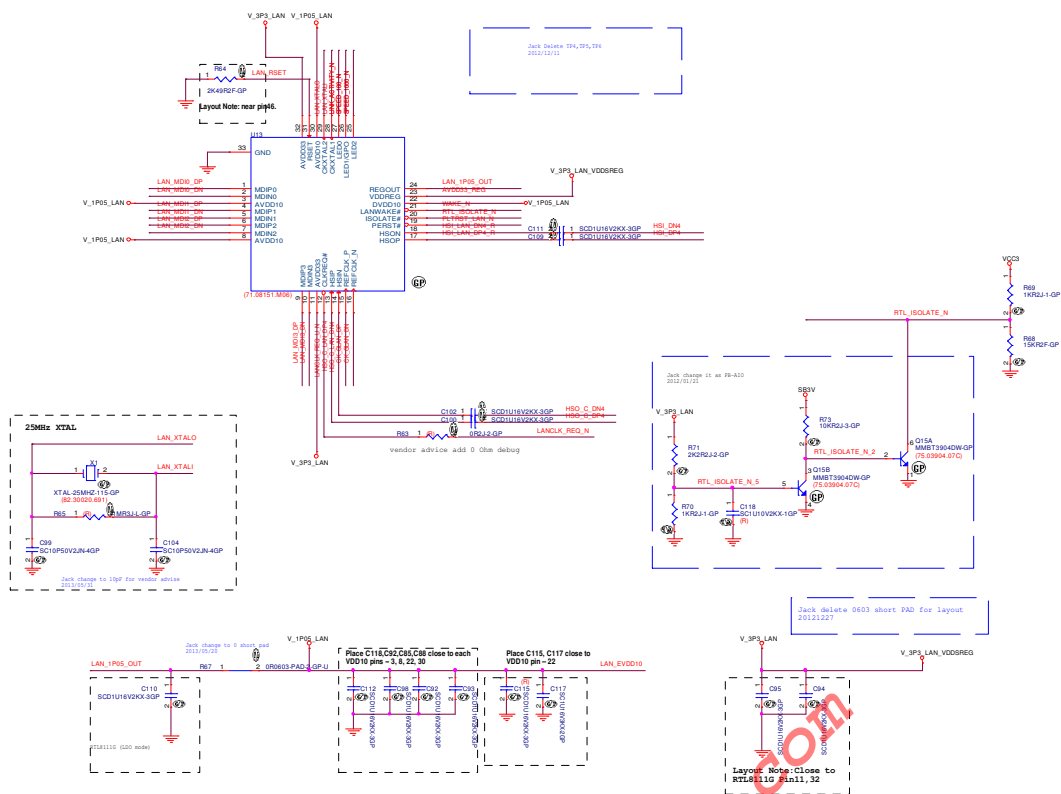
-Valiant Name-

wistron		Wistron Incorporated 21F, 88, Heintai Wu Rd Hsinchu, Taipei	
Rev	1	Doc No	REAR USB3.0_1
Rev	1	Doc No	REAR USB3.0_1
Rev	1	Doc No	REAR USB3.0_1

www.teknisi-indonesia.com

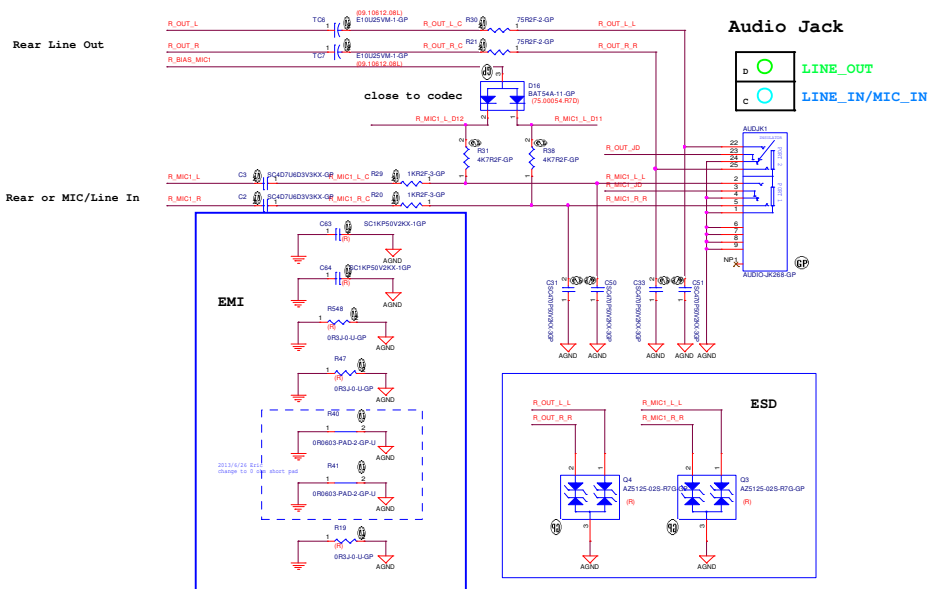


OTHERS

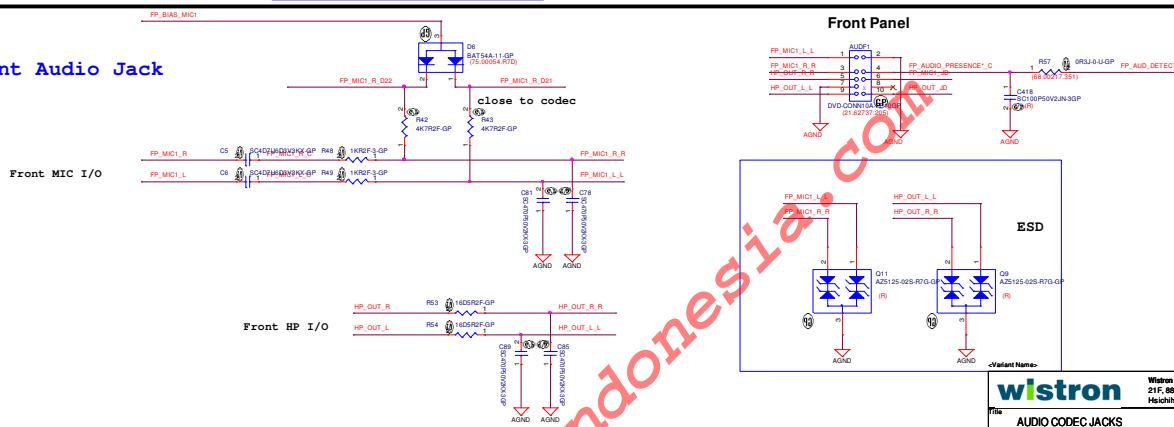




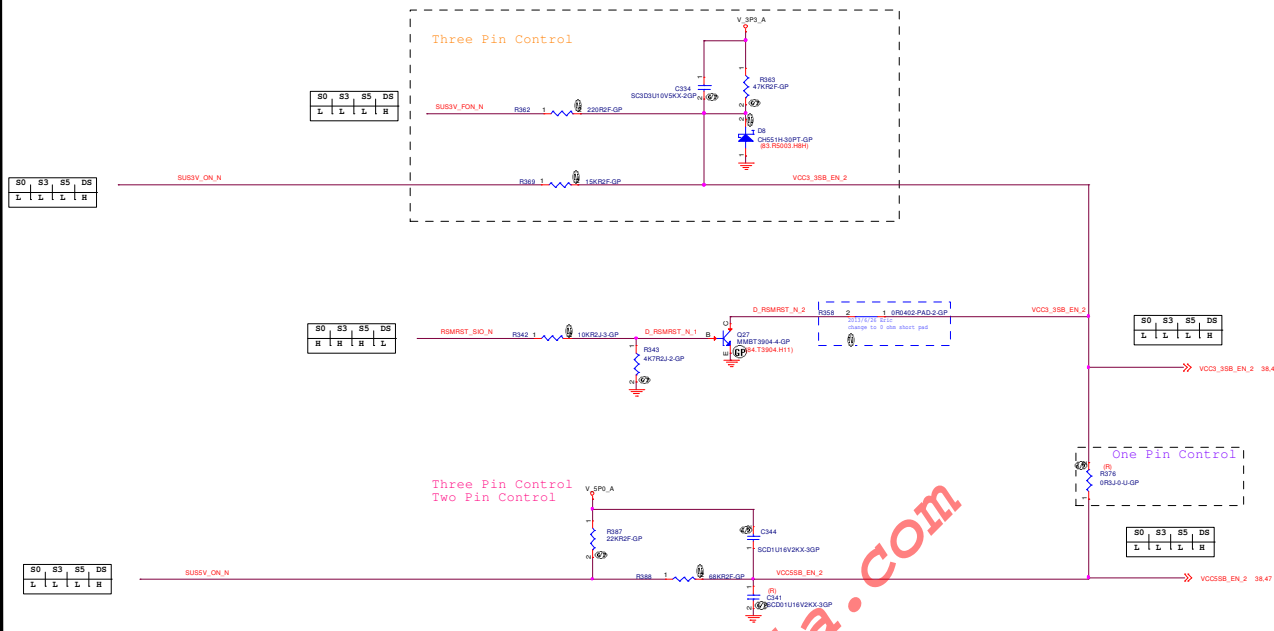
Rear Audio Jack



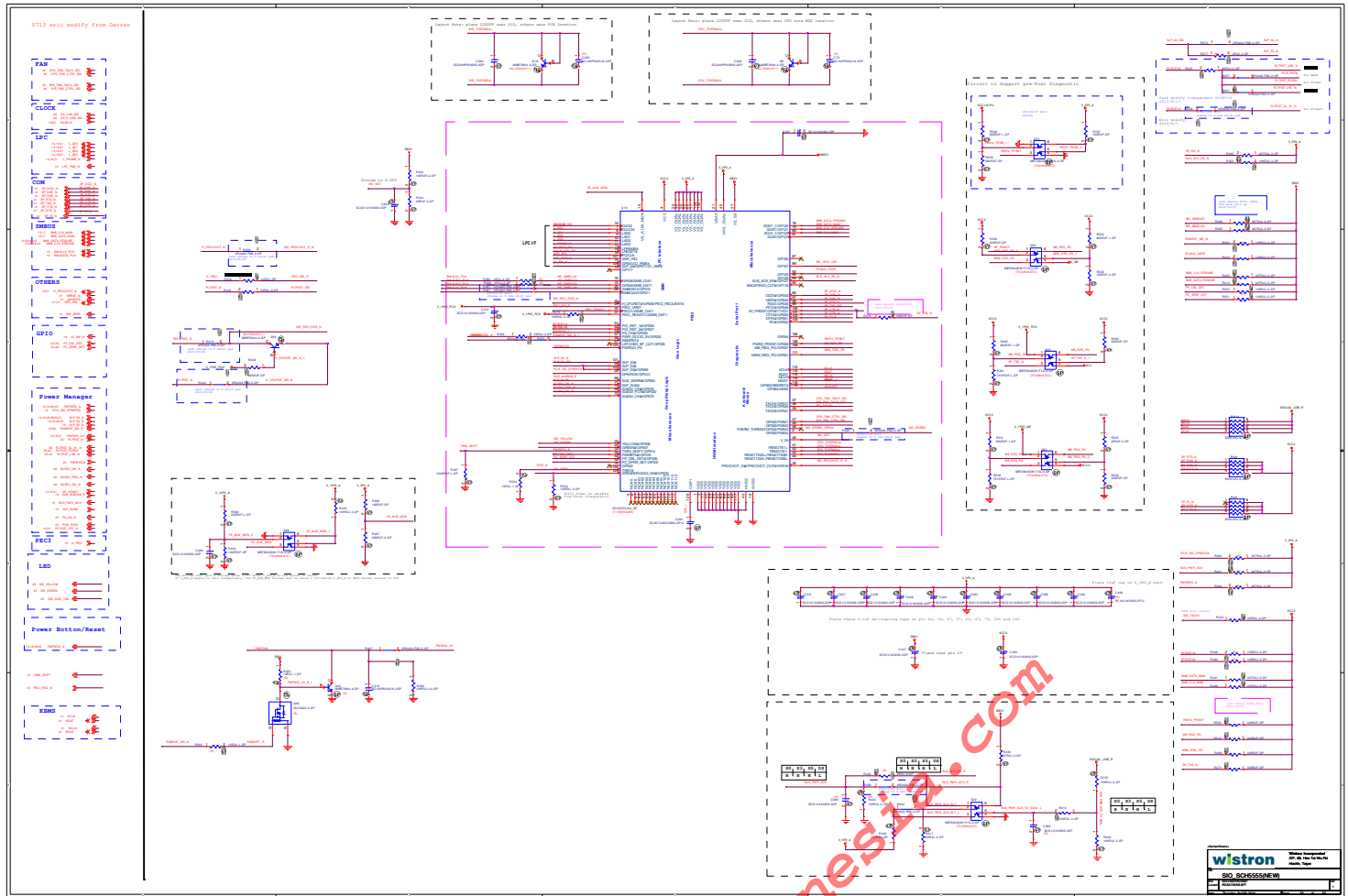
Front Audio Jack



39 SUBSV_ON_N >>>
 39 SUBSV_FON_N >>>
 39 SUBSV_ON_N >>>
 38.47 VCC3_3SB_EN_2 <<<
 38.47 VCC3SB_EN_2 <<<
 19.39 RSMRST_SIO_N >>>

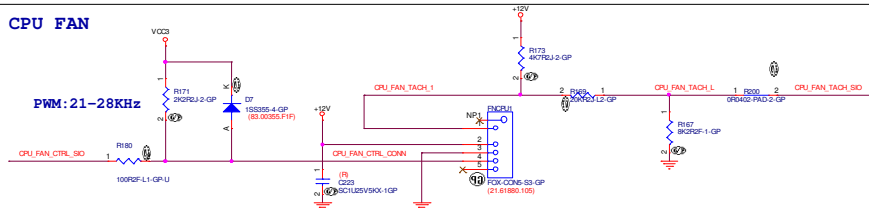


www.teknisi-indonesia.com

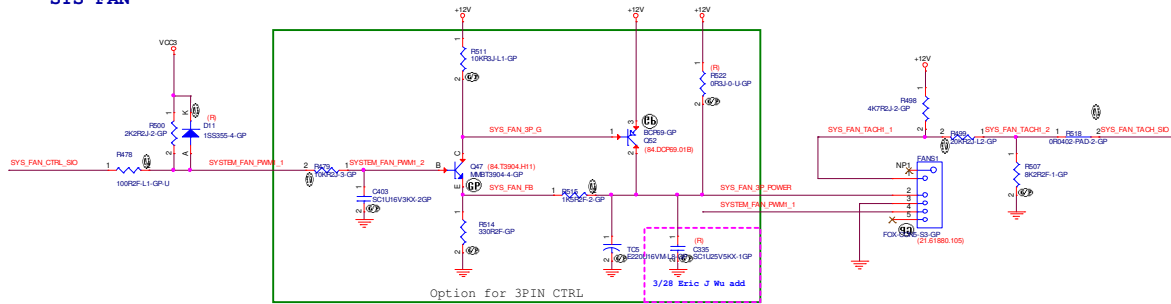


SIO FAN CONTROL

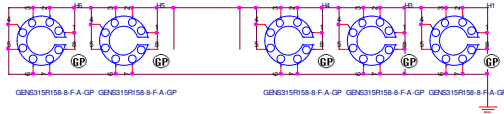
CPU FAN



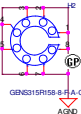
SYS FAN



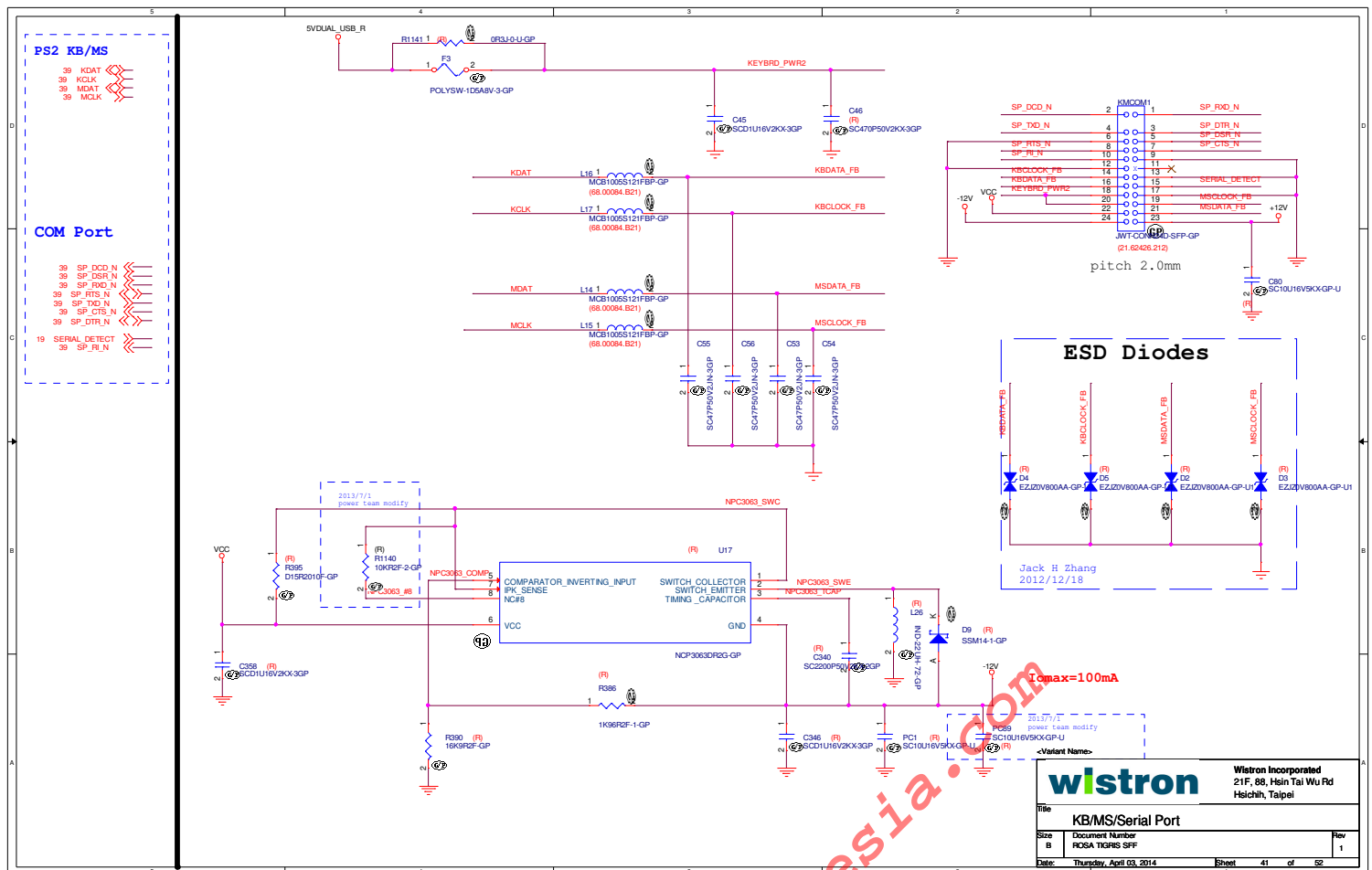
PCB MOUNTING HOLES



2012/12/10
Change R2 from GND to AGND



Variant Name:		wistron		Wistron Incorporated 21F, 80, Hsin Tai Wu Rd Hsinchu, Taipei	
Doc		FAN CIRCUITS/HOLE			
Rev		Document Number Customer PCB A TCRS SFF		Rev	
Date		Thursday, April 03, 2014		Page	



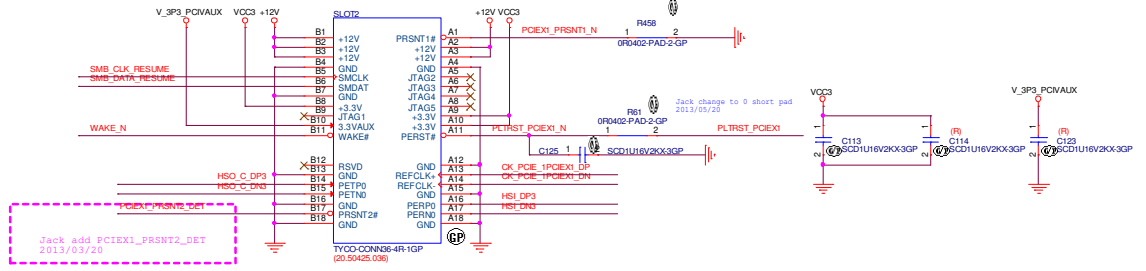
PCIEX1 CONN

PCIEX1

22 HSO_C_DP3
22 HSO_C_DN3
22 HSI_DP3
22 HSI_DN3
20 OK_POE_1PCIE1_DP
20 OK_POE_1PCIE1_DN

Others

35,39 PLTRST_POIE1
19,26,35,43 SMB_CLK_RESUME
19,26,35,43 SMB_DATA_RESUME
19,26,35,43 WAKE_N
22 POIE1_PRSNT2_DET



Delete mSATA circuit on X01
Jack 2013/03/14

~Variant Name~

wlstron

Wistron Incorporated
21F, 88, Hsin Tai Wu Rd
Hsinchu, Taipei

Title
PCIEX1_CONN

Size B Document Number
ROSA TKGRIS SFF

Rev
1

Date: Thursday, April 03, 2014

Sheet 42 of 52

www.teknisi-indonesia.com

Wireless Card(Present support EP/SP)

USB2.0

22 USB_PCH_DP10 <<>>
22 USB_PCH_DP10 <<>>

PCIEX1

22 HSI_DN2 <<>>
22 HSI_DP2 <<>>
22 HSO_C_DN2 <<>>
22 HSO_C_DP2 <<>>

20 OK_PCIE1_WLAN_DP <<>>
20 OK_PCIE1_WLAN_DN <<>>

OTHERS

19,26,39,42 SMB_CLK_RESUME <<>>
19,26,39,42 SMB_DATA_RESUME <<>>

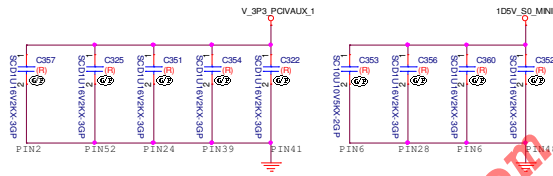
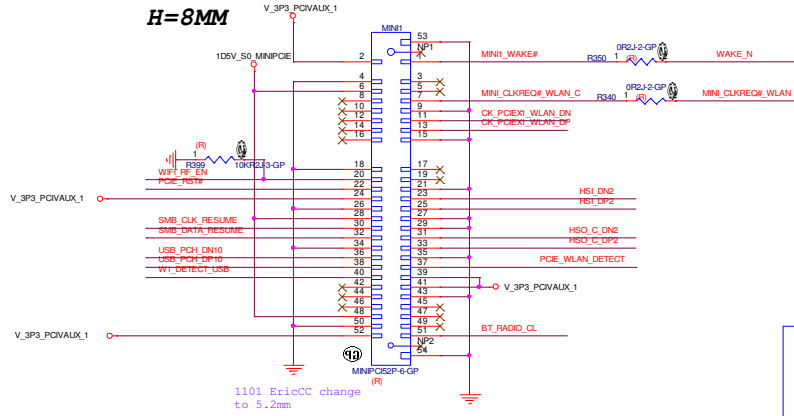
19,26,35,42 WAKE_N <<>>
39 PCIE_RST# <<>>

19 MINI_CLKREQ_WLAN <<>>
19 WIFI_PP_EN <<>>

20 BT_RADIO_CL <<>>

22 W1_DETECT_USB <<>>

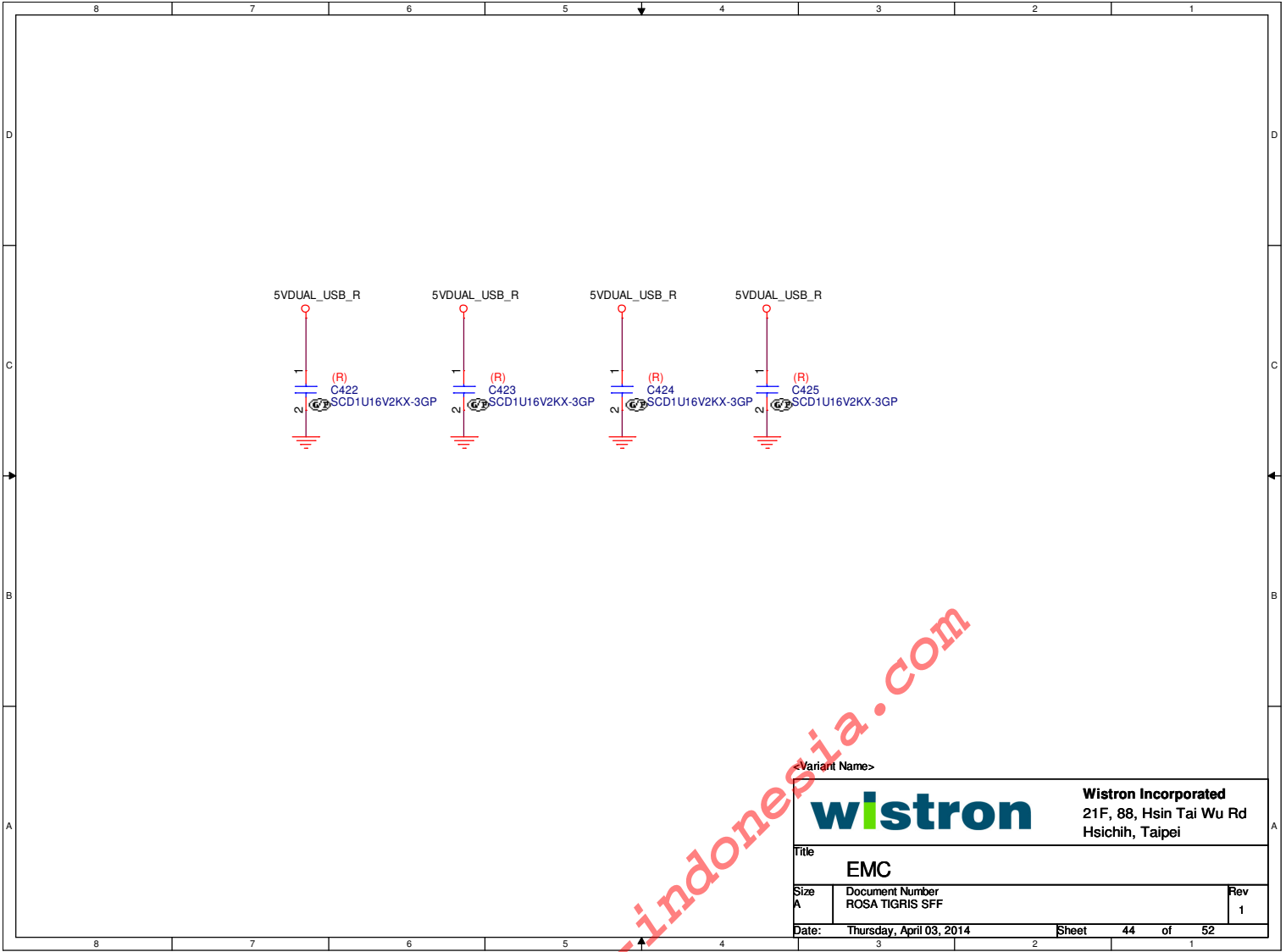
22 PCIE_WLAN_DETECT <<>>



Jack Delete one 0 Ohm resistor
2013/01/14

<Variant Name>

wlstron		Wlstron Incorporated 21F, 88, Hsin Tai Wu Rd Hsinchi, Taipei	
Title TBD			
Size B	Document Number ROSA TGRIS SFF	Rev 1	
Date: Thursday, April 03, 2014		Sheet 43 of 52	



<Variant Name>

wistron

Wistron Incorporated
21F, 88, Hsin Tai Wu Rd
Hsichih, Taipei

Title

EMC

Size

A

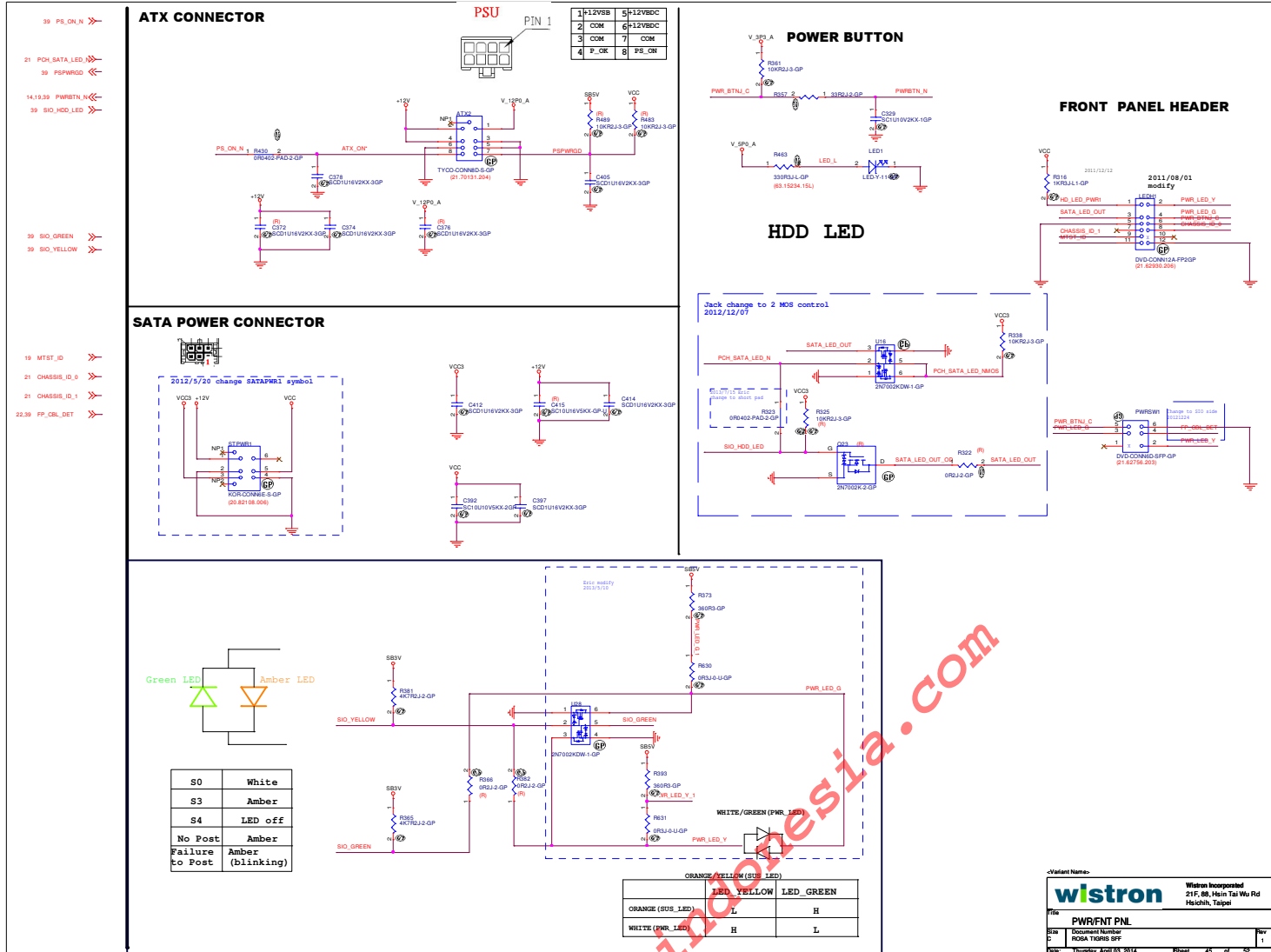
Document Number
ROSA TIGRIS SFF

Rev

1

Date: Thursday, April 03, 2014

Sheet 44 of 52

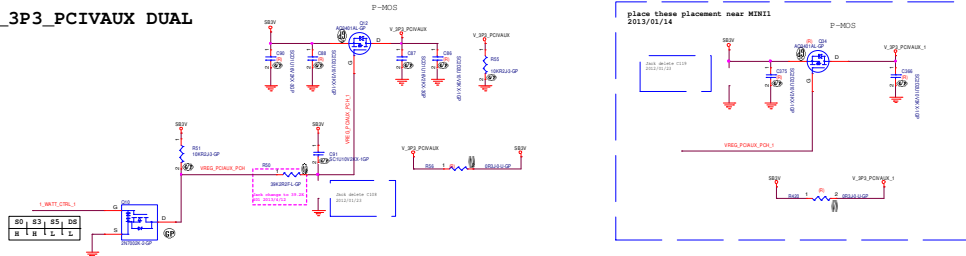


www.teknisi-indonesia.com

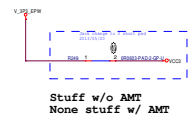
w/Variant Name		Wistron Incorporated 21F, 88, Main Tai Wu Rd Hsinchu, Taipei	
File		PWR/FMT PNL	
Rev	Document Number	ROSA TIGRIS BPF	
C	Version	1	
Rev	Created	2014/04/09	Rev 1

48.50 +12V_P0 <<—

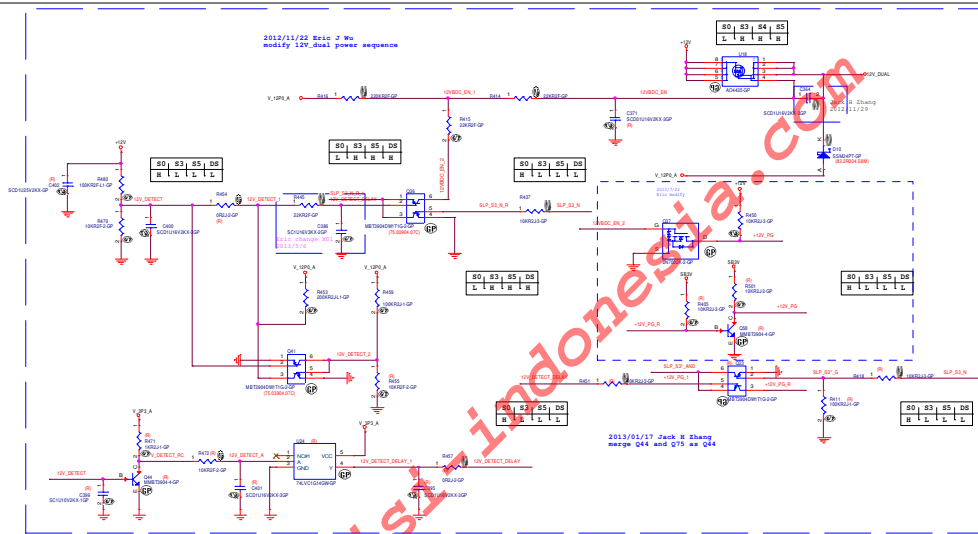
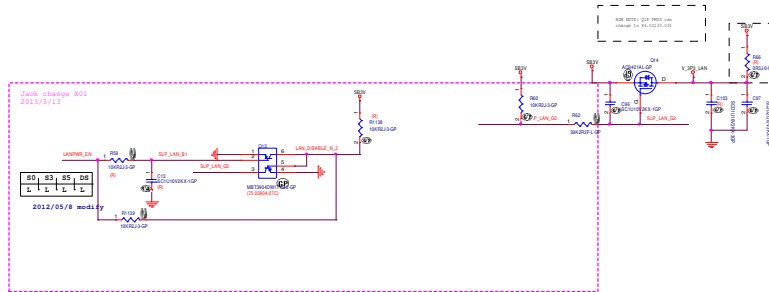
V_3P3_PCIVAUX DUAL



V_3P3_EPW



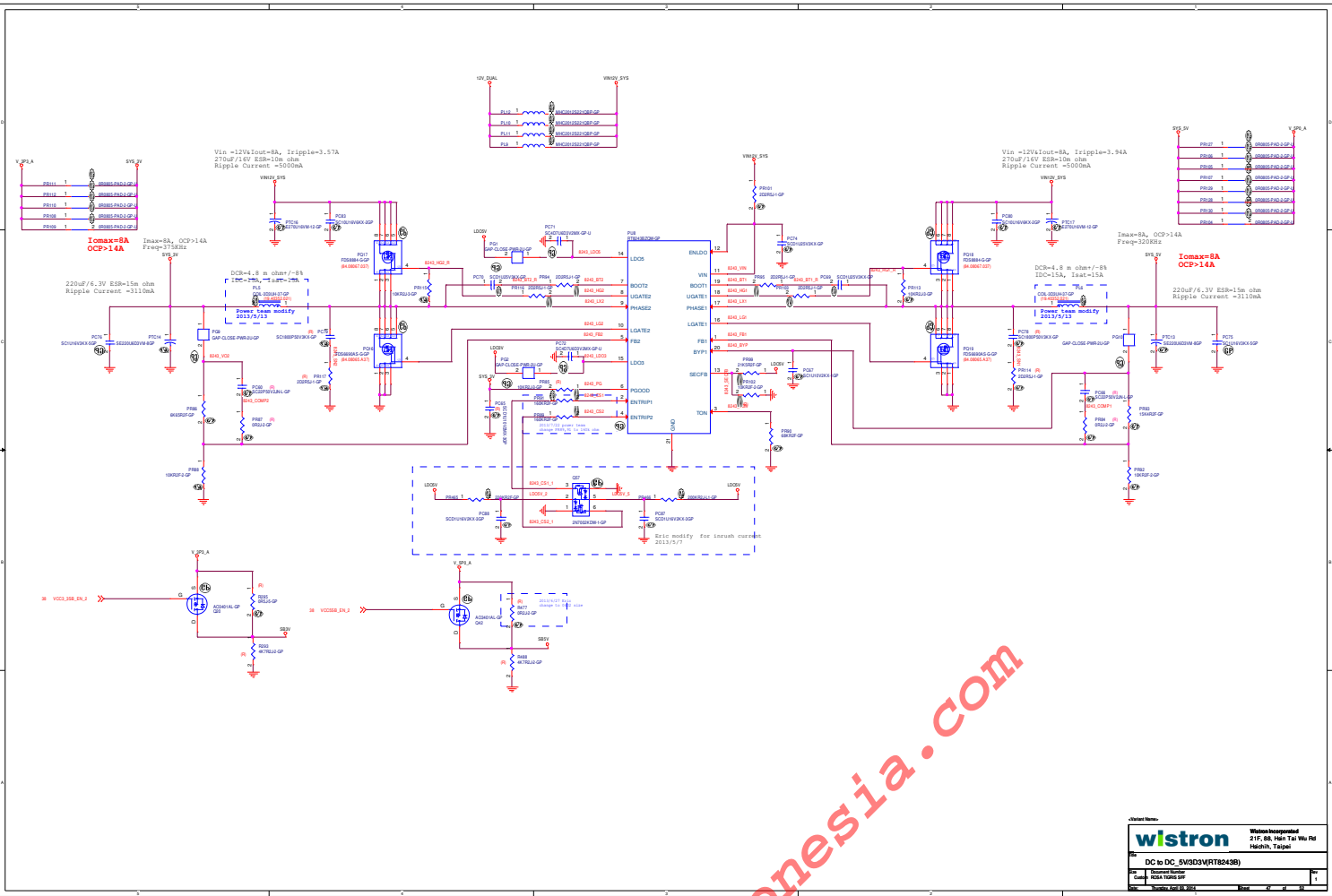
V_3P3_LAN



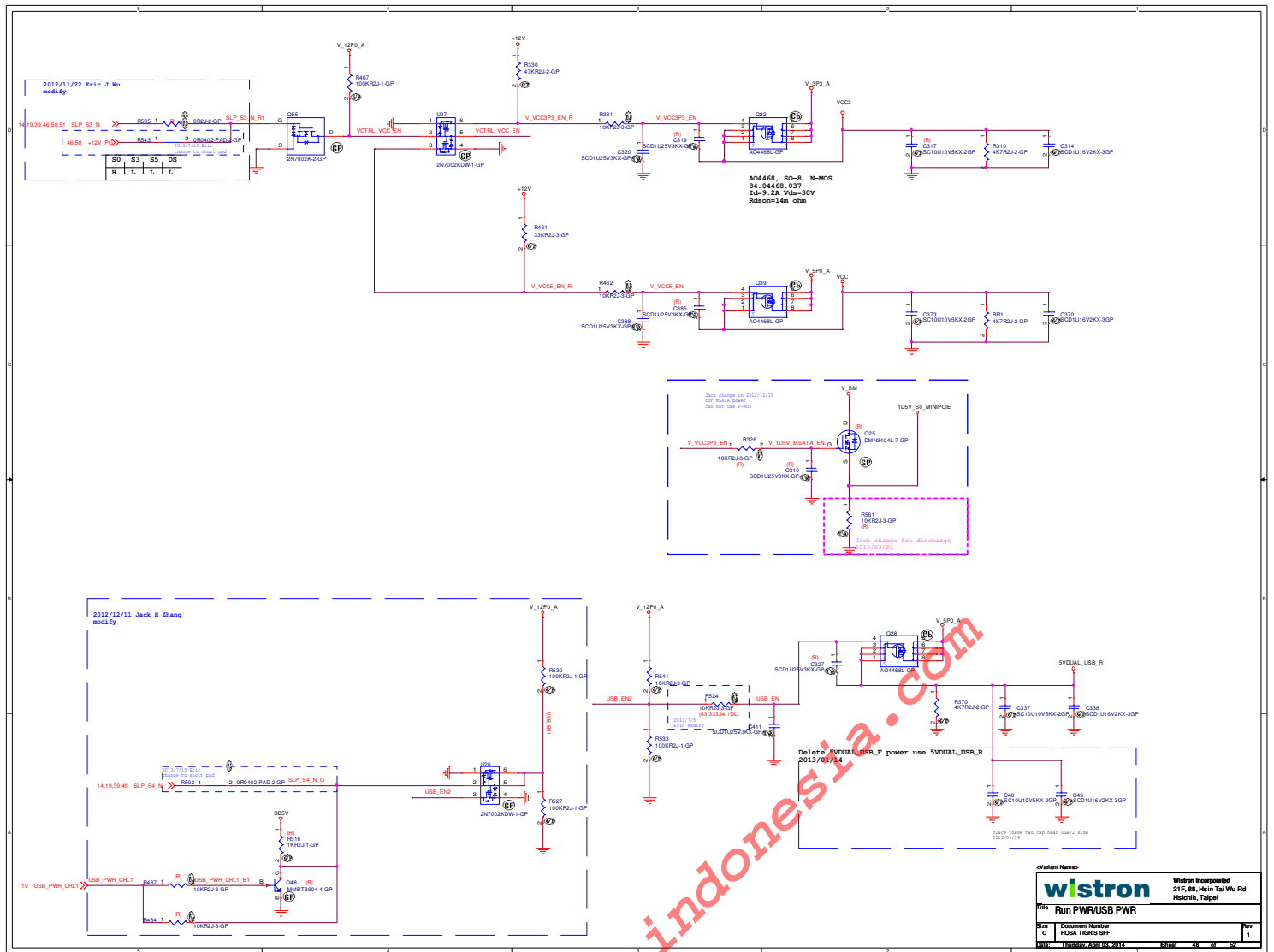
•Variant Name:

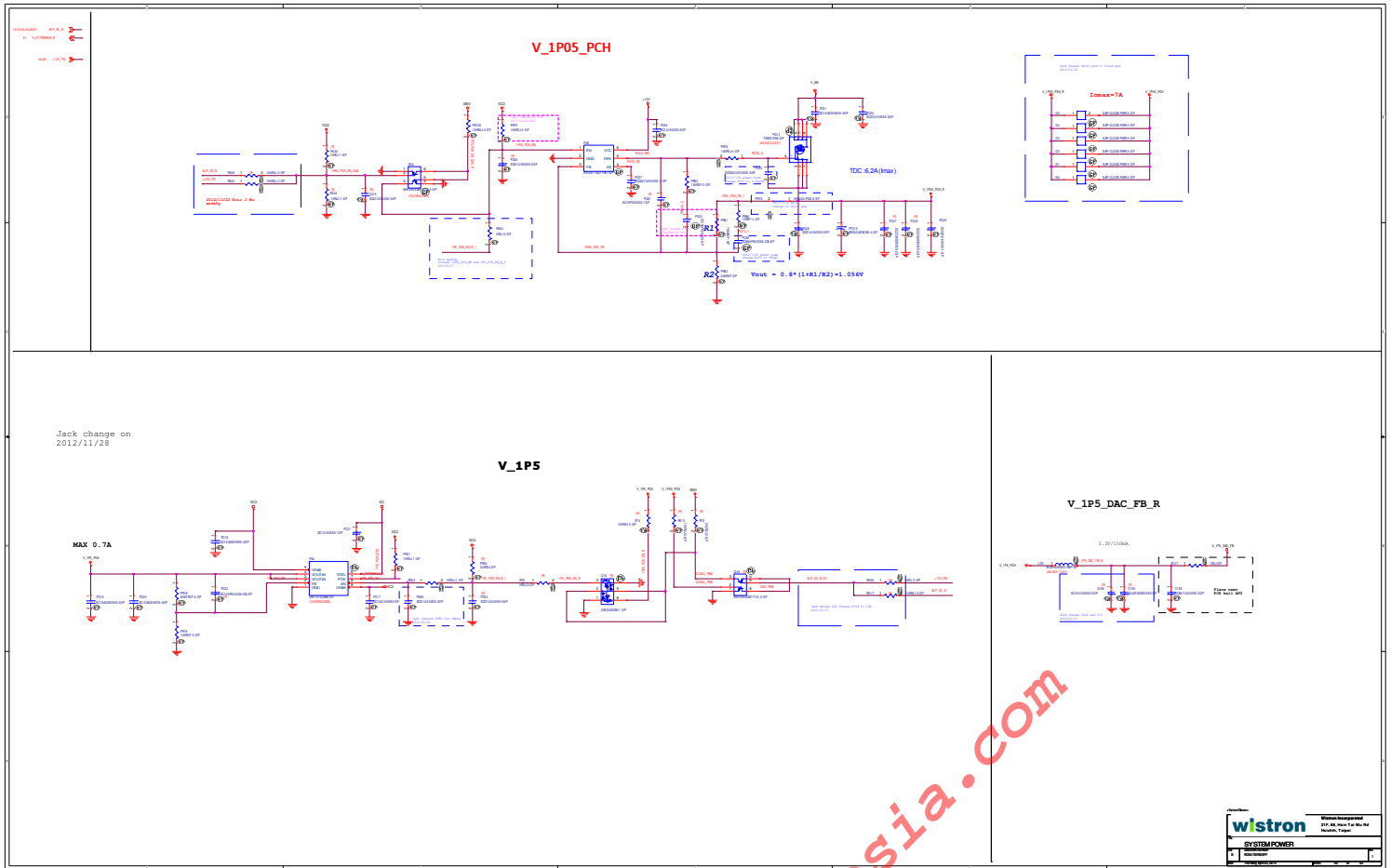


Title		
DUAL POWER		
Doc Custom	Document Number RCSA TIGRES SFF	Page 1



www.teknisi-indonesia.com

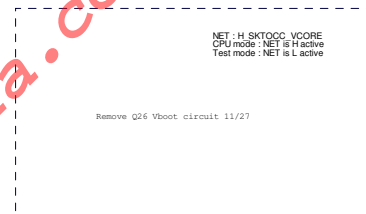
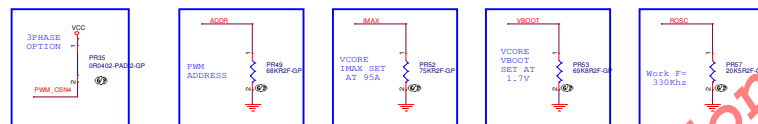
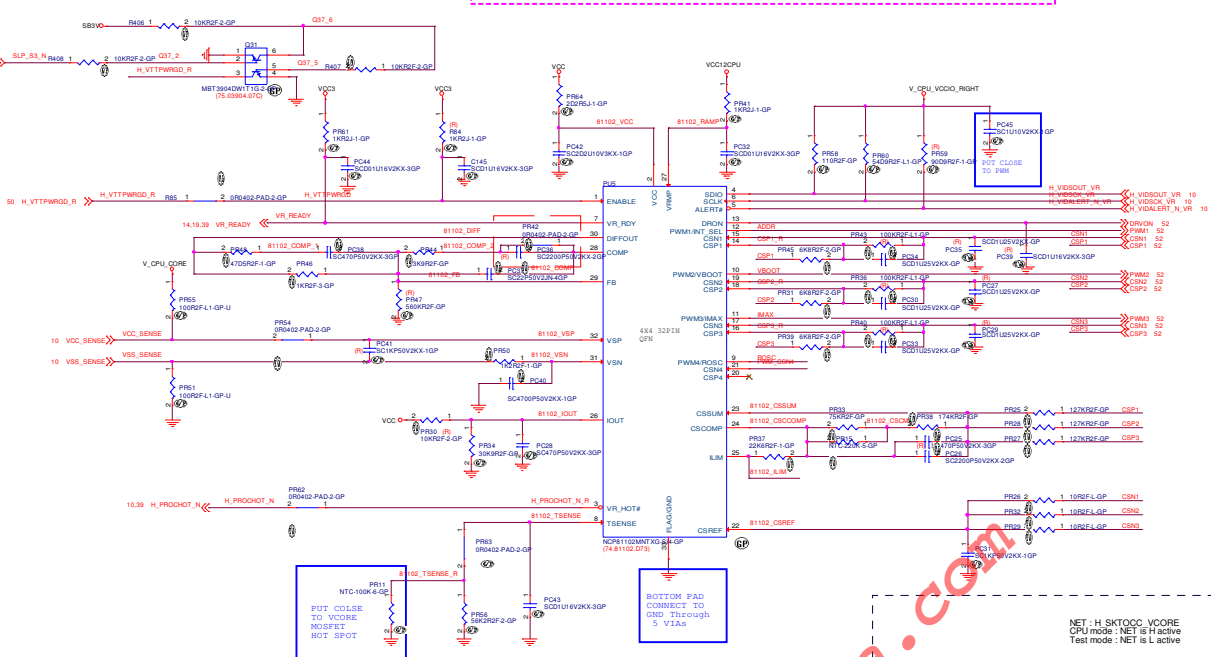
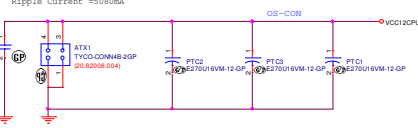
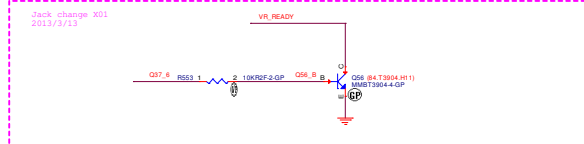




VCC_CORE

Vin =12V, Iout=90A, Tripple=14.6A
270uF/16V ESR=15m ohm
Ripple Current =5000mA

SharkBay VR12.5 POWER CKT - 3 PHASE

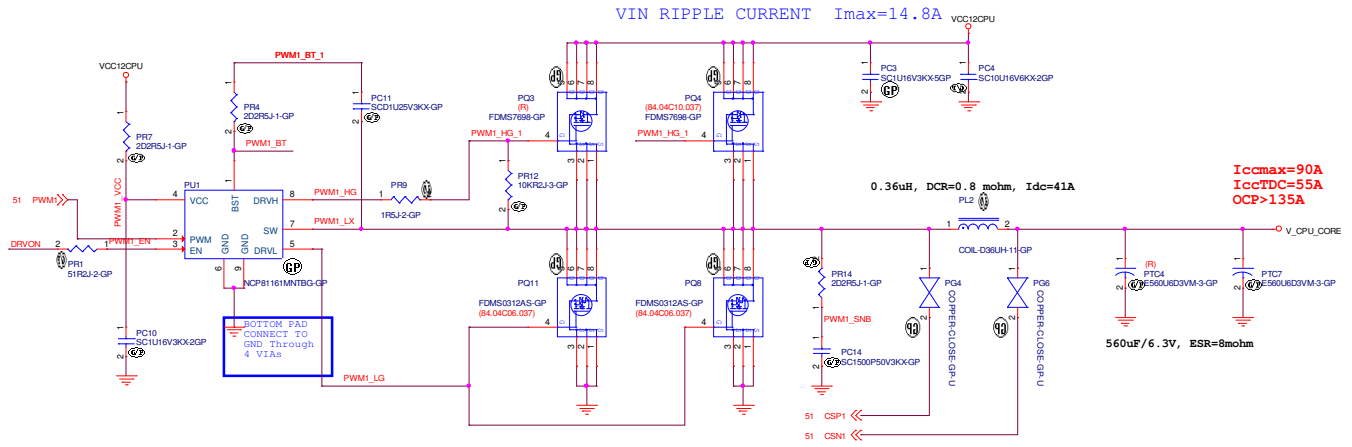


Wistron		Wistron Incorporated	
CPU VRD 12-5_1		21F, 88, Hei Tai Wu Rd	
Rev		Hsinchu, Taipei	
Doc	Doc Number	Rev	Rev
01	00000000	1	1
Date: 1/10/2013		Page: 51 of 56	

84.04927.A37 NTMFS4927
Vgs @ 4.5V,
Id = 13.7A,
Rds(on) = 9.2~13mohm,

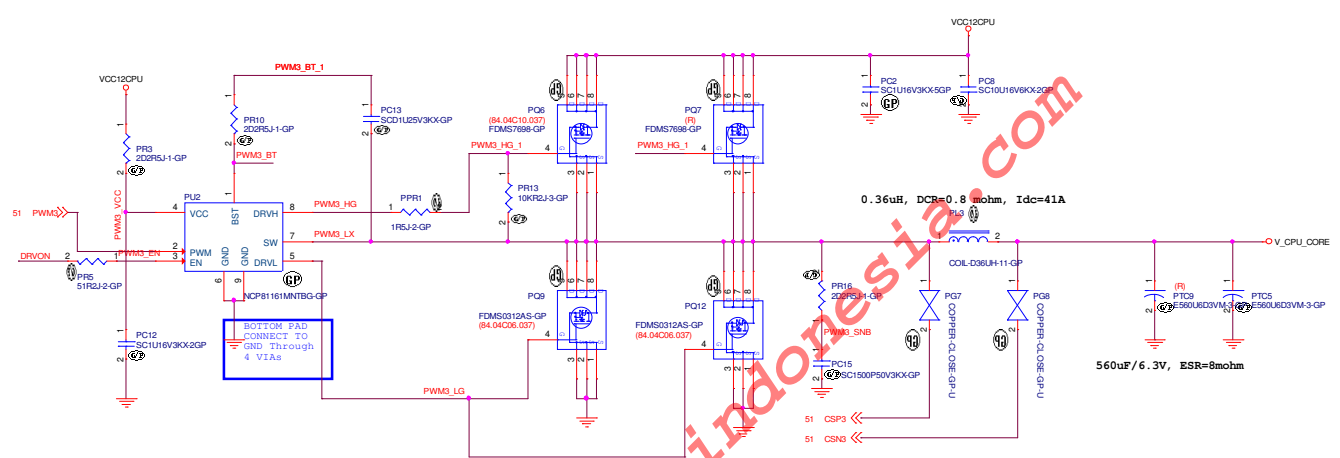
84.04925.031 NTMFS4925
Vgs @ 4.5V,
Id = 15.9A,
Rds(on) = 6.4~10mohm,

VIN RIPPLE CURRENT Imax=14.8A



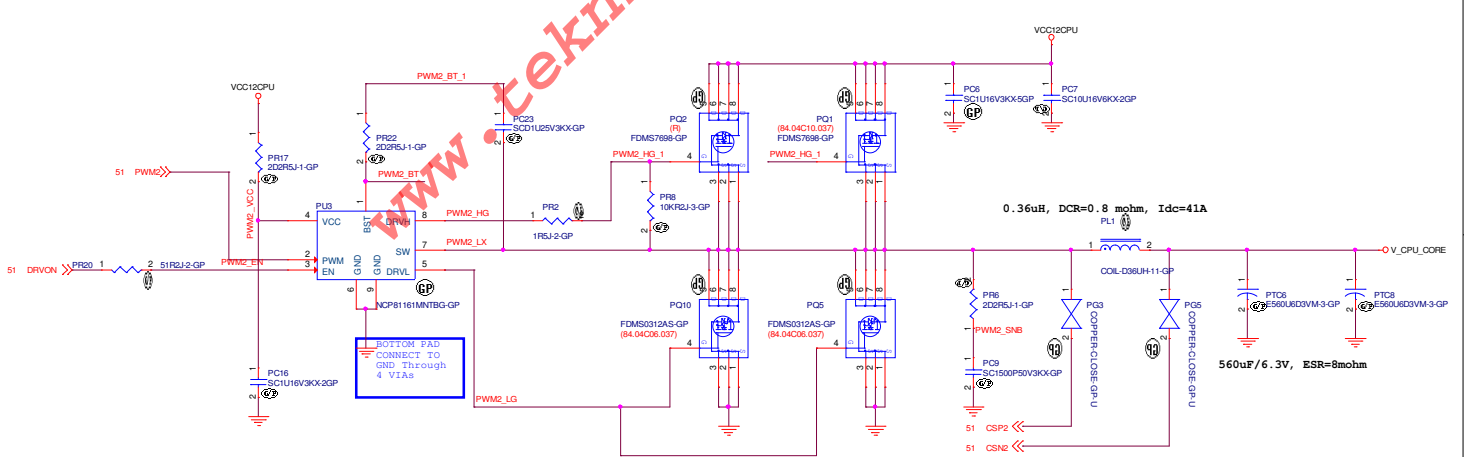
84.04927.A37 NTMFS4927
Vgs @ 4.5V,
Id = 13.7A,
Rds(on) = 9.2~13mohm,

84.04925.031 NTMFS4925
Vgs @ 4.5V,
Id = 15.9A,
Rds(on) = 6.4~10mohm,




84.04927.A37 NTMFS4927
Vgs @ 4.5V,
Id = 13.7A,
Rds(on) = 9.2~13mohm,

84.04925.031 NTMFS4925
Vgs @ 4.5V,
Id = 15.9A,
Rds(on) = 6.4~10mohm,



~Variant Name:

		Wistron Incorporated 21F, 88, Hsin Tai Wu Rd Hsinchu, Taipei	
Title CPU_VRD 12-5_2			
Size Custom	Document Number ROSA TIGRIS SFF		Rev 1
Date: Thursday, April 03, 2014		Sheet 52 of 52	