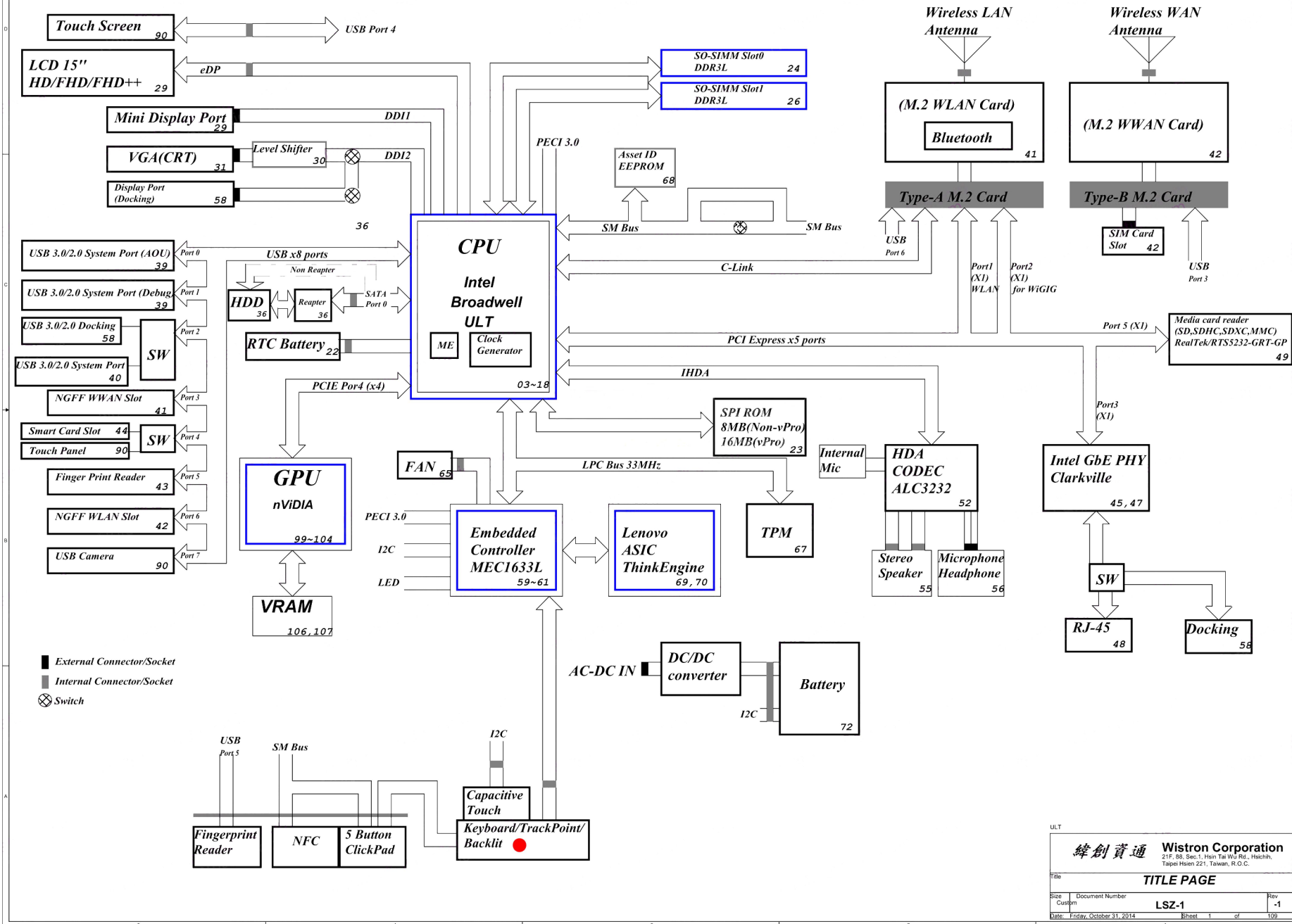


LSZ-1 Broadwell Block Diagram

Project Code: 91.4A001.001

PCB(Raw Card): 13251-SE

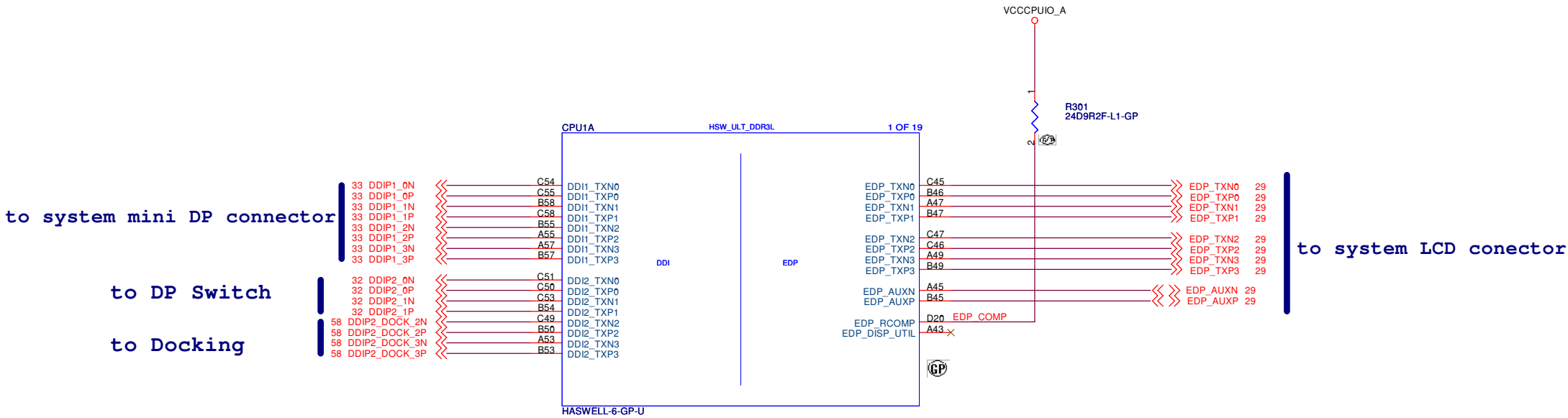
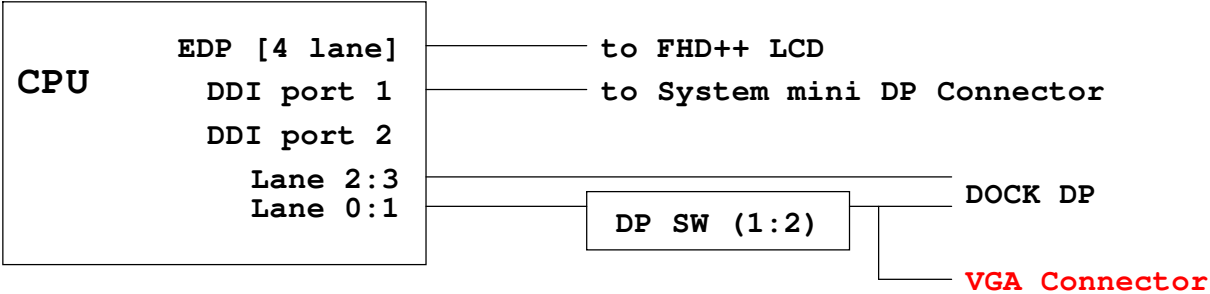


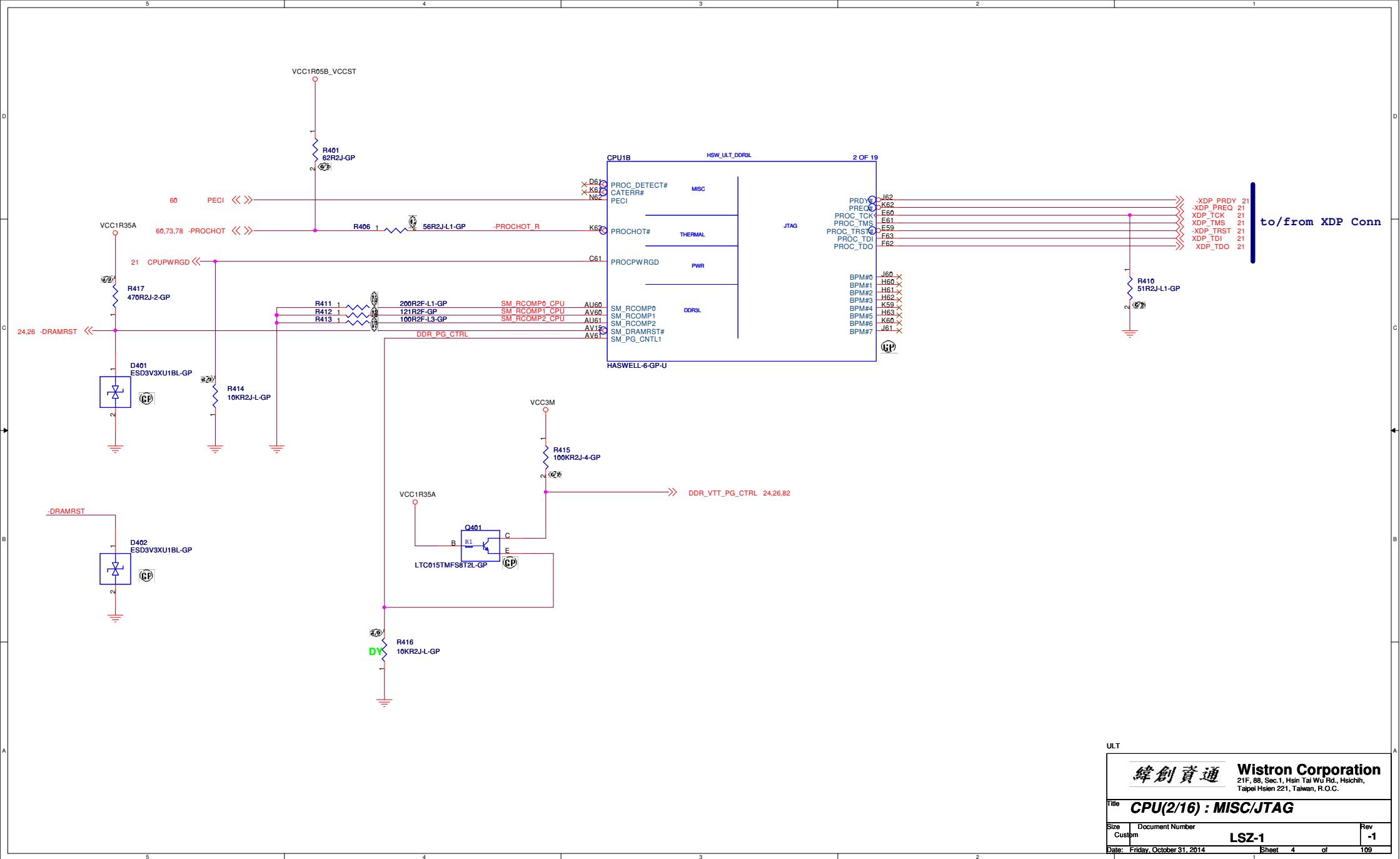
ULT

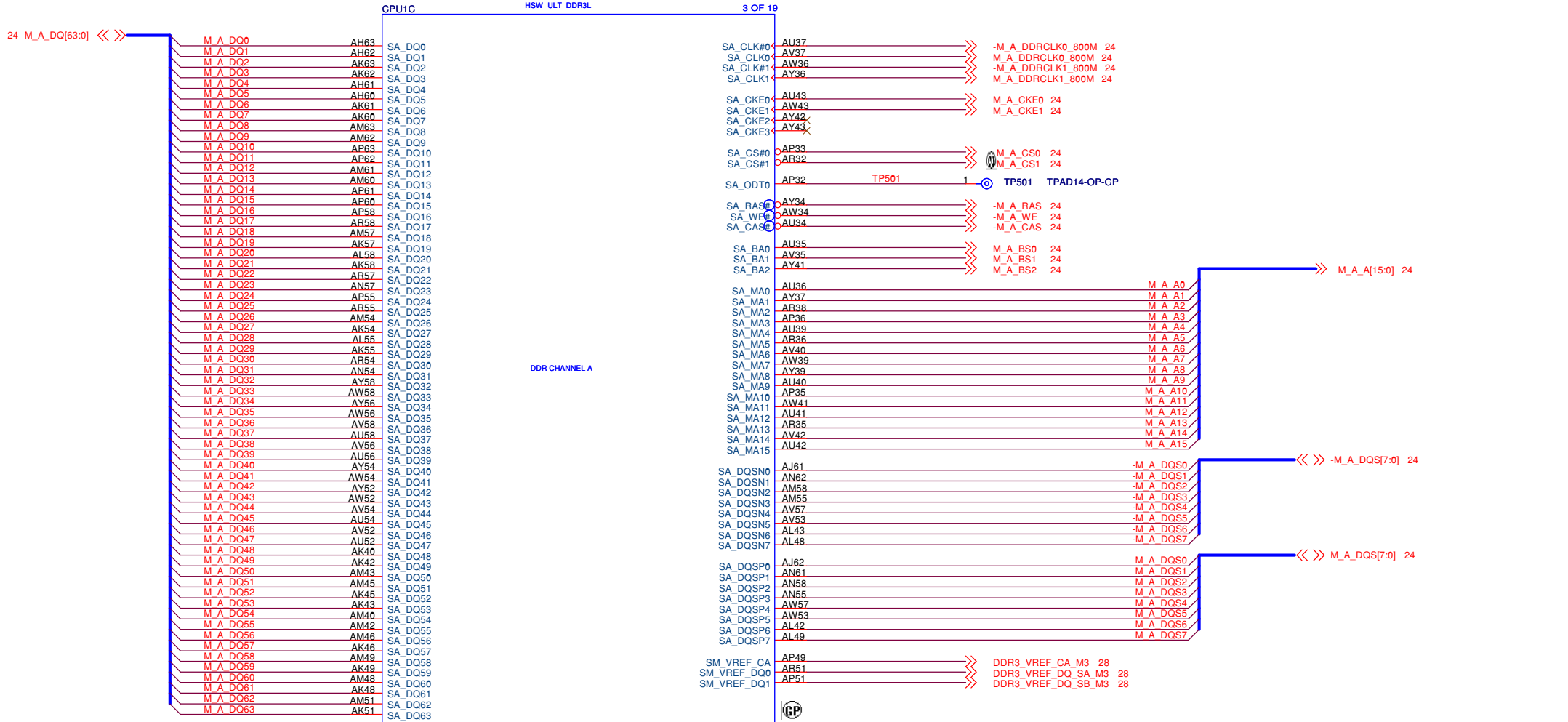
RESISTOR

CAPACITOR

DisplayTopology

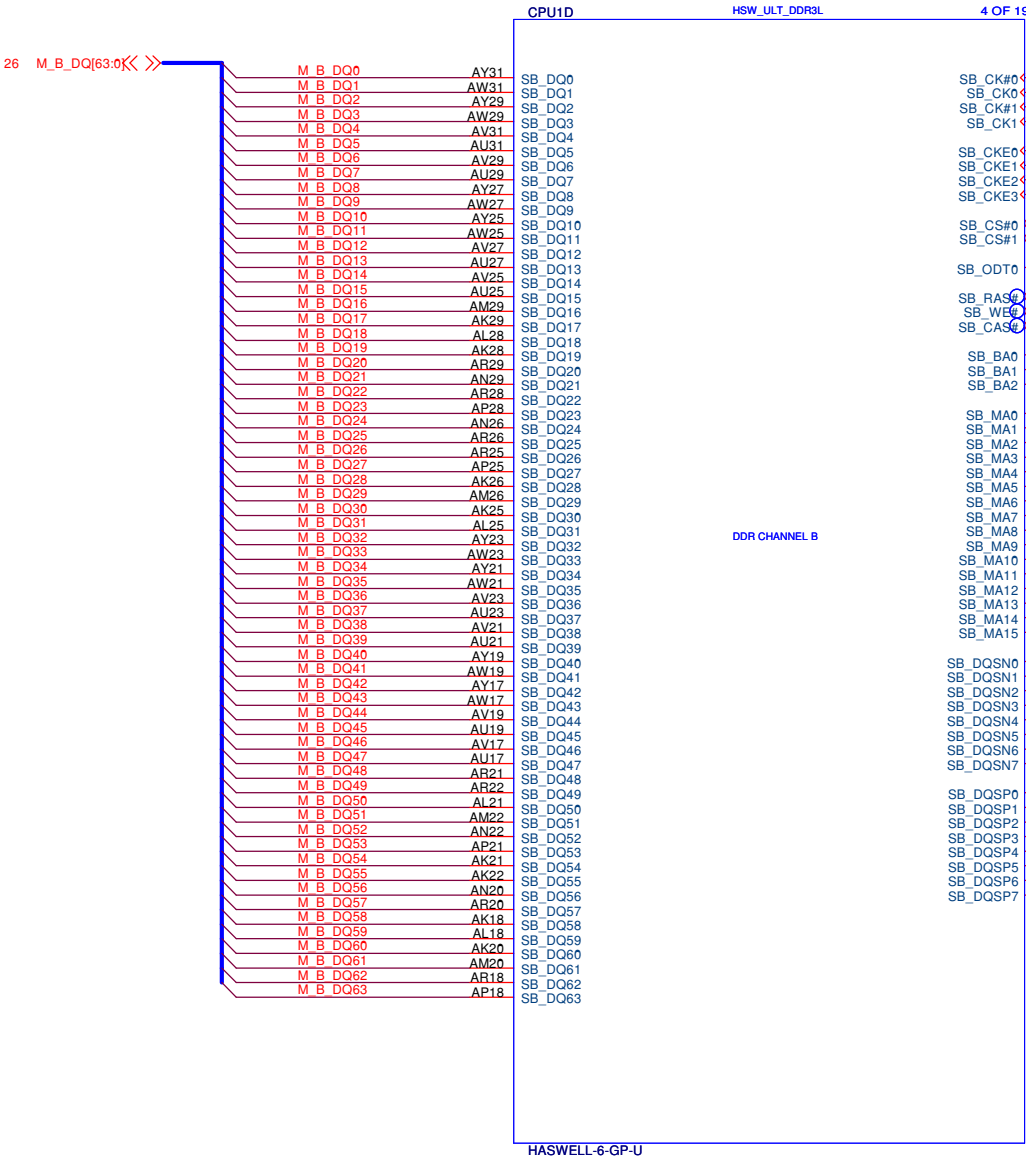






ULT

 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title CPU(3/16) : DDR3L CHANNEL-A		
Size B	Document Number LSZ-1	Rev -1
Date: Friday, October 31, 2014 Sheet 5 of 109		



ULT

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

Title CPU(4/16) : DDR3L CHANNEL-B		
Size B	Document Number LSZ-1	Rev -1
Date: Friday, October 31, 2014 Sheet 6 of 109		

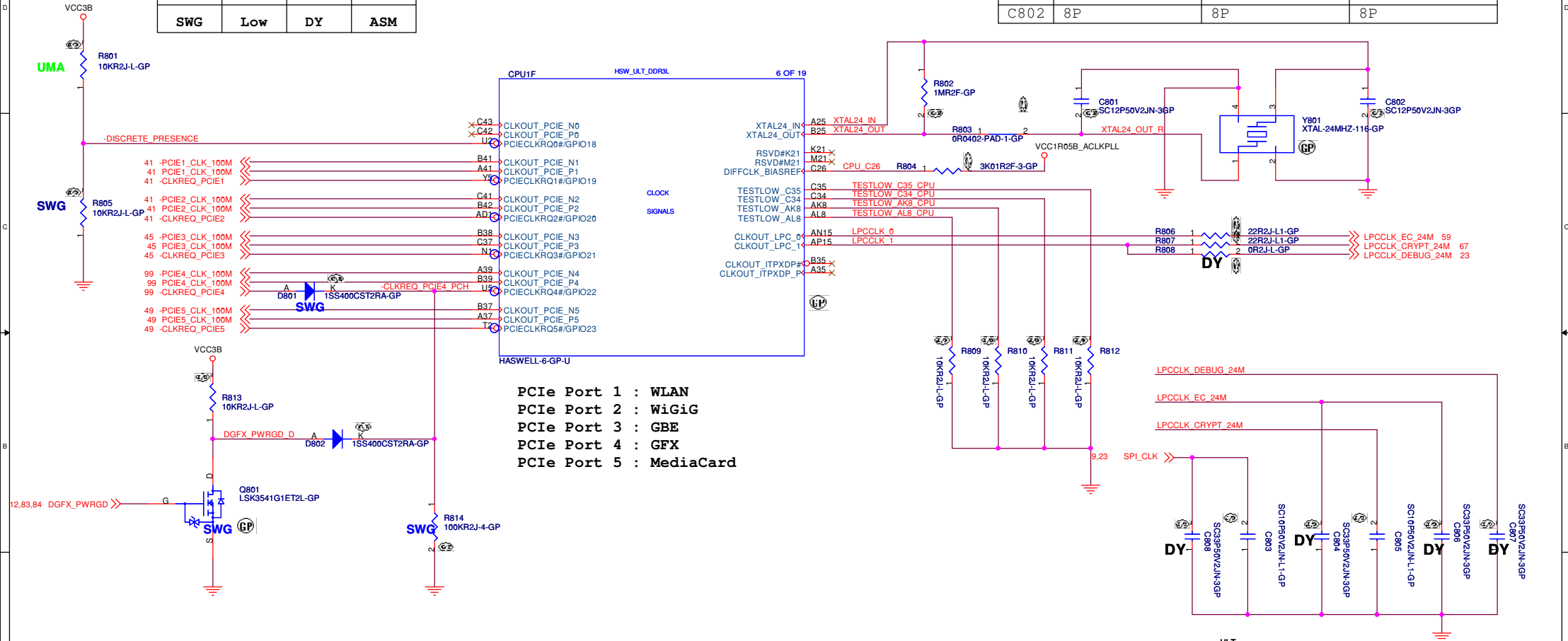
Model	Logic	R801	R805
UMA	Hi	ASM	DY
SWG	Low	DY	ASM

Y801
KDS
TXC
Epson

1ZZCAA24000CC0B
8Y24080002
Q22FA1280027100

82.30023.991
82.30023.981
82.30023.961

	KDS	TXC	EPSON
Y801	82.30023.991	82.30023.981	82.30023.961
R802	1M	1M	1M
C801	8P	8P	8P
C802	8P	8P	8P

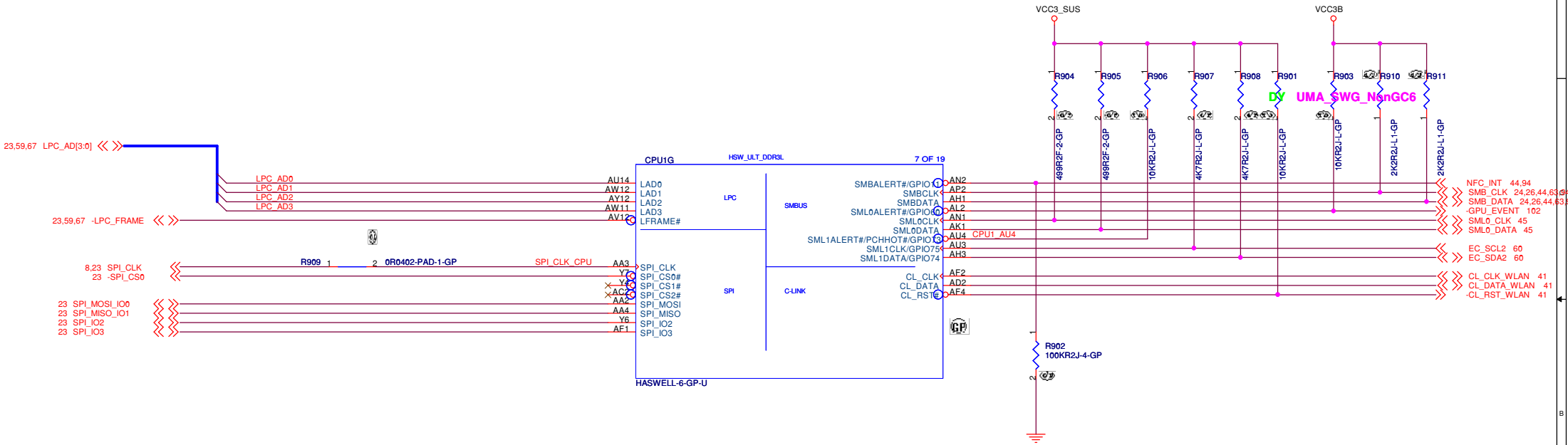


PCie Port 1 : WLAN
PCie Port 2 : WiGiG
PCie Port 3 : GBE
PCie Port 4 : GFX
PCie Port 5 : MediaCard

ULT

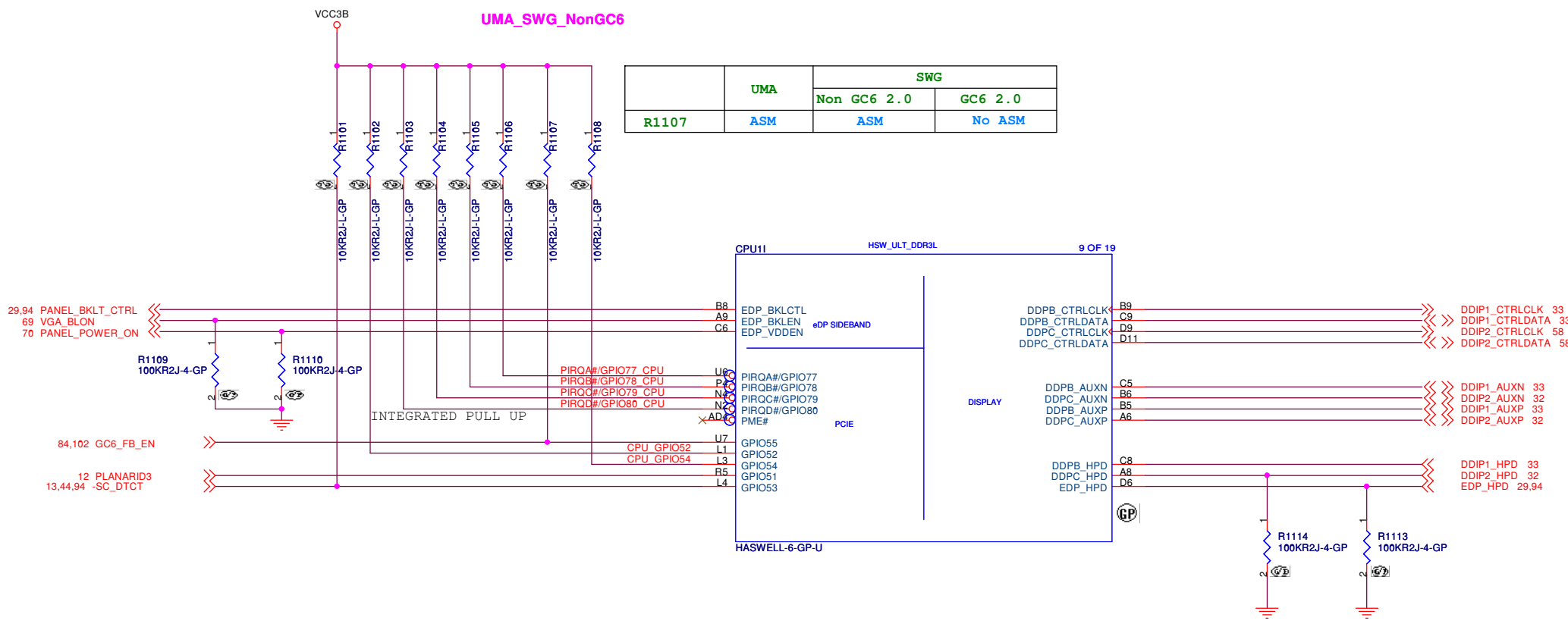
 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title CPU(6/16) : CLOCK SIGNALS	
Size Custom	Document Number LSZ-1
Date: Friday, October 31, 2014	Sheet 8 of 109

	UMA	SWG	
		Non GC6 2.0	GC6 2.0
R903	ASM	ASM	No ASM



ULT

緯創資通		Wistron Corporation	
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title CPU(7/16) : LPC/SPI/SMBUS/C-LINK			
Size	Document Number	Rev	
Custom	LSZ-1	-1	
Date: Friday, October 31, 2014	Sheet 9	of 109	



	UMA	SWG	
		Non GC6 2.0	GC6 2.0
R1107	ASM	ASM	No ASM

ULT

緯創資通

Wistron Corporation

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

TitleCPU(9/16) : LCD/PCI/DDI CONTROL

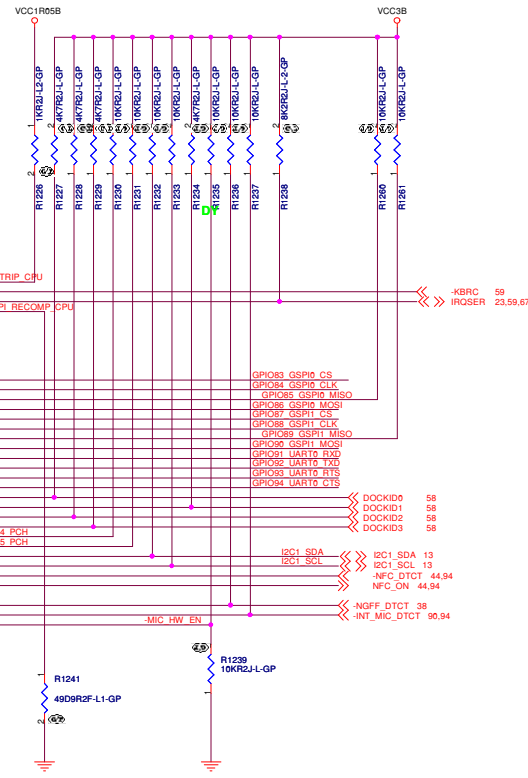
Size B

Document Number

LSZ-1

Rev-1

Date: Friday, October 31, 2014Sheet11 of109

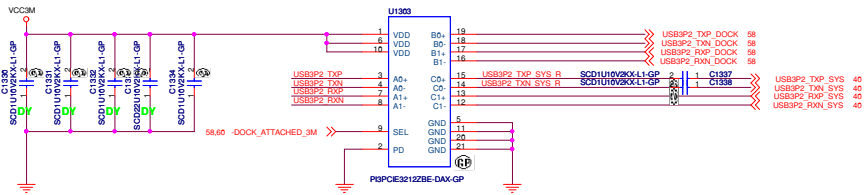
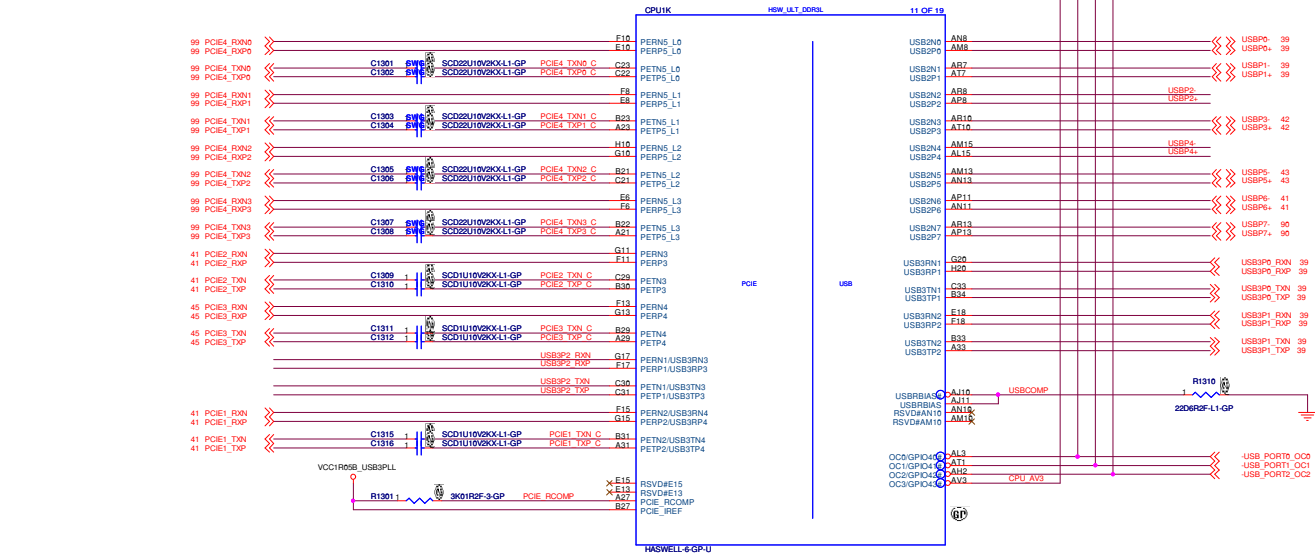


Flexible I/O Configuration			
I/O	High Speed Signals	Configuration	Net Name
Port 1	USB3 1	USB3 1	USB3P0
Port 2	USB3 2	USB3 2	USB3P1
Port 3	PCIE 1/USB3 3	USB3 3	USB3P2
Port 4	PCIE 2/USB3 4	PCIE 2	PCIE1
Port 5	PCIE 3	PCIE 3	PCIE2
Port 6	PCIE 4	PCIE 4	PCIE3
Port 7	PCIE 5 L0	PCIE 5 L0	PCIE4_0
Port 8	PCIE 5 L1	PCIE 5 L1	PCIE4_1
Port 9	PCIE 5 L2	PCIE 5 L2	PCIE4_2
Port 10	PCIE 5 L3	PCIE 5 L3	PCIE4_3
Port 11	PCIE 6 L0	PCIE 6 L0	PCIE5
Port 12	SATA 2/PCIE 6 L1	SATA 2	SATA 2
Port 13	SATA 1/PCIE 6 L2	SATA 1	SATA 1
Port 14	SATA 0/PCIE 6 L3	SATA 0	SATA 0

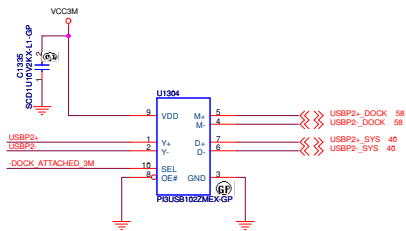
PCIe Port Assignment	
1	NGFF WLAN Slot Port 1
2	NGFF WLAN Slot Port 0
3	GbE PHY
4 (x4)	Discrete GFX
5 (x1)	Media Card Controller

USB Port Assignment	
0	USB 3.0 System Port (AOU)
1	USB 3.0 System Port (Debug)
2	USB 3.0 Docking/3rd USB3.0 System Port
3	NGFF WWAN Slot
4	Smart Card/Touch Panel
5	Fingerprint Reader
6	NGFF WLAN Slot
7	USB Camera

USB 3.0 Port Assignment	
0	USB 3.0 System Port (AOU)
1	USB 3.0 System Port (Debug)
2	USB 3.0 Docking



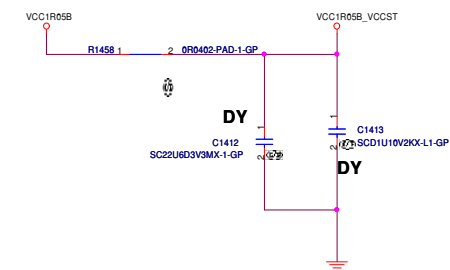
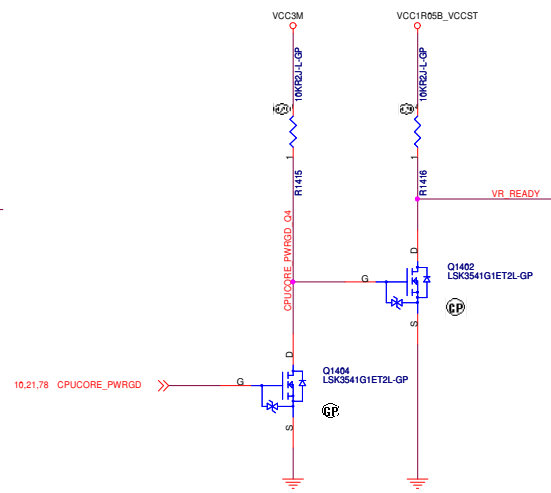
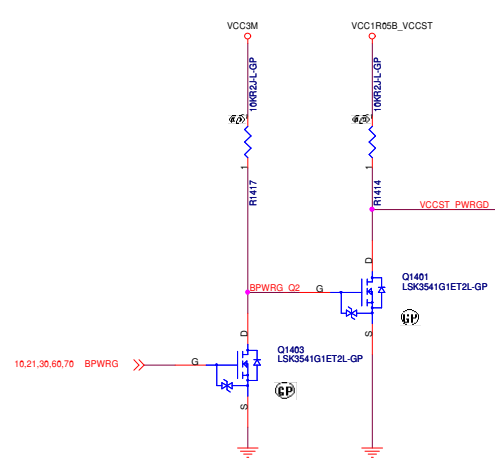
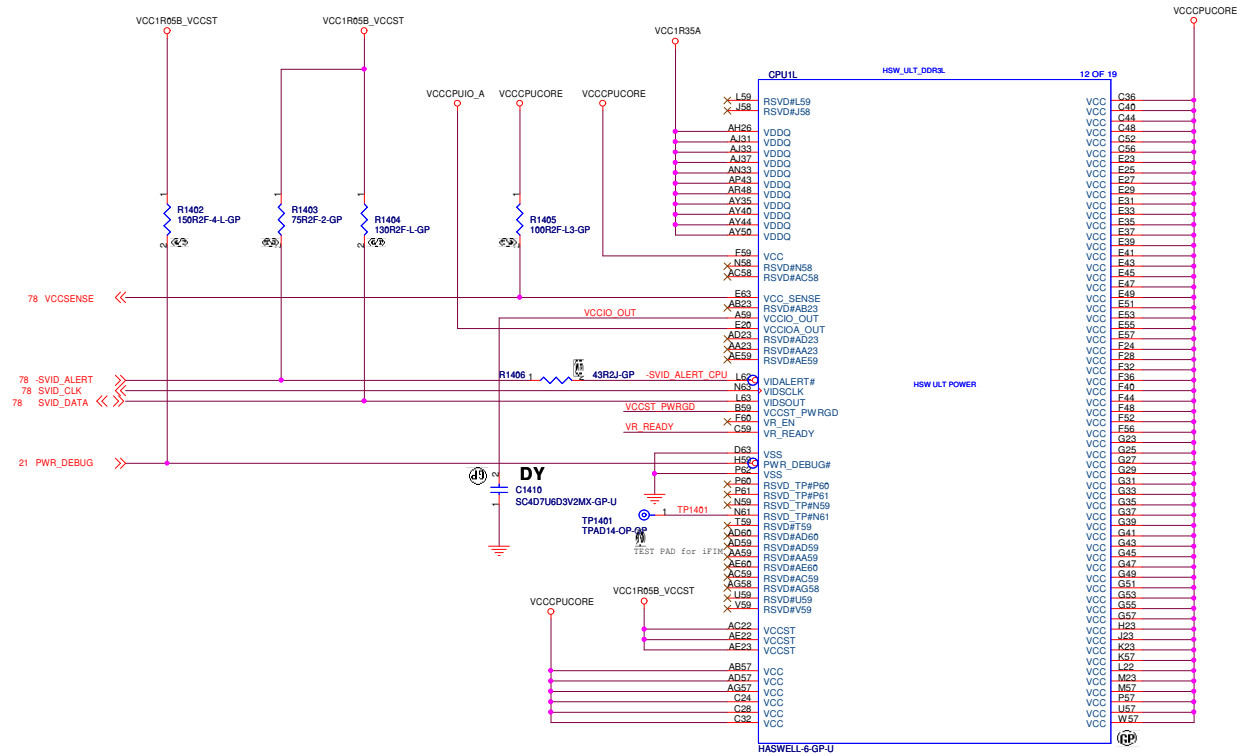
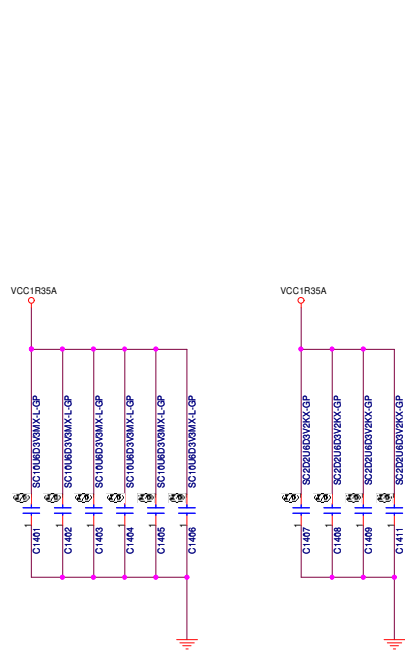
Vendor	P/N
NXP	CBTL02043ABQ
Pericom	PI3PCIE3212
Toshiba	TC7PCI3212MT

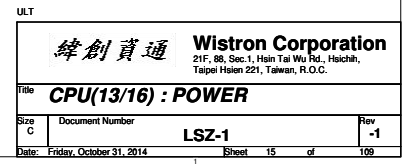


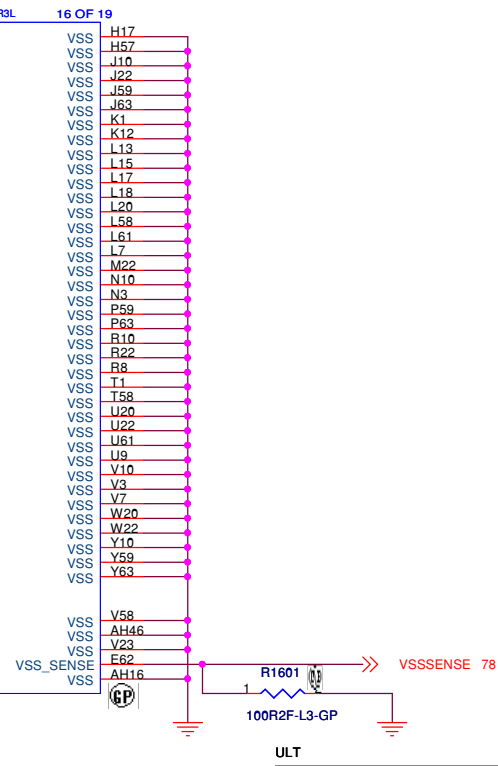
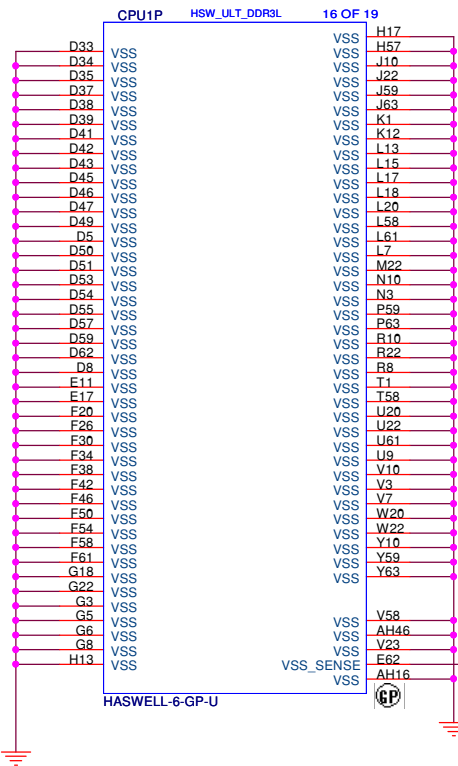
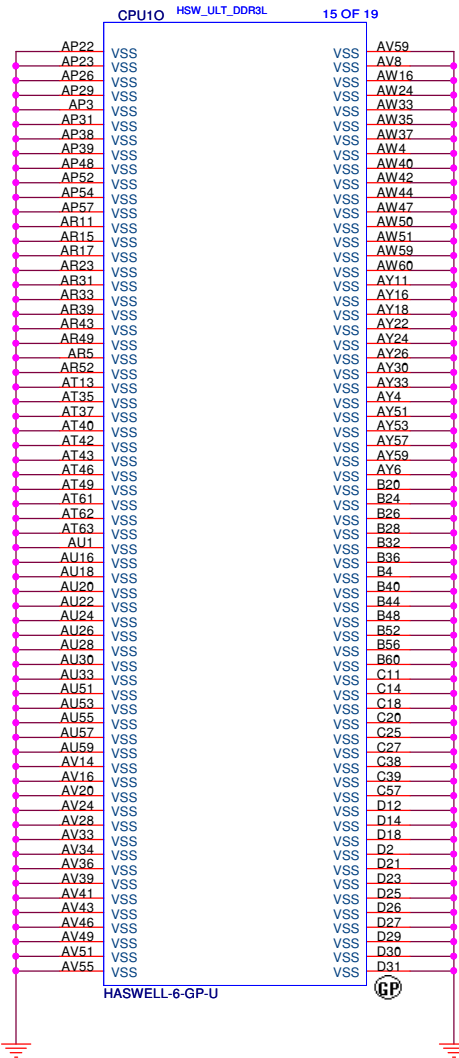
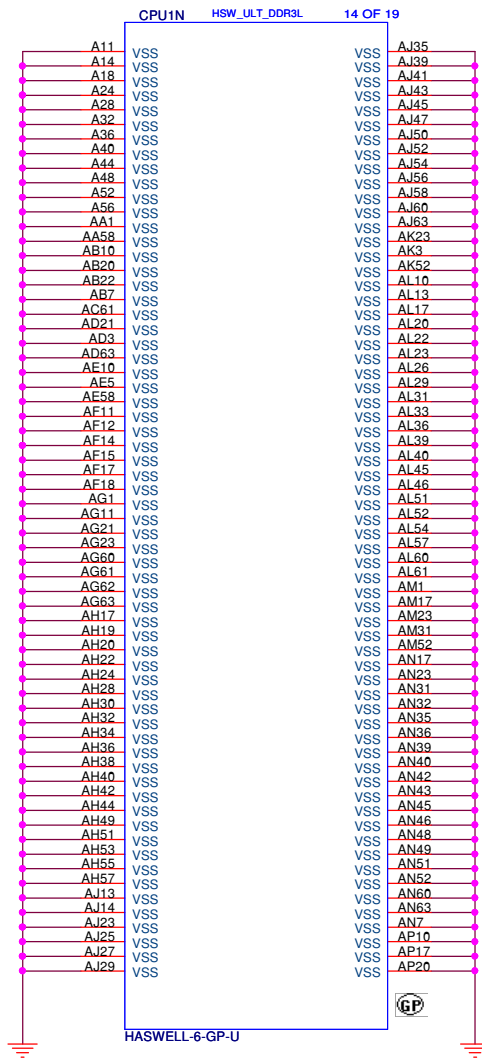
Device Selerion	
0	Smart Card Slot
1	Touch Panel

Vendor	P/N
Pericom	PI3USB102ZME
NXP	NX3DV42GU

Vendor	P/N
Pericom	PI3USB102ZME
NXP	NX3DV42GU







ULT

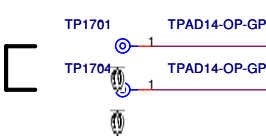
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title CPU(14/16) : GND

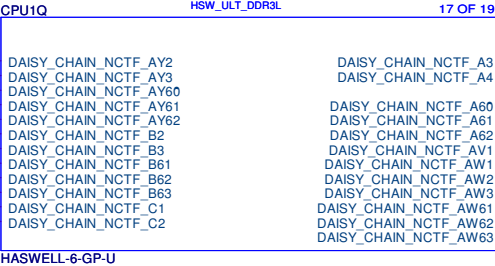
Size B Document Number LSZ-1 Rev -1

Date: Friday, October 31, 2014 Sheet 16 of 109

FOR SOLDER CRACK DETECTION

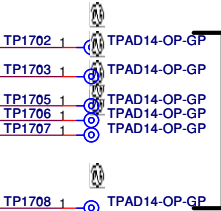


DC TEST AY2 AW2	AY2
DC TEST AY3 AW3	AY3
TP DC TEST AY60	AY60
DC TEST AY61 AW61	AY61
DC TEST AY62 AW62	AY62
TP DC TEST B2	B2
DC TEST A3 B3	B3
DC TEST A61 B61	B61
DC TEST B62 B63	B62
	B63
DC TEST C1 C2	C1
	C2



A3	DC TEST A3 B3
A4	TP DC TEST A4
A60	TP DC TEST A60
A61	DC TEST A61 B61
A62	TP DC TEST A62
AV1	TP DC TEST AV1
AW1	TP DC TEST AW1
AW2	DC TEST AY2 AW2
AW3	DC TEST AY3 AW3
AW61	DC TEST AY61 AW61
AW62	DC TEST AY62 AW62
AW63	TP DC TEST AW63

FOR SOLDER CRACK DETECTION



ULT

緯創資通

Wistron Corporation

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

TitleCPU(15/16) : NCTF

Size B

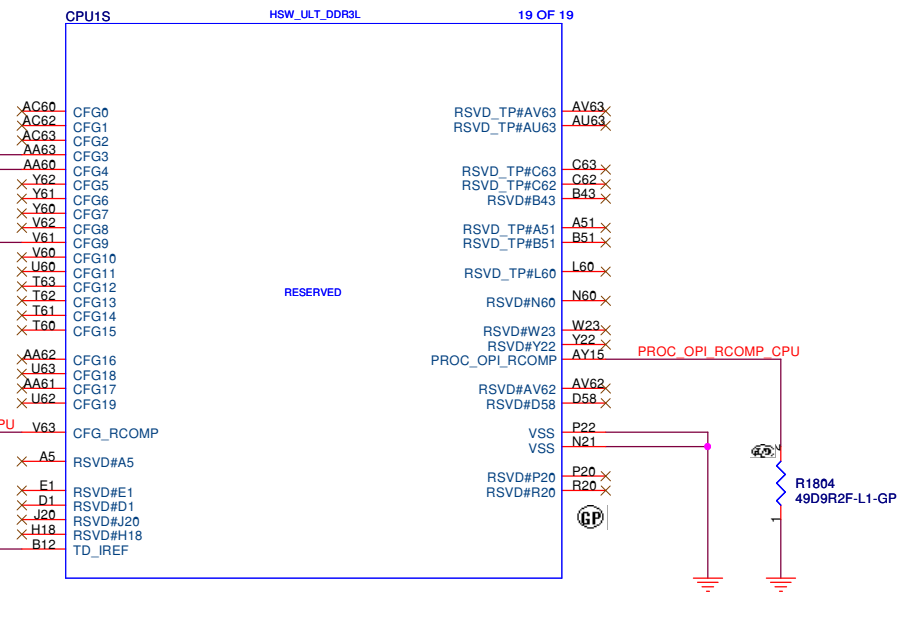
Document Number

LSZ-1

Rev-1

Date: Friday, October 31, 2014Sheet 17 of 109

```
CFG4 : Display Port Presence
    1 : Disabled
    0 : Enabled
```



緯創資通

Size B	Document Number LSZ-1	Rev -1
Date: Friday, October 31, 2014	Sheet 18 of	109

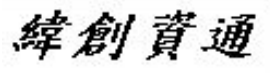
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ULT

<div><div>緯創資通</div><div>Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</div></div>		
Title Reserved(for Quad Core CPU/PCH)		
Size A	Document Number LSZ-1	Rev -1
Date: Friday, October 31, 2014		Sheet 19 of 109

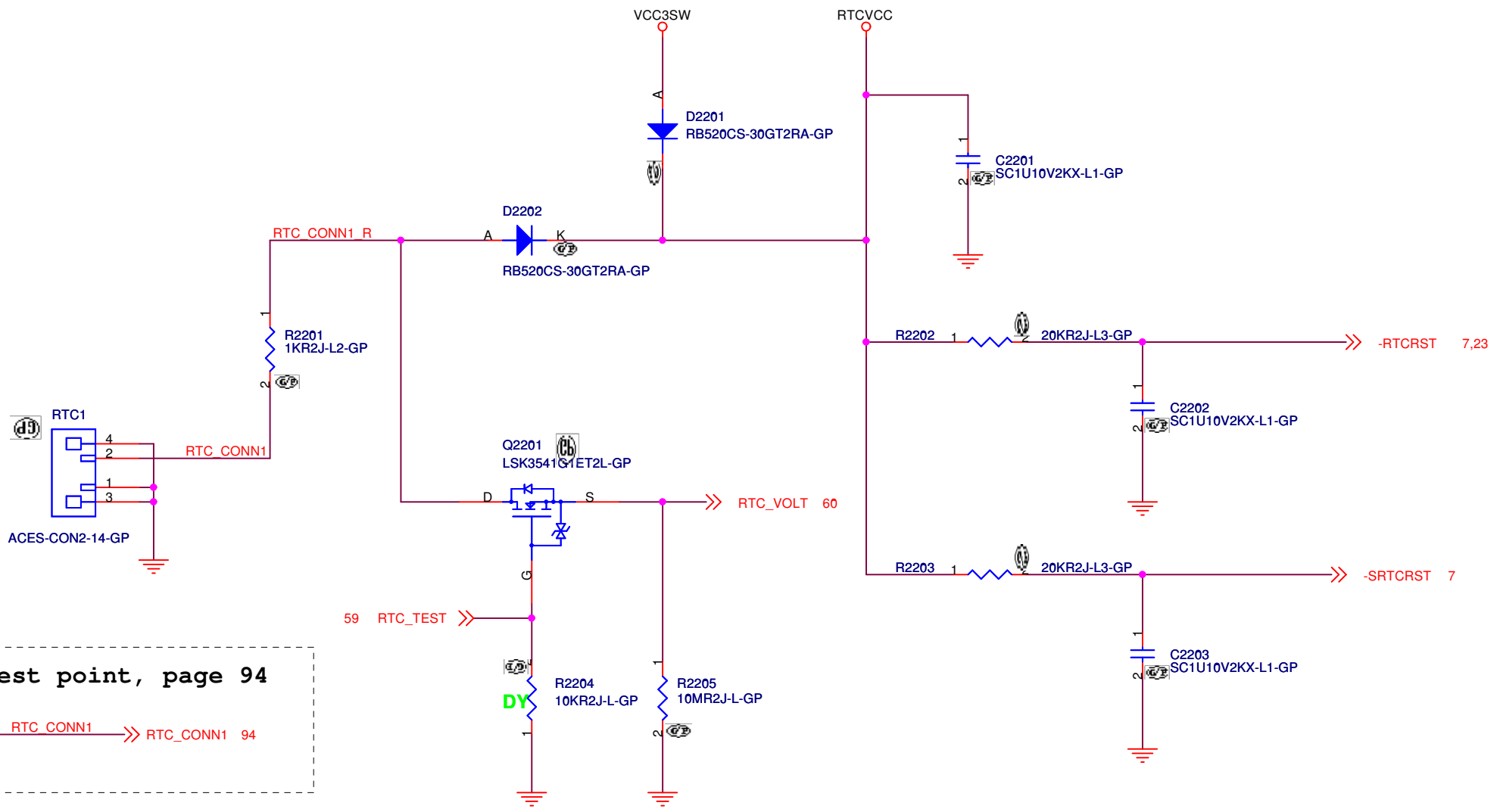
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ULT

		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title <i>Reserved(for Quad Core CPU/PCH)</i>			
Size A	Document Number LSZ-1		Rev -1
Date: Friday, October 31, 2014		Sheet 20 of	109

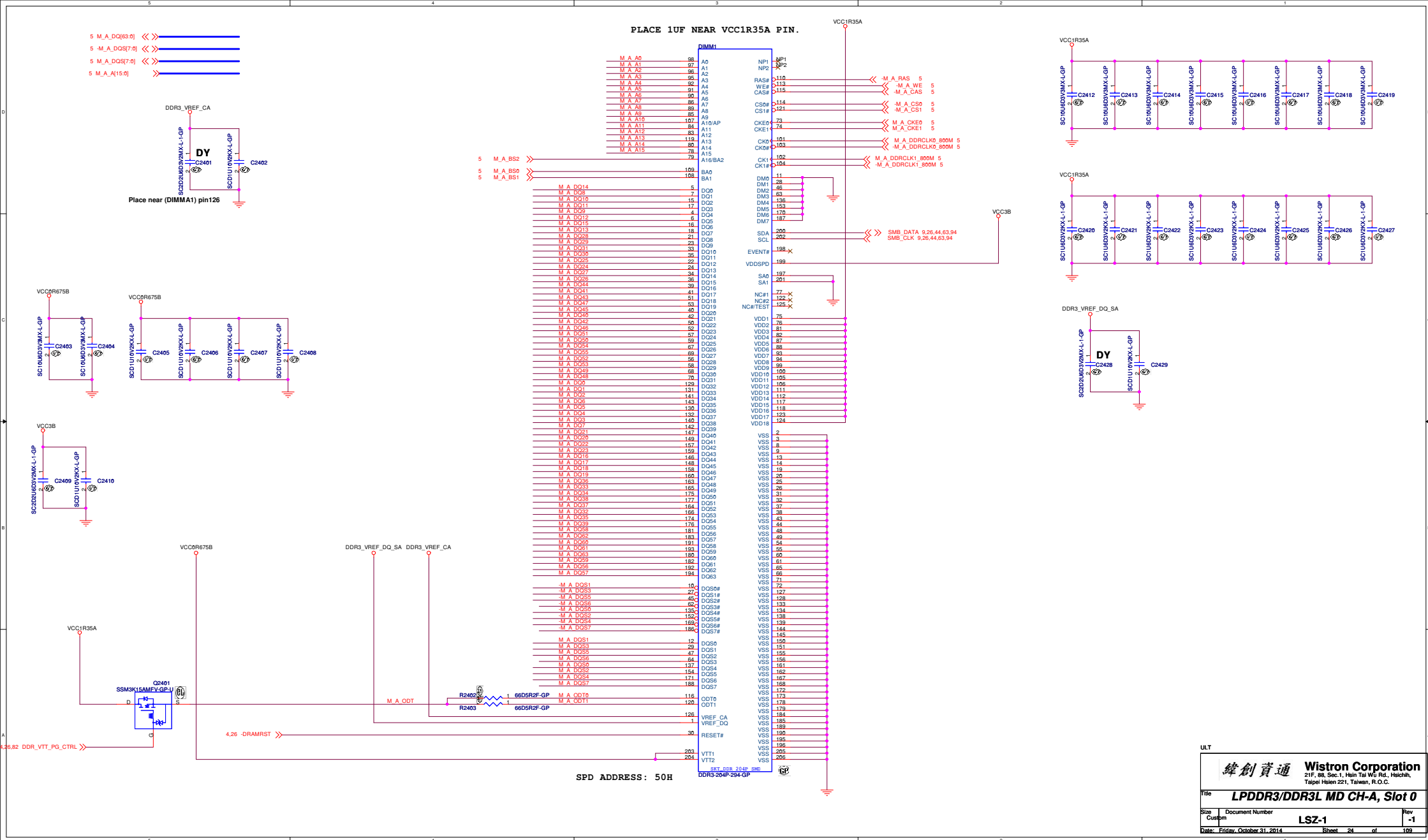
for test point, page 94

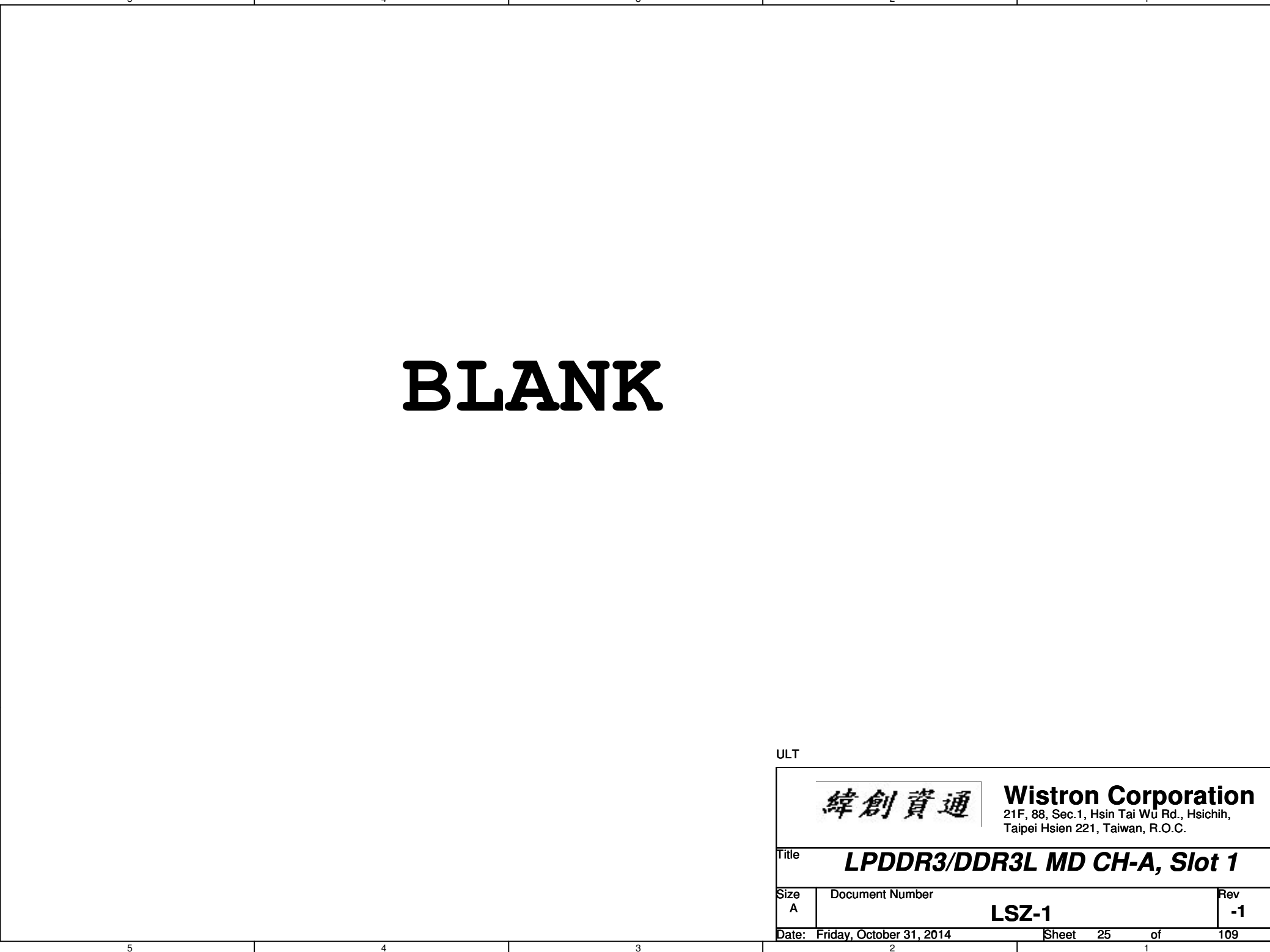
RTC_CONN1 >> RTC_CONN1 94



<Variant Name>

<div><div>緯創資通</div><div>Wistron Corporation</div><div>21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</div></div>		
Title		
RTC BATTERY		
Size A4	Document Number LSZ-1	Rev -1
Date: Friday, October 31, 2014		Sheet 22 of 109

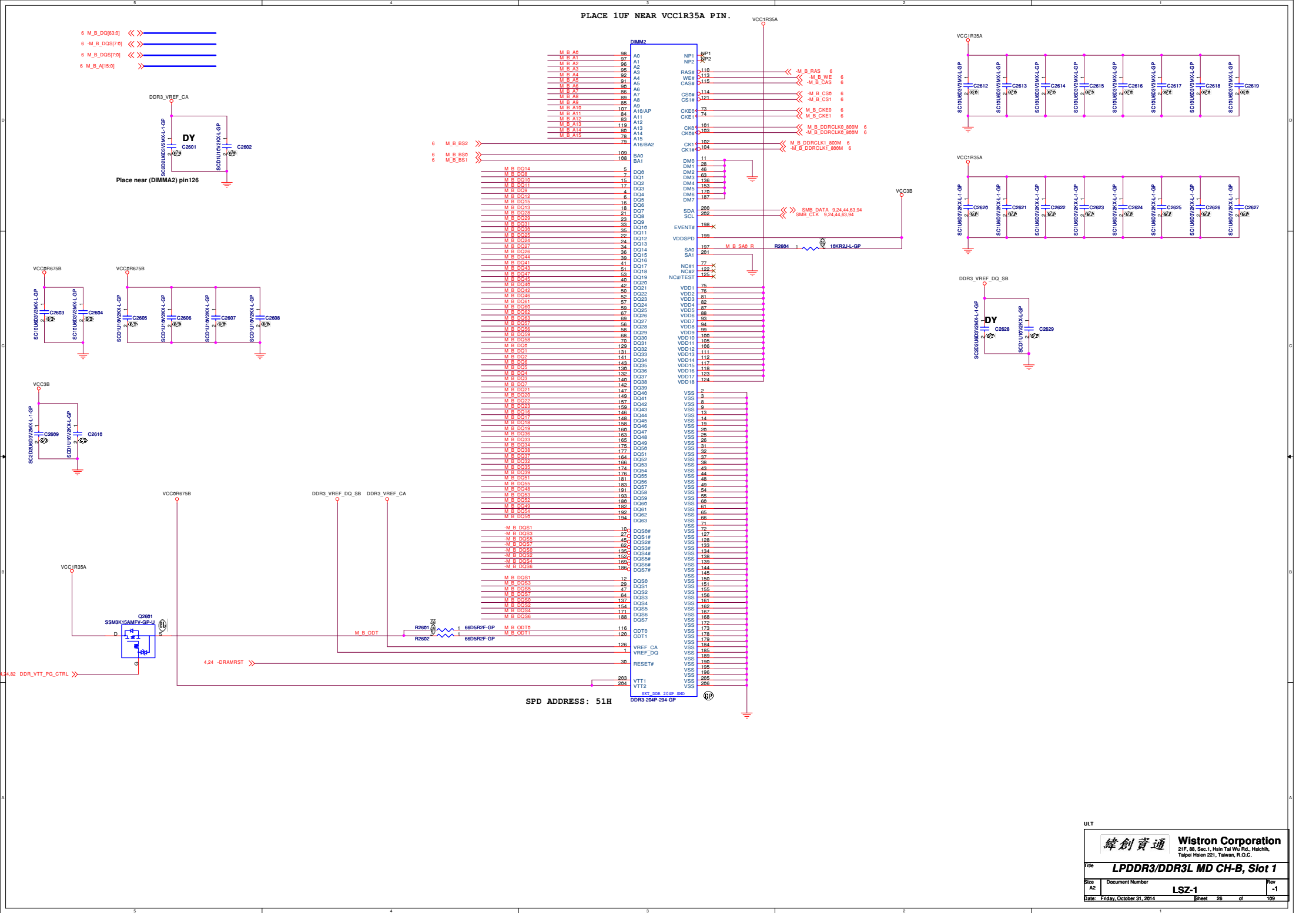


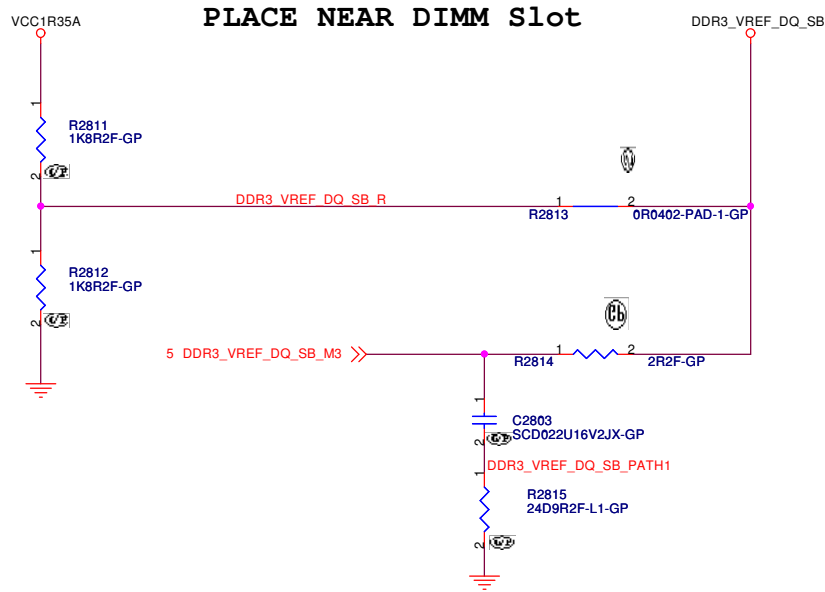
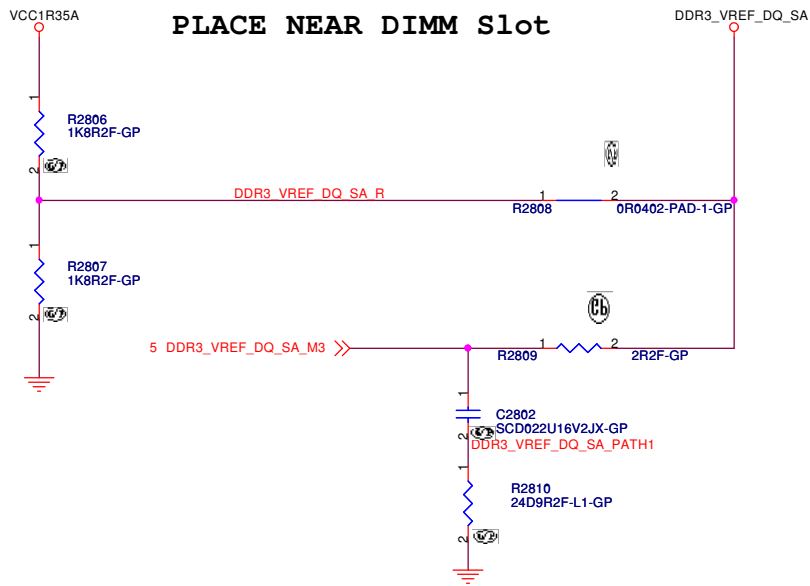
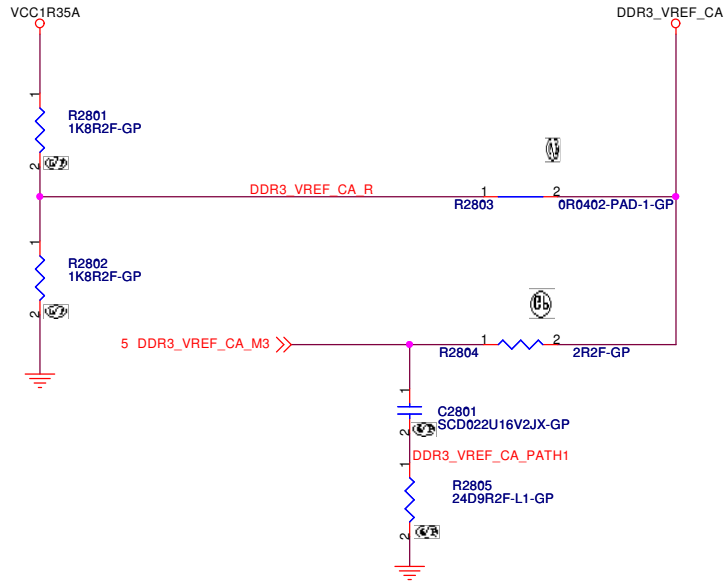


ULT

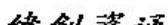
<div><div>緯創資通</div><div>Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</div></div>		
Title LPDDR3/DDR3L MD CH-A, Slot 1		
Size A	Document Number LSZ-1	Rev -1
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PLACE 1UF NEAR VCC1R35A PIN.

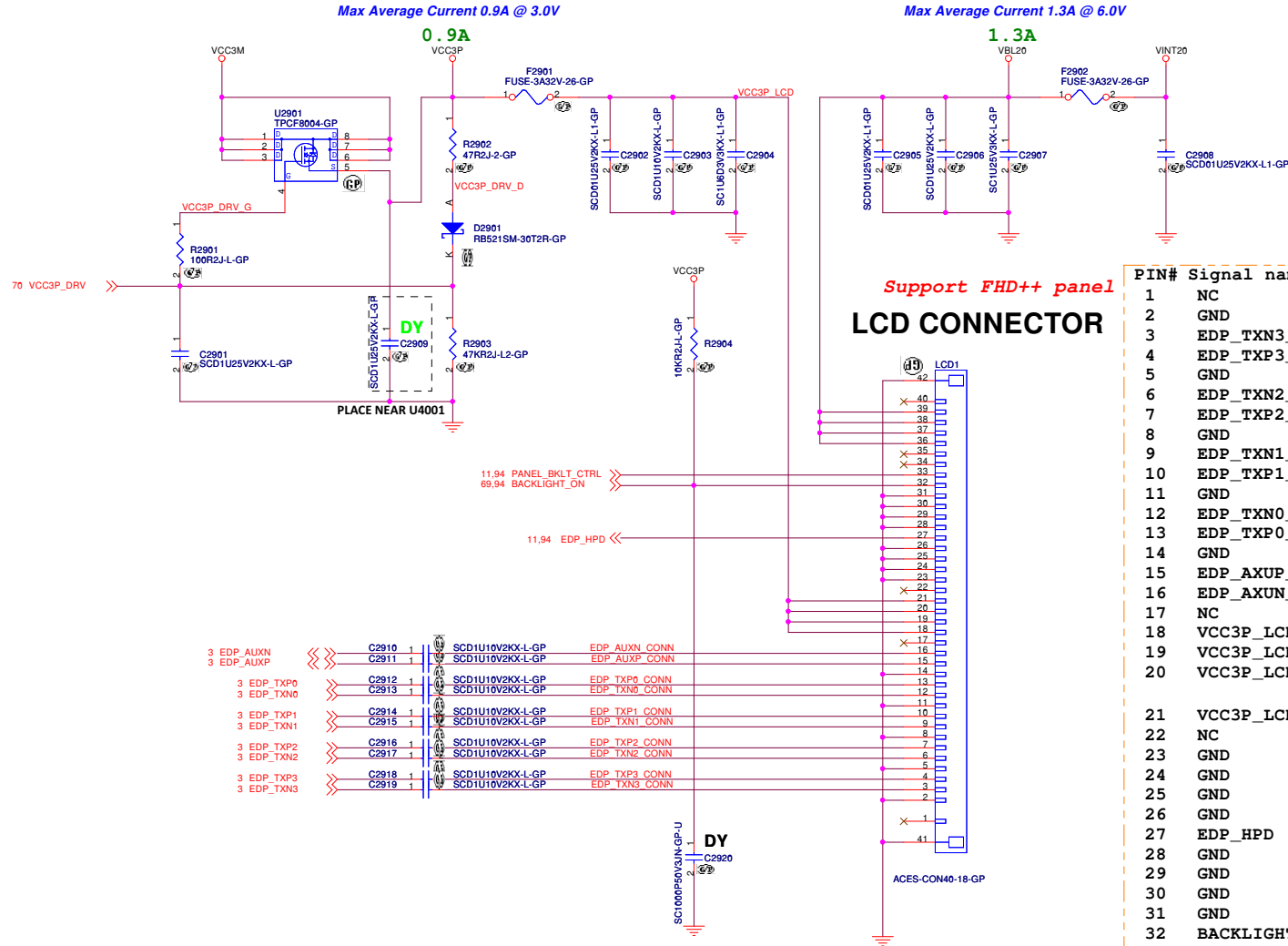




ULT

		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title LPDDR3/DDR3L REFERENCE			
Size Custom	Document Number LSZ-1		Rev -1
Date: Friday, October 31, 2014		Sheet 28 of	109

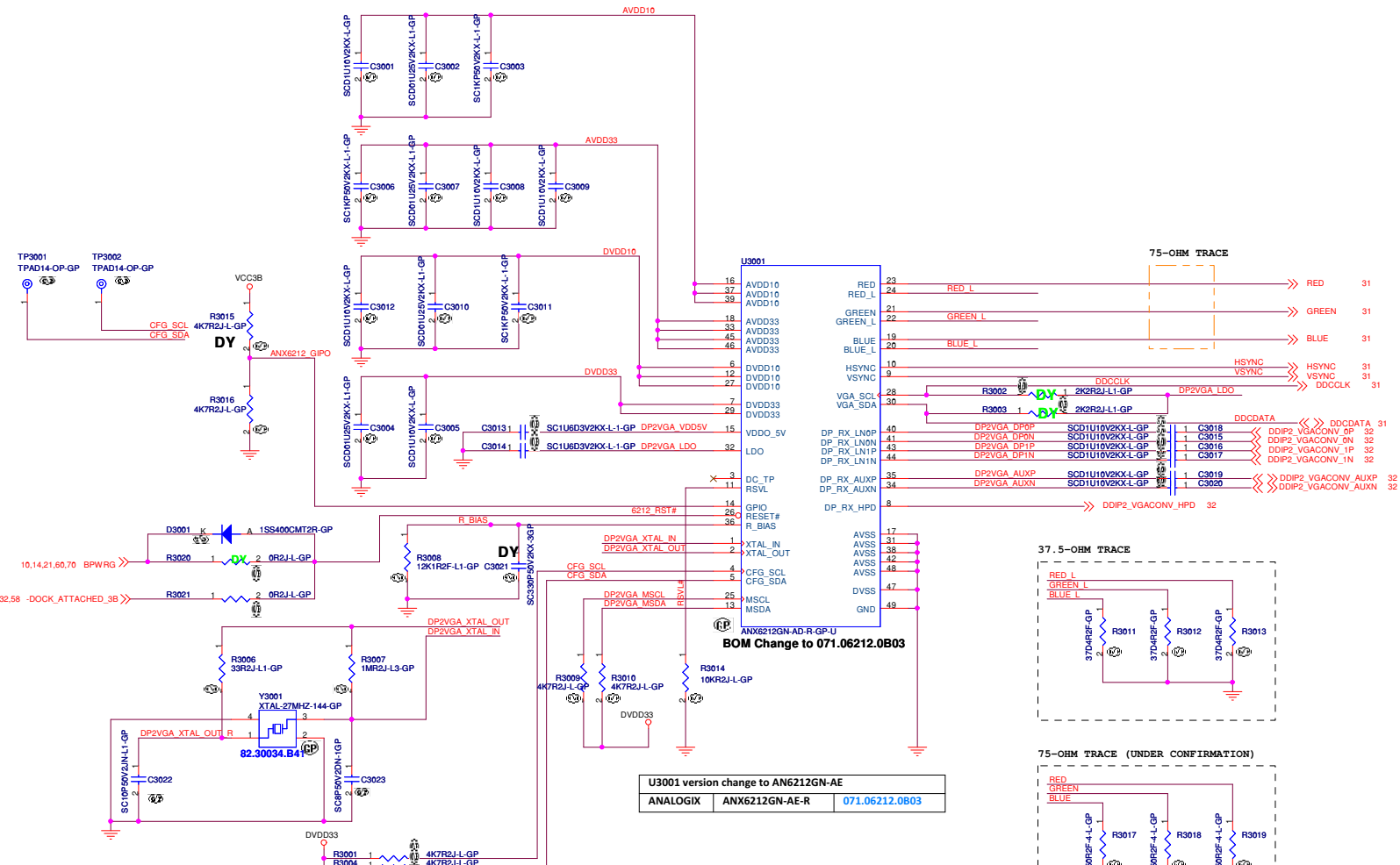
LCD CONN



Near LCD CONN: LCD1 (P.94)

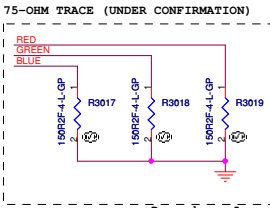
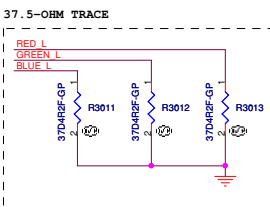
Support FHD++ panel
LCD CONNECTOR

PIN#	Signal name
1	NC
2	GND
3	EDP_TXN3_CONN
4	EDP_TXP3_CONN
5	GND
6	EDP_TXN2_CONN
7	EDP_TXP2_CONN
8	GND
9	EDP_TXN1_CONN
10	EDP_TXP1_CONN
11	GND
12	EDP_TXN0_CONN
13	EDP_TXP0_CONN
14	GND
15	EDP_AXUP_CONN
16	EDP_AXUN_CONN
17	NC
18	VCC3P_LCD
19	VCC3P_LCD
20	VCC3P_LCD
21	VCC3P_LCD
22	NC
23	GND
24	GND
25	GND
26	GND
27	EDP_HPD
28	GND
29	GND
30	GND
31	GND
32	BACKLIGHT_ON
33	PANEL_BKLT_CTRL
34	NC
35	NC
36	VBL20
37	VBL20
38	VBL20
39	VBL20
40	NC



Crystal 27MHz 12pF 30ppm (only TXC 20 ppm)			
KDS	DSX211G	1ZZCAA27000CC0B	82.30034.B41
TXC	8Y270	8Y27000002	82.30034.B61
EPSON	FA-128	Q22FA1280025200	82.30034.B71

	KDS	TXC	EPSON
Y3001	82.30034.B41	82.30034.B61	82.30034.B71
R3006	33	33	33
R3007	1M	1M	1M
C3022	10P	27P	18P
C3023	8P	18P	15P



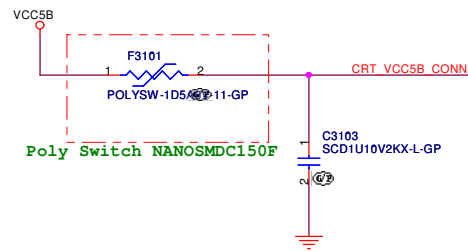
XTAL USED 27MHZ 12pF

Max 130mA

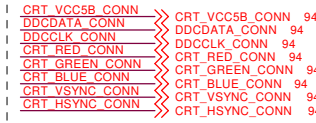
2.2uF, 0.1uF, 1000pF : Near filter

2.2uF, 0.1uF, 100pF : Near filter

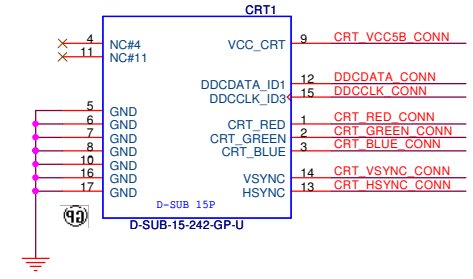
Max 130mA



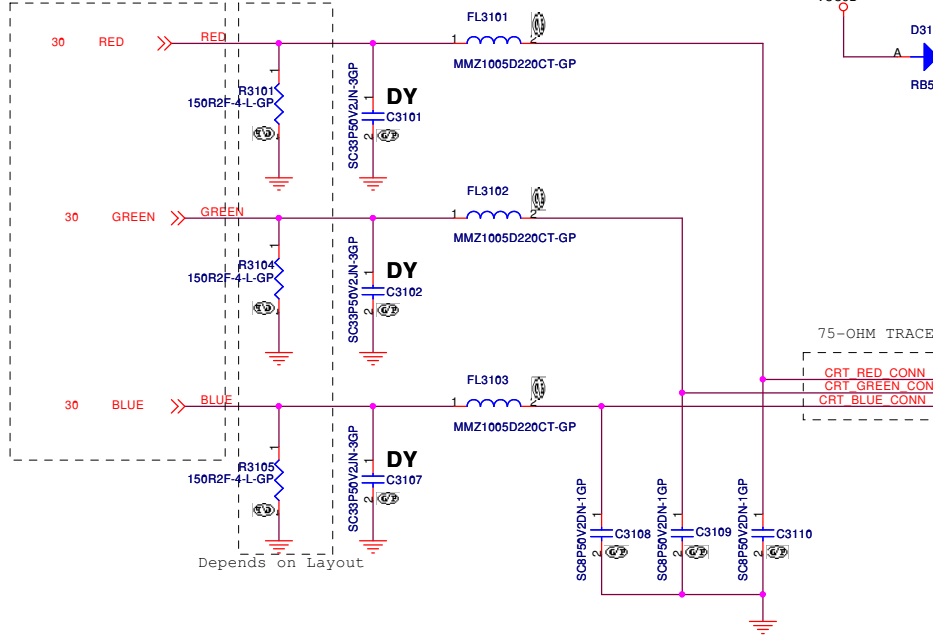
for test point, page 94



CRT CONNECTOR



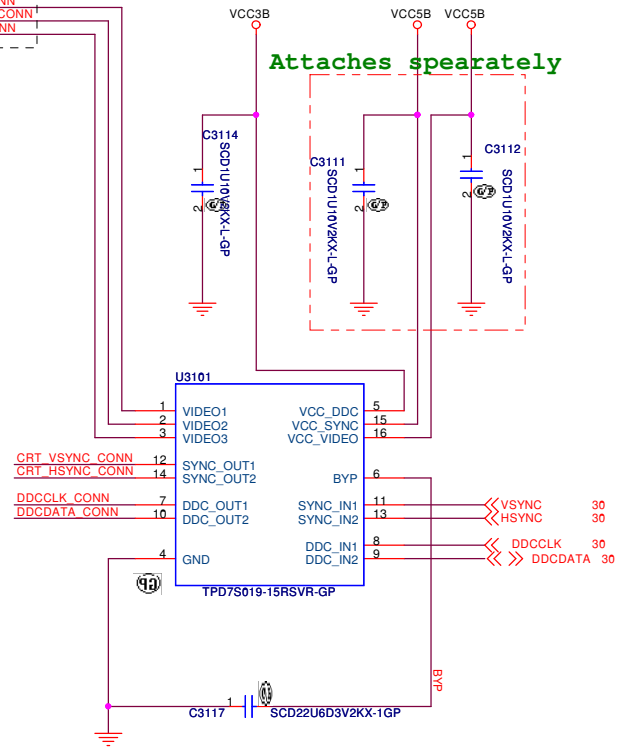
75-OHM TRACE



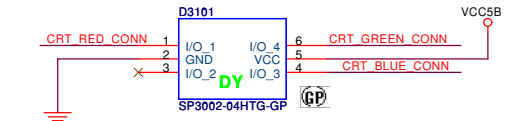
75-OHM TRACE

CRT_RED_CONN
CRT_GREEN_CONN
CRT_BLUE_CONN

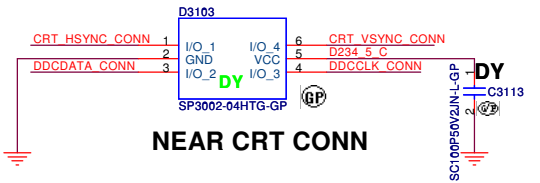
Attaches sepearately



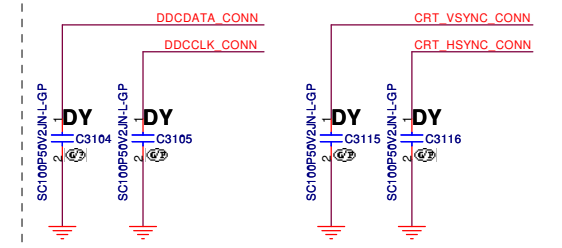
EMC Solution



NEAR CRT CONN

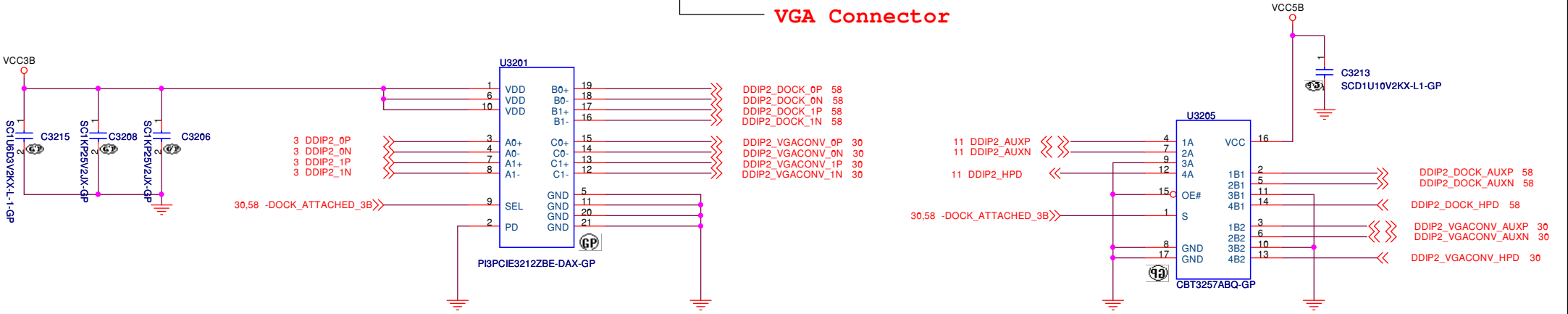
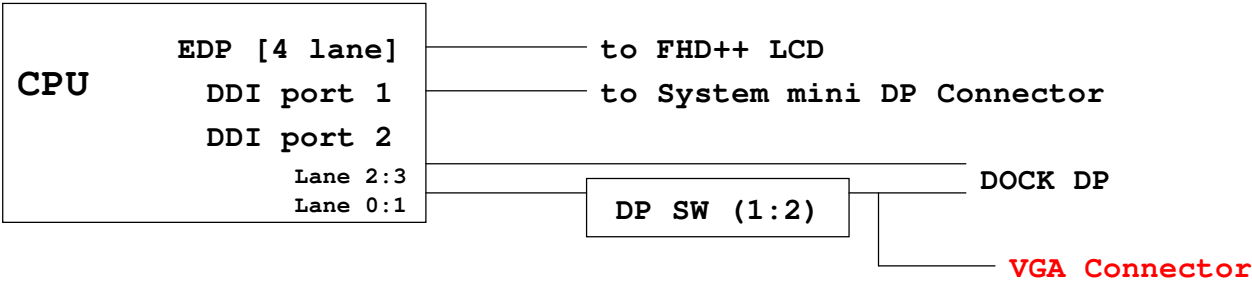


NEAR CRT CONN



ULT

DisplayTopology



Vendor	P/N
NXP	CBTL02043ABQ
Pericom	PI3PCIE3212
Toshiba	TC7PCI3212MT

Vendor	P/N
NXP	CBT3257ABQ
On-semi	74FST3257MNTWG

ULT

緯創資通

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

Title **DP BUS SW**

Size B	Document Number LSZ-1	Rev -1
Date: Friday, October 31, 2014	Sheet 32 of	109

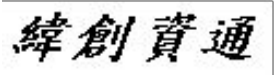
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ULT

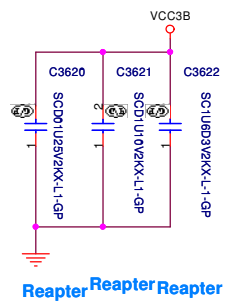
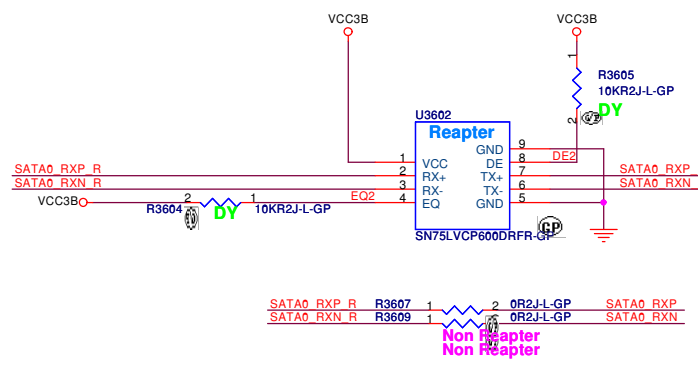
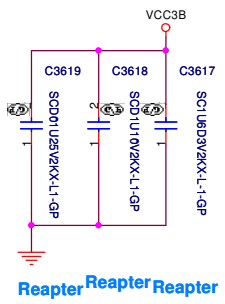
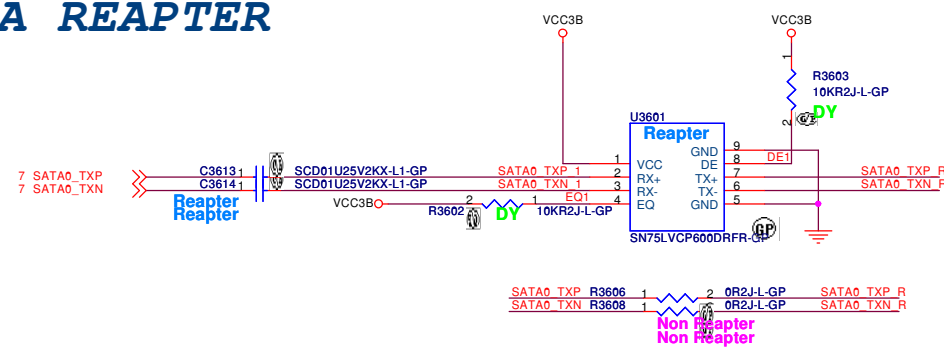
		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title HDMI CONNECTOR			
Size A	Document Number LSZ-1		Rev -1
Date: Friday, October 31, 2014	Sheet	34 of	109

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ULT

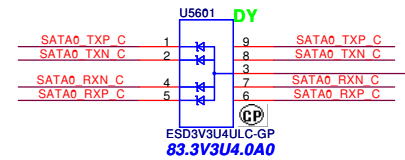
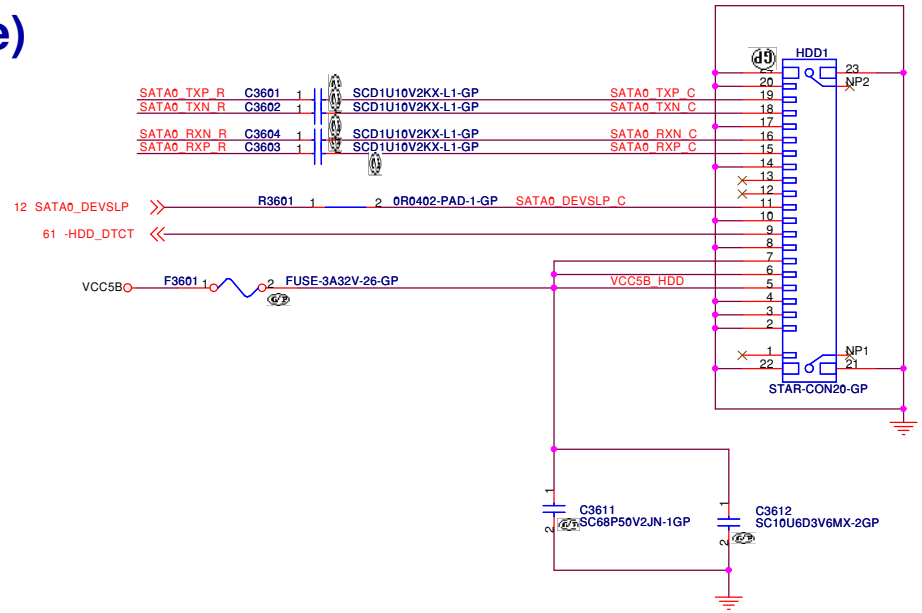
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Title Reserved HDMI(HEAC)			
Size A	Document Number LSZ-1		Rev -1
Date: Friday, October 31, 2014		Sheet 35 of	109

SATA REAPTER



HDD(Wire)

HDD



<Variant Name>		
緯創資通 Wistron Corporation		
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichin, Taipei Hsien 221, Taiwan, R.O.C.		
Title SATA HDD(BTB)		
Size Custom	Document Number LSZ-1	Rev -1
Date: Friday, October 31, 2014 Sheet 36 of 109		

BLANK

ULT

		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title BLANK			
Size A	Document Number LSZ-1		Rev -1
Date:	Friday, October 31, 2014	Sheet 37 of	109

TYPE-B NGFF CARD FOR SSD CACHE

The schematic diagram illustrates the electrical connections for a TYPE-B NGFF CARD used as an SSD cache. The central component is the MSSD1 chip, which interfaces with various system components and the NGFF connector.

Key Connections:

- 12 -NGFF_DTCT** is connected to **NP2** of the MSSD1 chip.
- 61 -MSATA_DTCT2** is connected to **NP2** of the MSSD1 chip.
- SATA2 RXP, RXN, TXN, and TXP** are connected to the **SCD01U16V2KX-L1-GP** component, which in turn connects to the MSSD1 chip.
- MSSD1 DEVSLP** is connected to **R3801** and **SATA2_DEVSLP**.
- Power and Ground** connections are shown for **VCC3B**, **3.3V_AUX**, and **USB3_0_IND**.

NGFF Connector Detail:

The NGFF connector is shown with the following components:

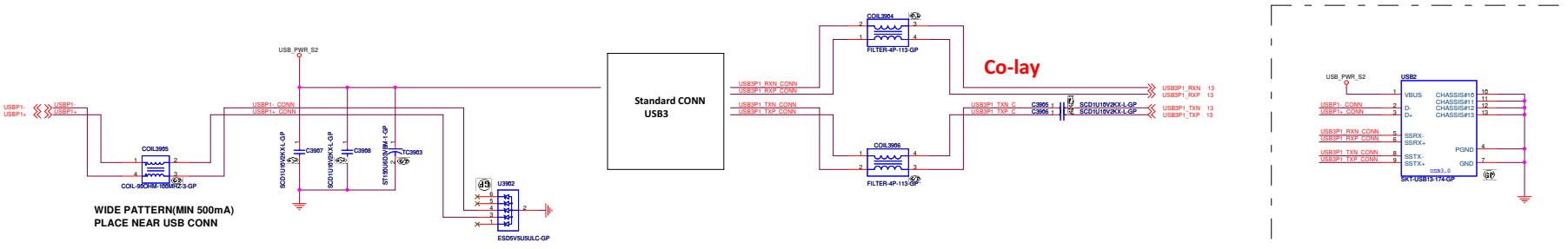
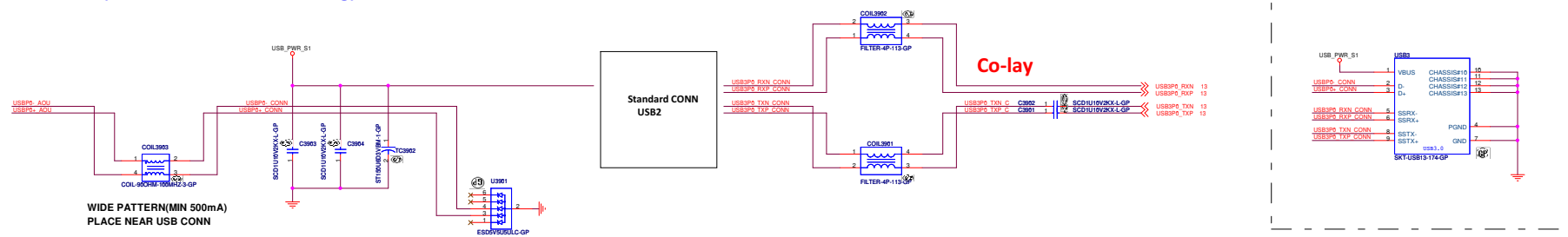
- Capacitors:** C3802, C3801, and C3807.
- Resistor:** R3802 (1KR2J-L2-GP).
- Label:** CLOSE TO NGFF Connector.

Legend:

- ULT
- Size C
- Date: Friday, October 31, 2014
- Sheet 38 of 109

 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	
PCIE NGFF CARD SLOT	
Size	Rev
Document Number	LSZ-1
Date: Friday, October 31, 2014	Sheet 38 of 109

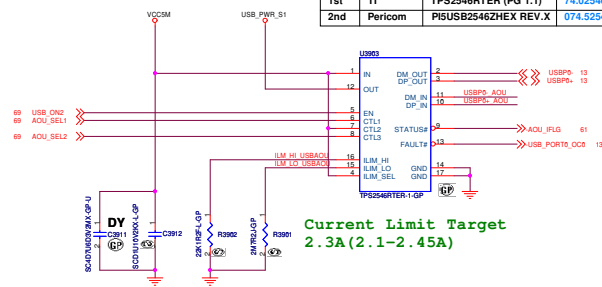
USB3.0x2 (Port 0 ,AOU ;Port1 , Debug)



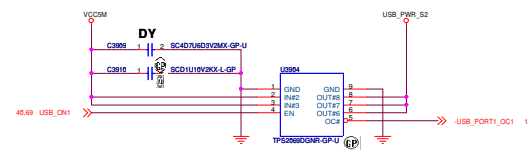
USB POWER

TABLE of AOU port: U3903

	Vendor	Vendor P/N	Wistron P/N
1st	TI	TPS2546RTER (PG 1.1)	74.02546.A73
2nd	Pericom	PI5USB2546ZHEX REV.X	074.52546.0A73



Current	Limit	Target
2.3A	(2.1-2.45A)	



FOR ON BOARD SINGLE USB 3.0 CONNECTOR
Continous Current Limit 1.5A

TABLE of USB 3.0 port: U3904,U4002

	Vendor	Vendor P/N	Wistron P/N
1st	TI	TPS2069DGN	74.02069.079
2nd	GMT	G548A1F51U	74.00548.A79
3rd	TI	TPS2069CDGMR-2	74.02069.A79

74.02069.079	TPS2069	without	discharge	function
74.02069.A79	TPS2069C	with	discharge	function

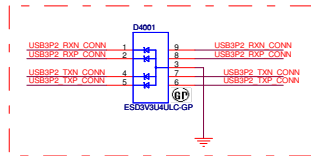
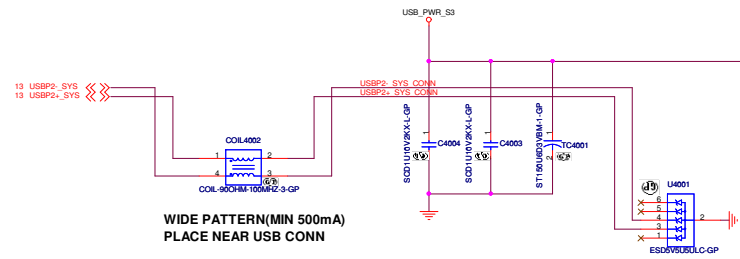
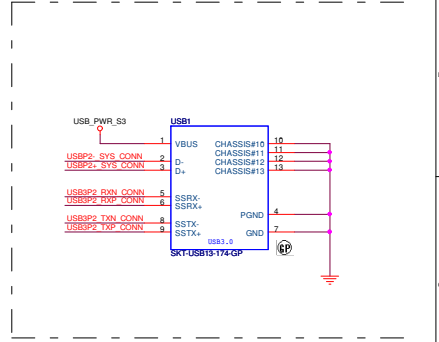
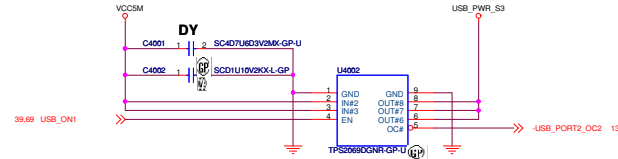
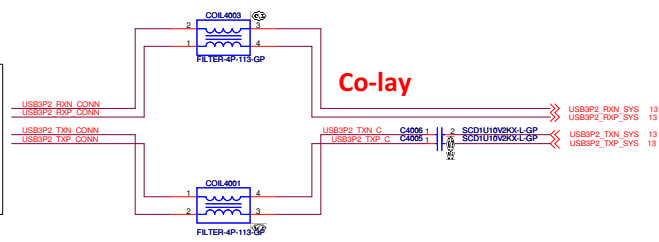


TABLE of TVS DIODE: D4001

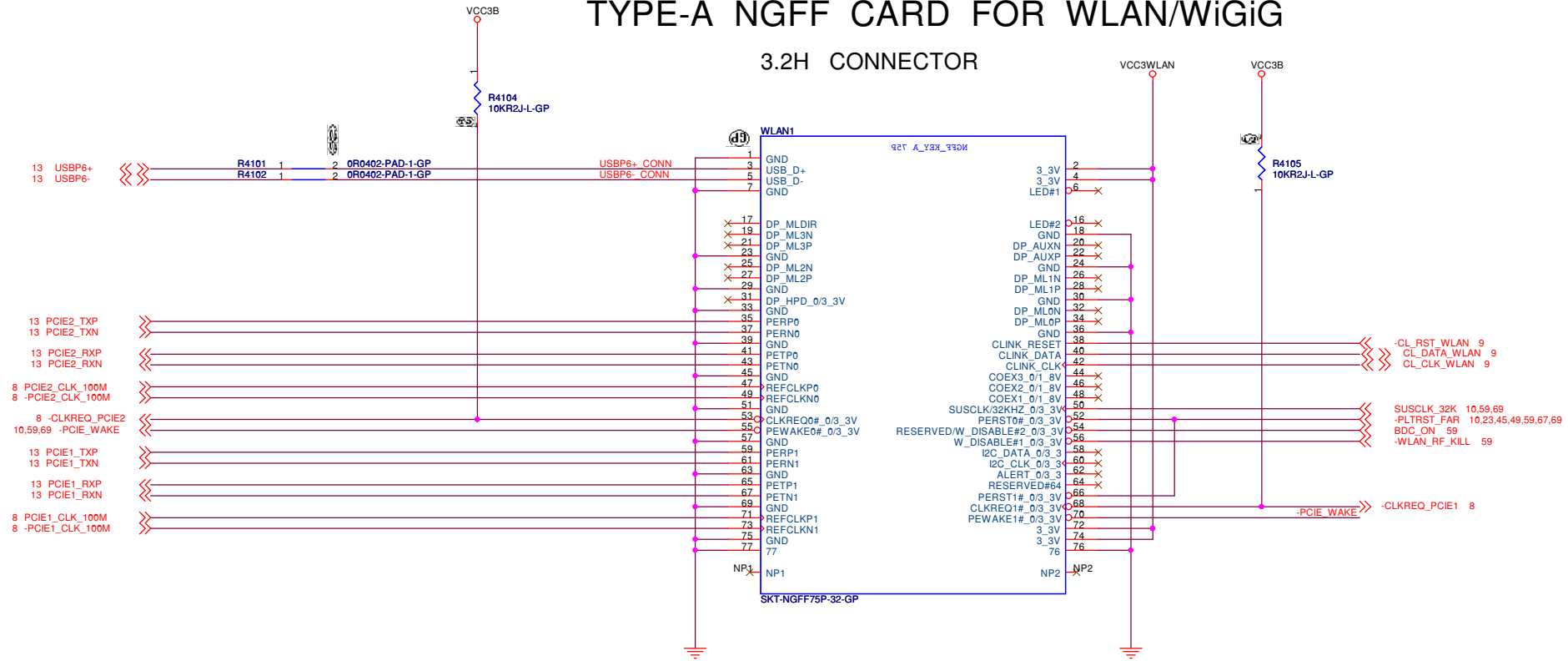
	Vendor	Vendor P/N
1st	Infineon	ESD3V3U4ULC
2nd	Littelfuse	SP3012-04UTG
3rd	NXP	IP4294CZ10-TBR



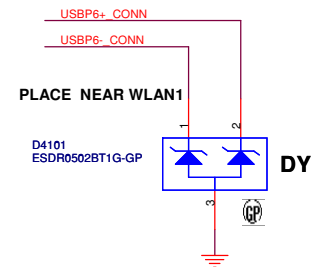
U.T

TYPE-A NGFF CARD FOR WLAN/WiGiG

3.2H CONNECTOR



EMC solution



ULT

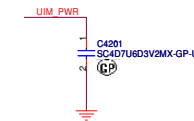
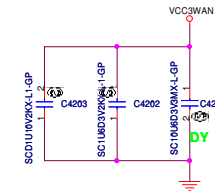
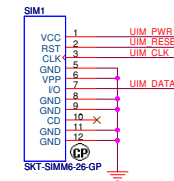
		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
PCIE NGFF CARD SLOT			
Size	Document Number		Rev
Custom	LSZ-1		-1
Date:	Friday, October 31, 2014	Sheet 41 of	109

TYPE-B NGFF CARD FOR WWAN/SSD

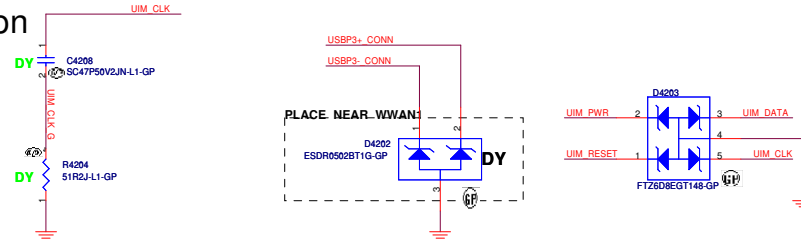
for test point, page 94

94 UIM_RESET
94 UIM_CLK
94 UIM_DATA
94 UIM_PWR

SIM CONN



EMC solution

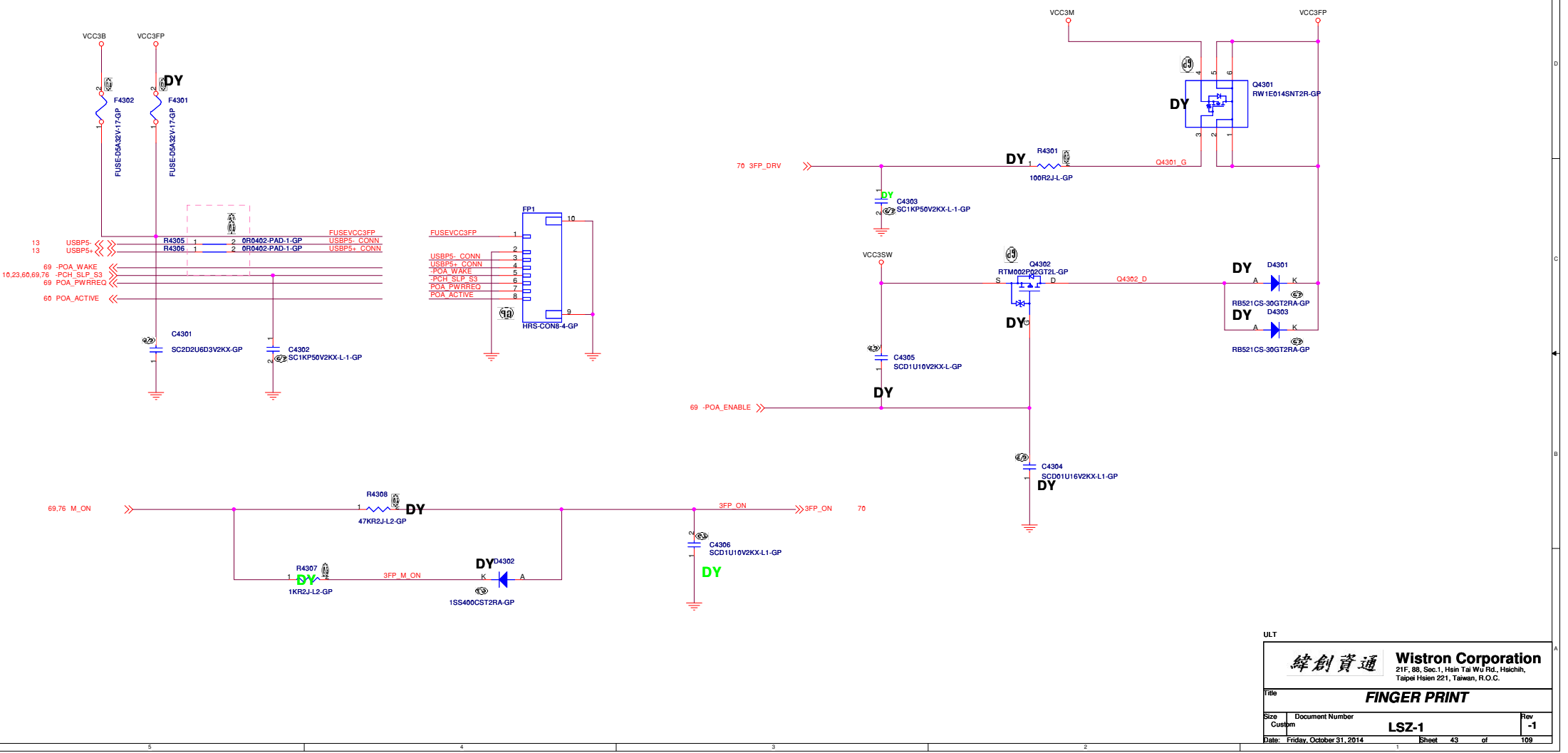


ULT

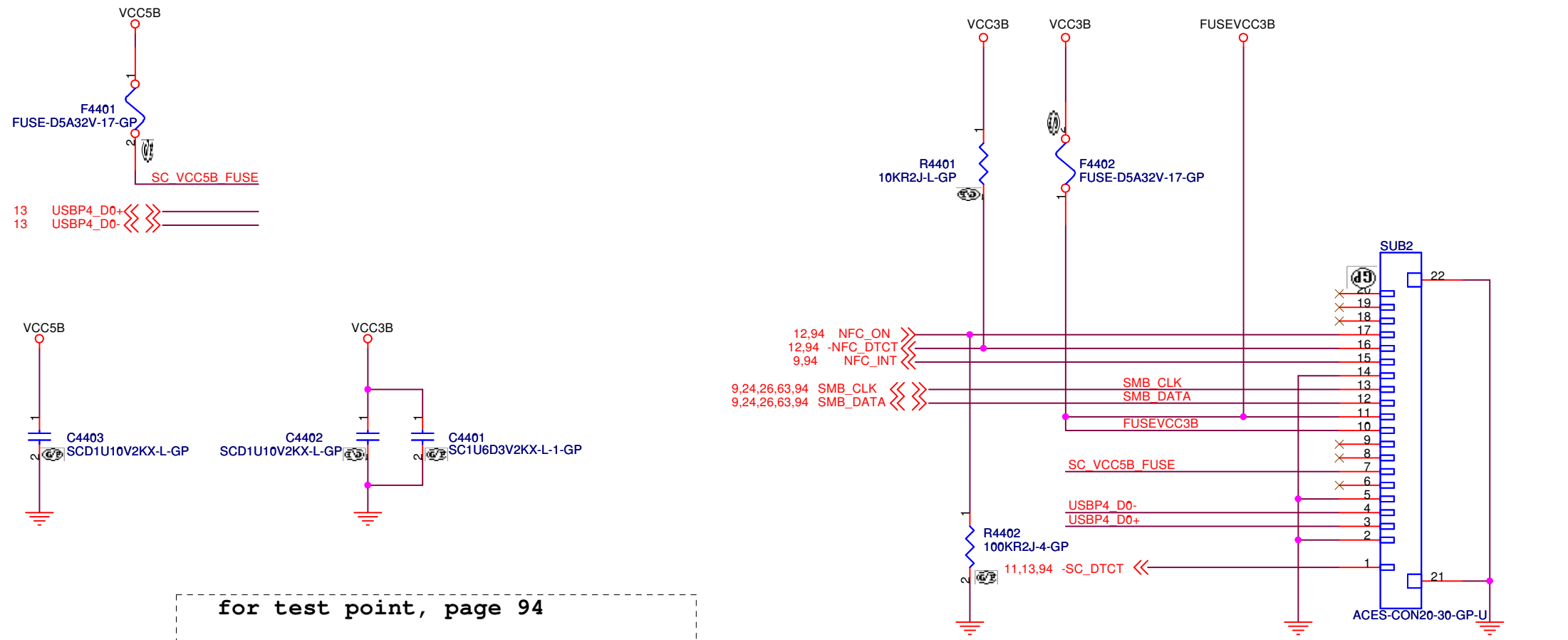
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title			
PCIE NGFF CARD SLOT			
Size	Document Number	Rev	
C	LSZ-1	-1	
Date: Friday, October 31, 2014		Sheet 42	of 109

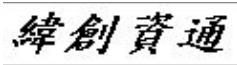
Finger Print

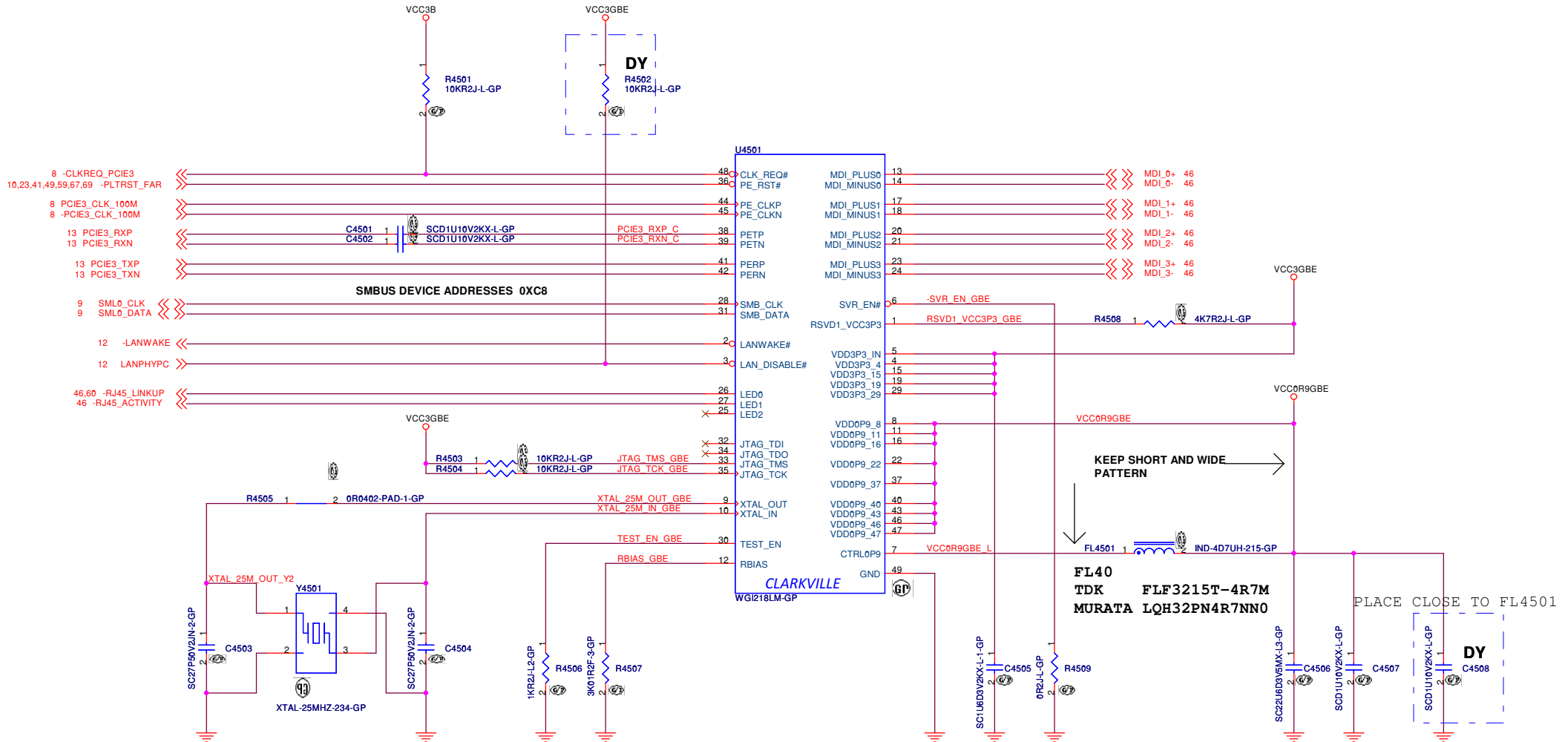


NFC+Smart Card



<Variant Name>

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Title SMART CARD					
Size A4	Document Number LSZ-1				Rev -1
Date: Friday, October 31, 2014		Sheet 44		of 109	

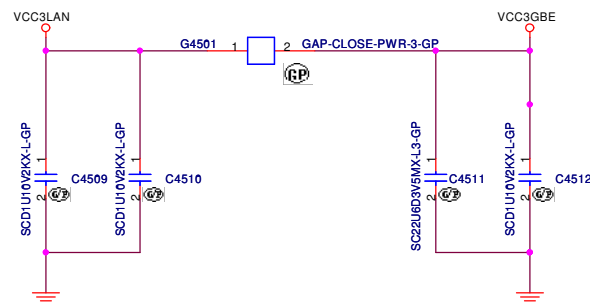


TXC 8Y25000004
KDS 1ZZHAE25000CC0A
ESPON Q22FA1280023800

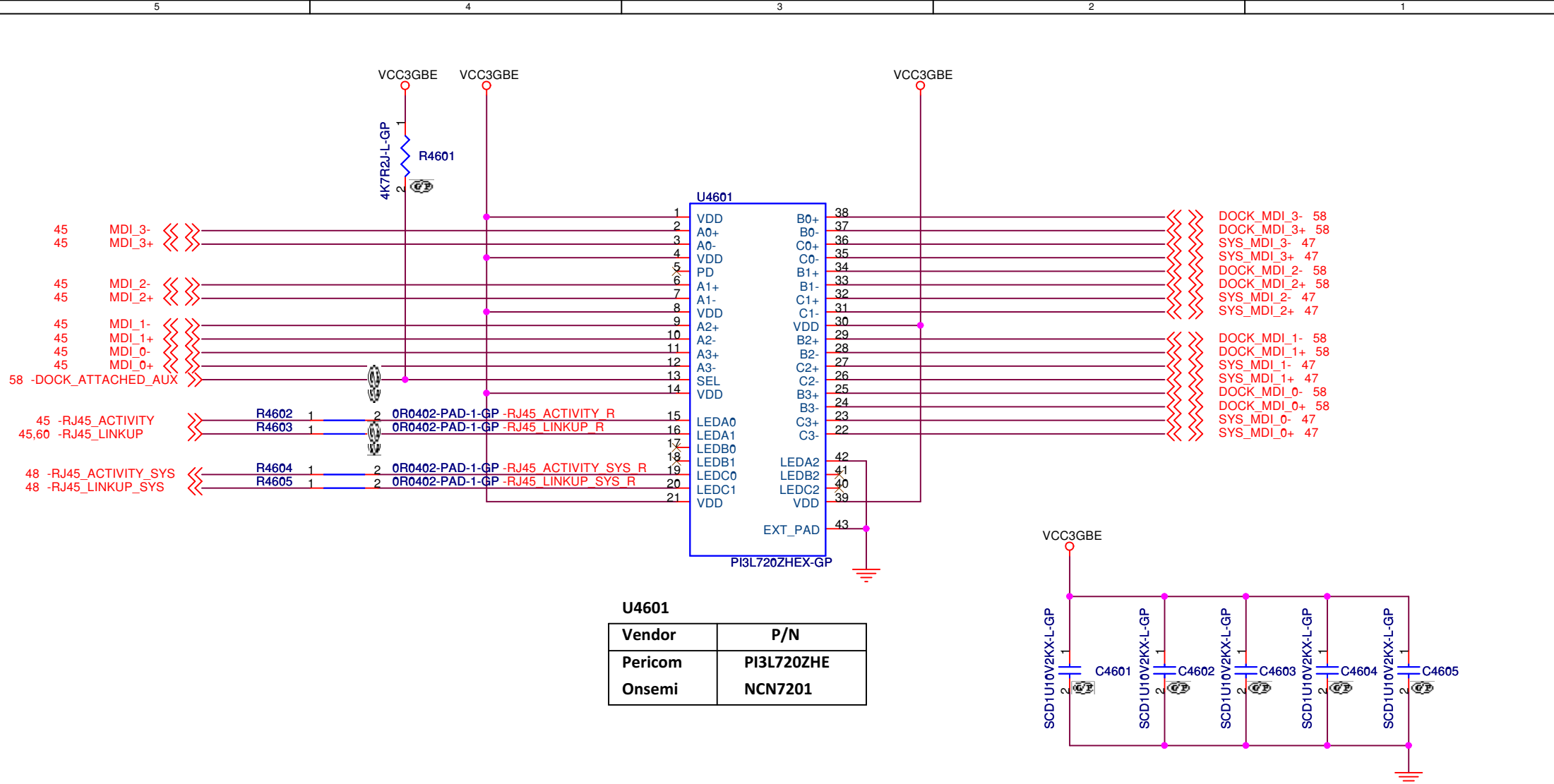
	KDS	TXC	EPSON
Y4501	82.30020.N81	82.20026.191	82.30020.P51
R4505	0	0	0
C4503	9P	27P	27P
C4504	9P	27P	27P

U4501 GBE PHY

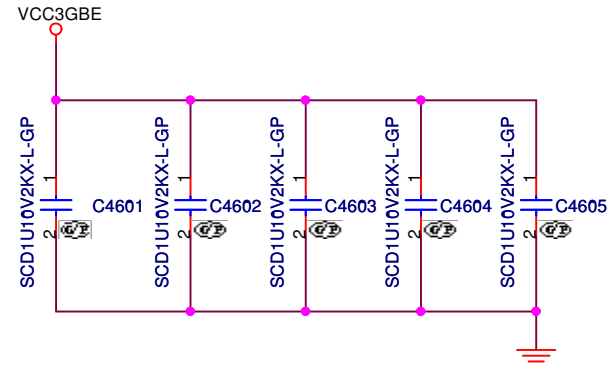
vPRO model	Non-vPRO model
I218LM	I218V



<Variant Name>



U4601	
Vendor	P/N
Pericom	PI3L720ZHE
Onsemi	NCN7201



<Variant Name>

緯創資通

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

Title

GBE LAN Switch

Size
A4

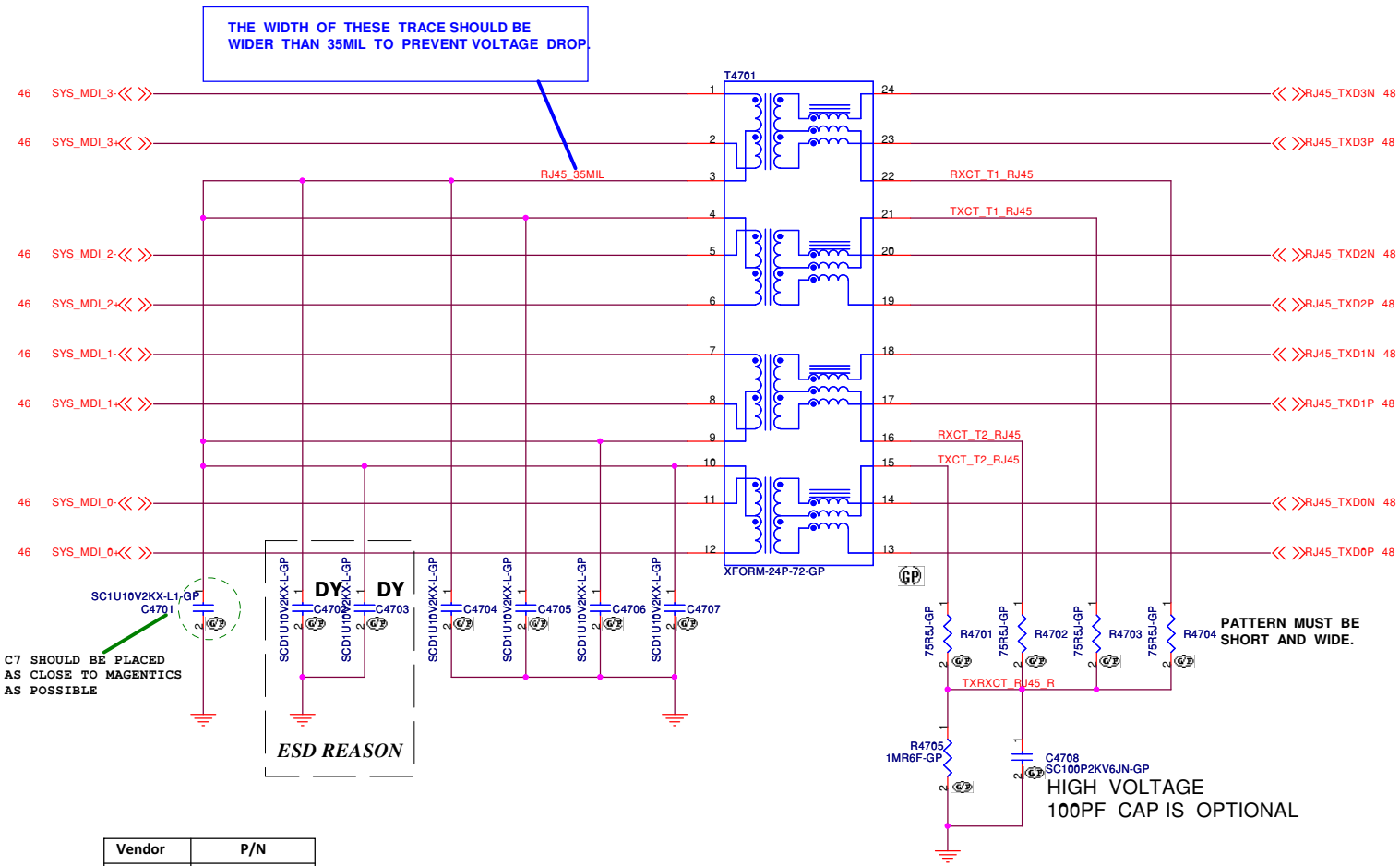
Document Number

LSZ-1

Rev
-1

Date: Friday, October 31, 2014

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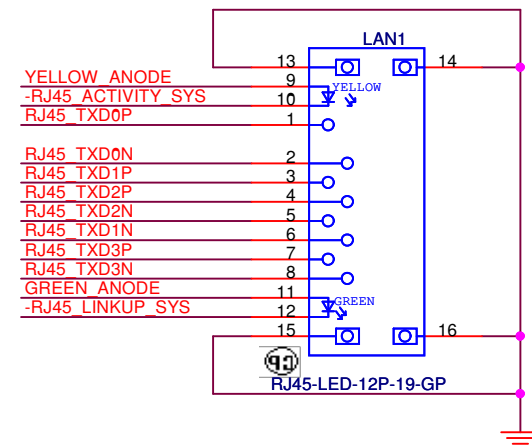
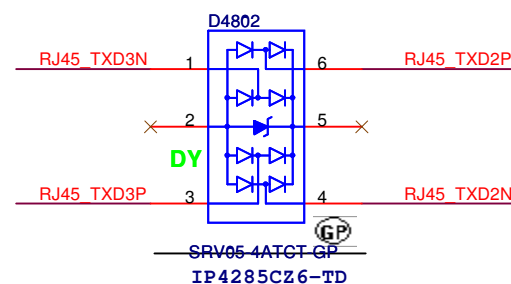
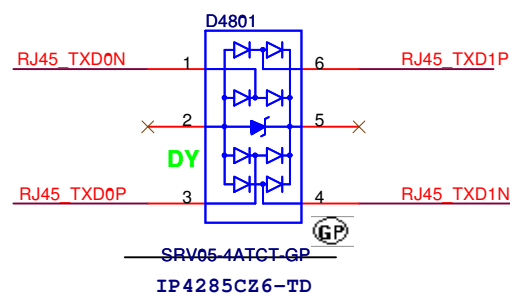
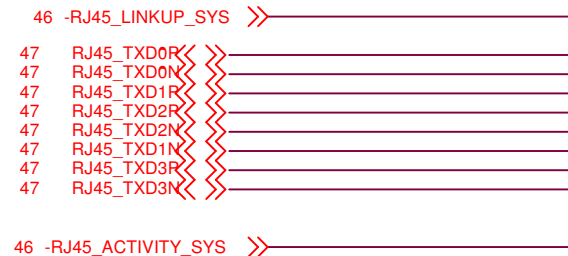
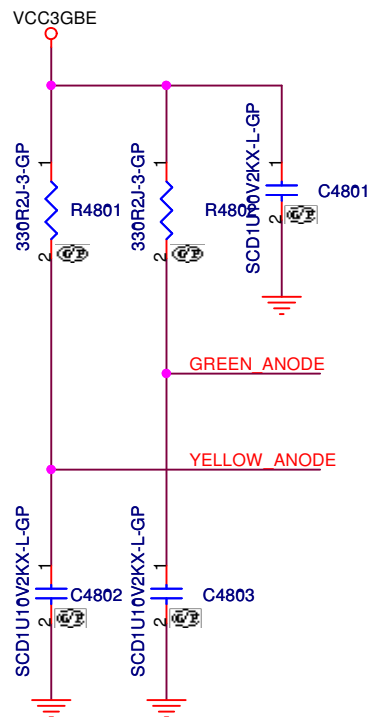
C7 SHOULD BE PLACED
AS CLOSE TO MAGNETICS
AS POSSIBLE

ESD REASON

PATTERN MUST BE
SHORT AND WIDE.

HIGH VOLTAGE
100PF CAP IS OPTIONAL

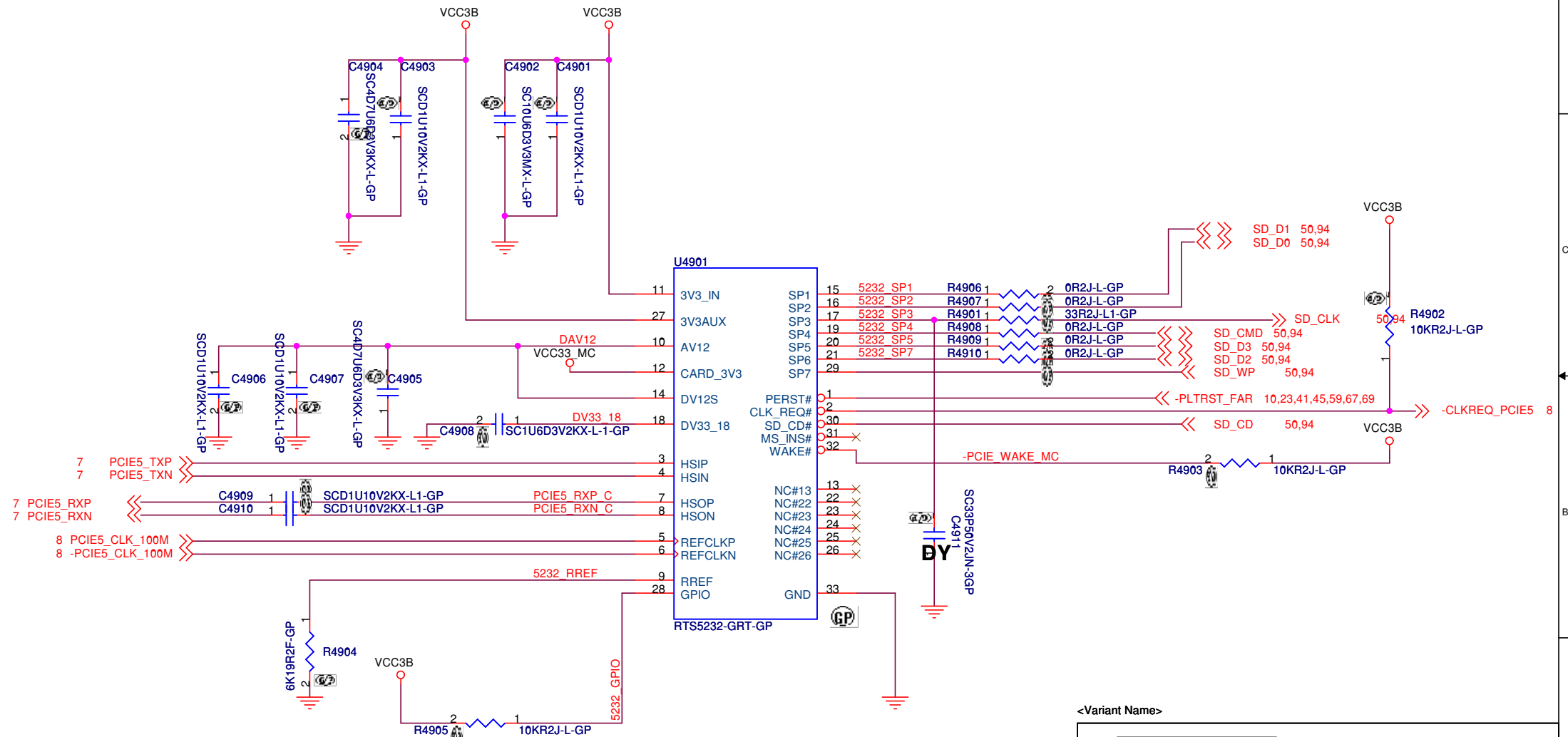
Vendor	P/N
TDK	TLA-7T231HF-T
TAIMAG	IH-115-F
Bothhand	NA69LF
TDK	TLA-7T201HF-T



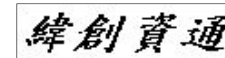
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		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
<i>RJ45 CONNECTOR</i>			
Size	Document Number		Rev
Custom	LSZ-1		-1
Date:	Friday, October 31, 2014	Sheet 48 of	109

Card Reder (RTS5232)



<Variant Name>



Wistron Corporation

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

Title

MEDIA CARD CONTROLLER

Size	1
Custom	

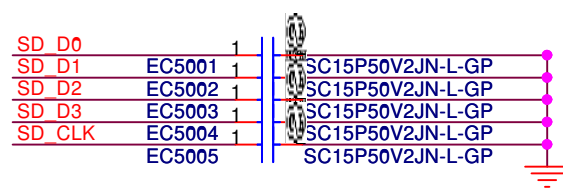
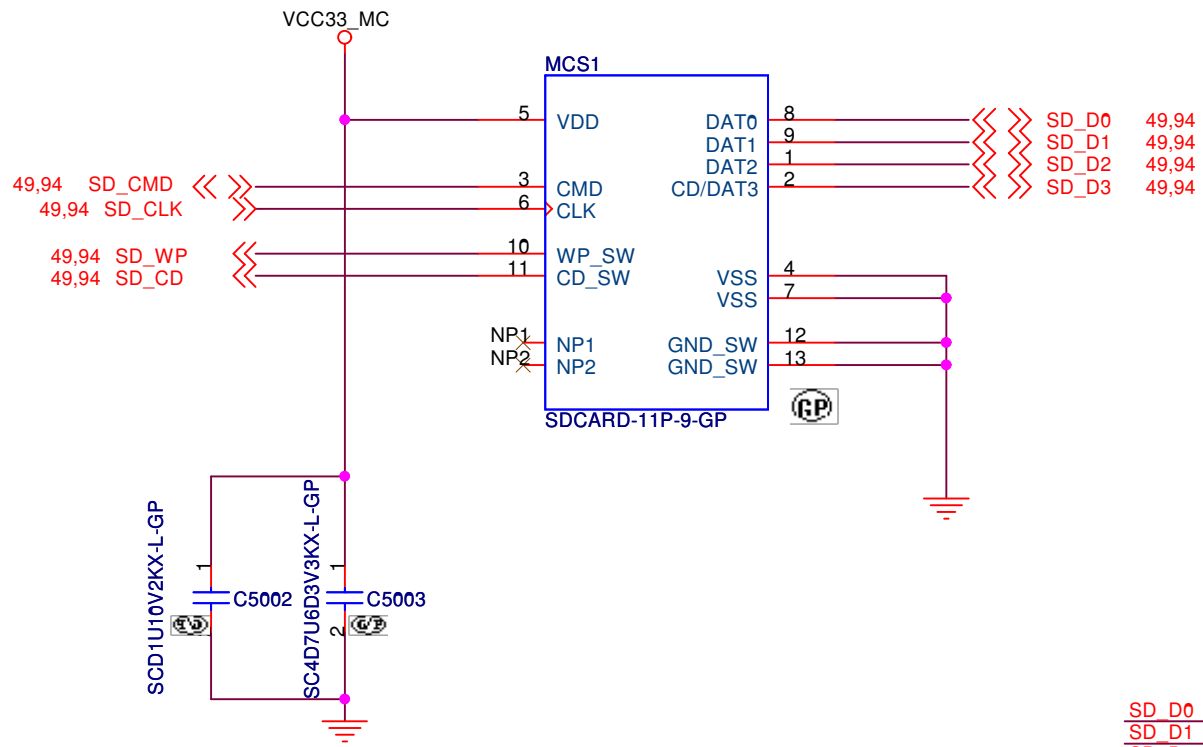
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LSZ-1

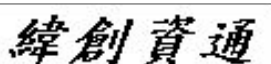
Rev
-1

Date: Friday, October 31, 2014

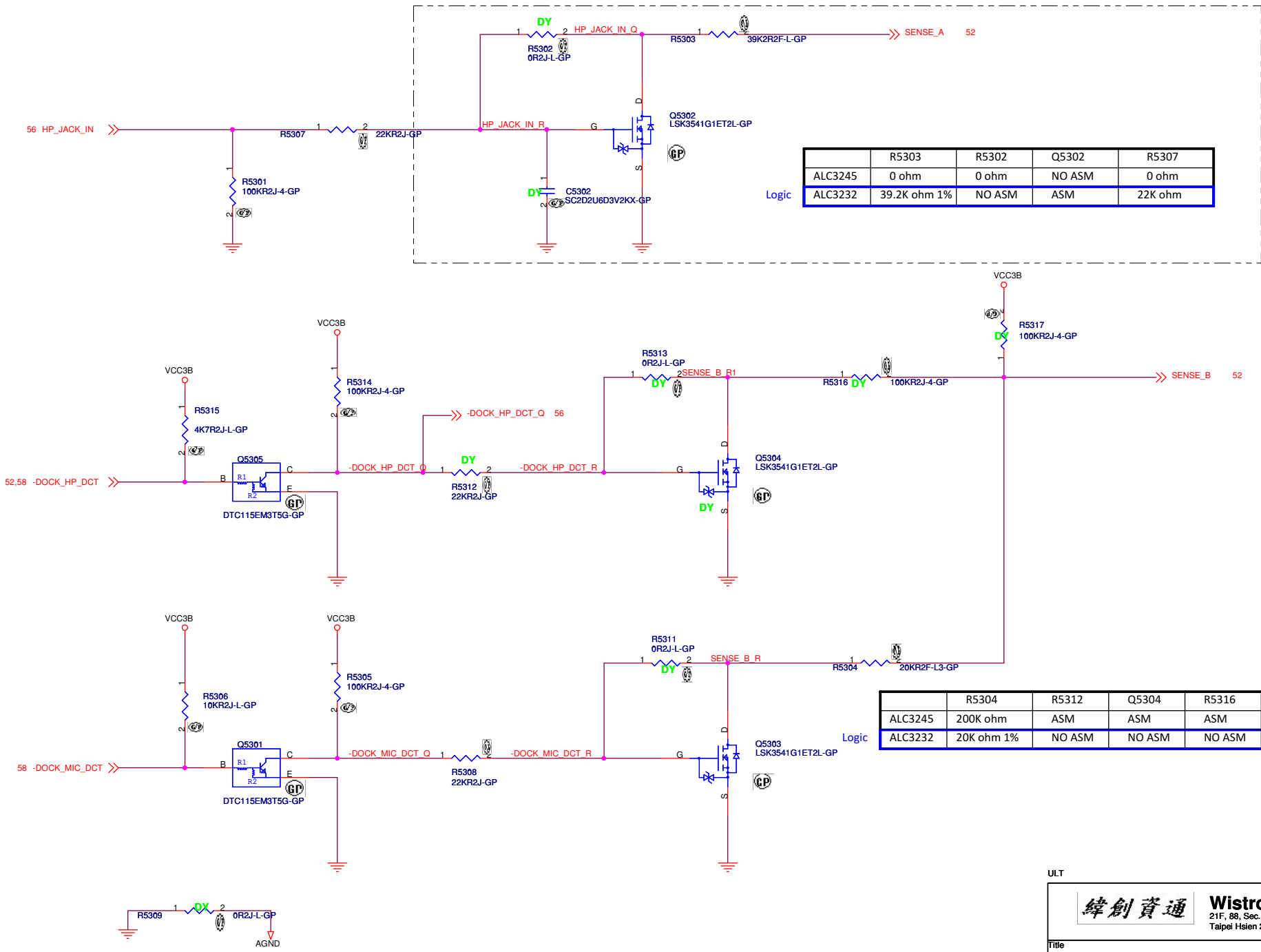
Sheet 49 of 109



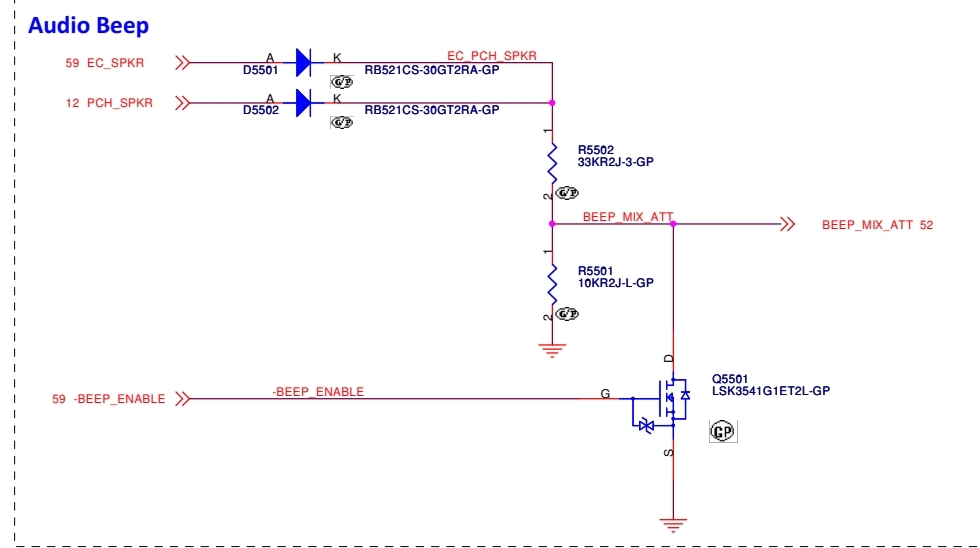
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		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
MEDIA CARD I/F			
Size	Document Number		Rev
Custom	LSZ-1		-1
Date:	Friday, October 31, 2014	Sheet	50 of 109

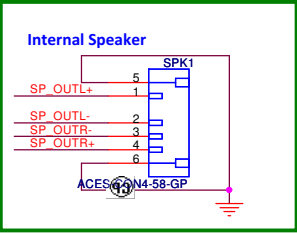
Place near to U5201 pin 13



Audio BEEP



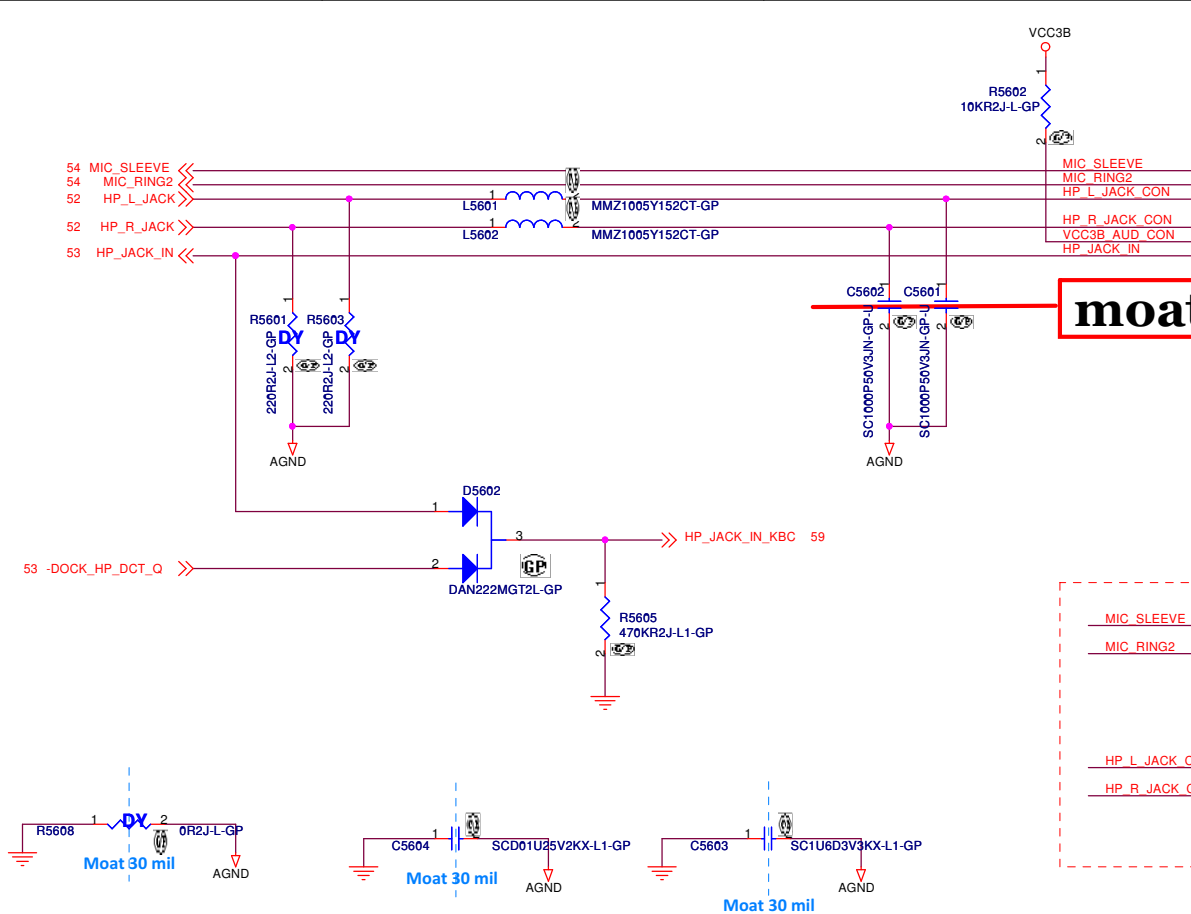
Connector



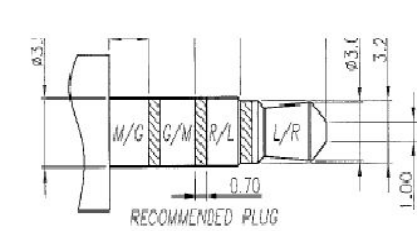
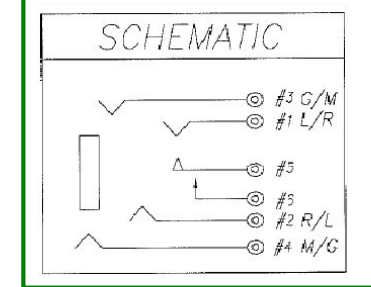
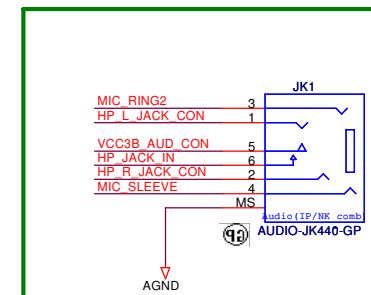
Trace width for SPK-L+ / SPK-L- / SPK-R+ / SPK-R-
Speaker 4 ohm : 40 mil
Speaker 8 ohm : 20 mil

Place near speaker connector

<<Note>>
Place these EMI compinents next to codec (U2801);
For EMI issue, please also refer Layout guide document.



Audio Jack



ULT

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

Title **Audio Codec ALC3232+**

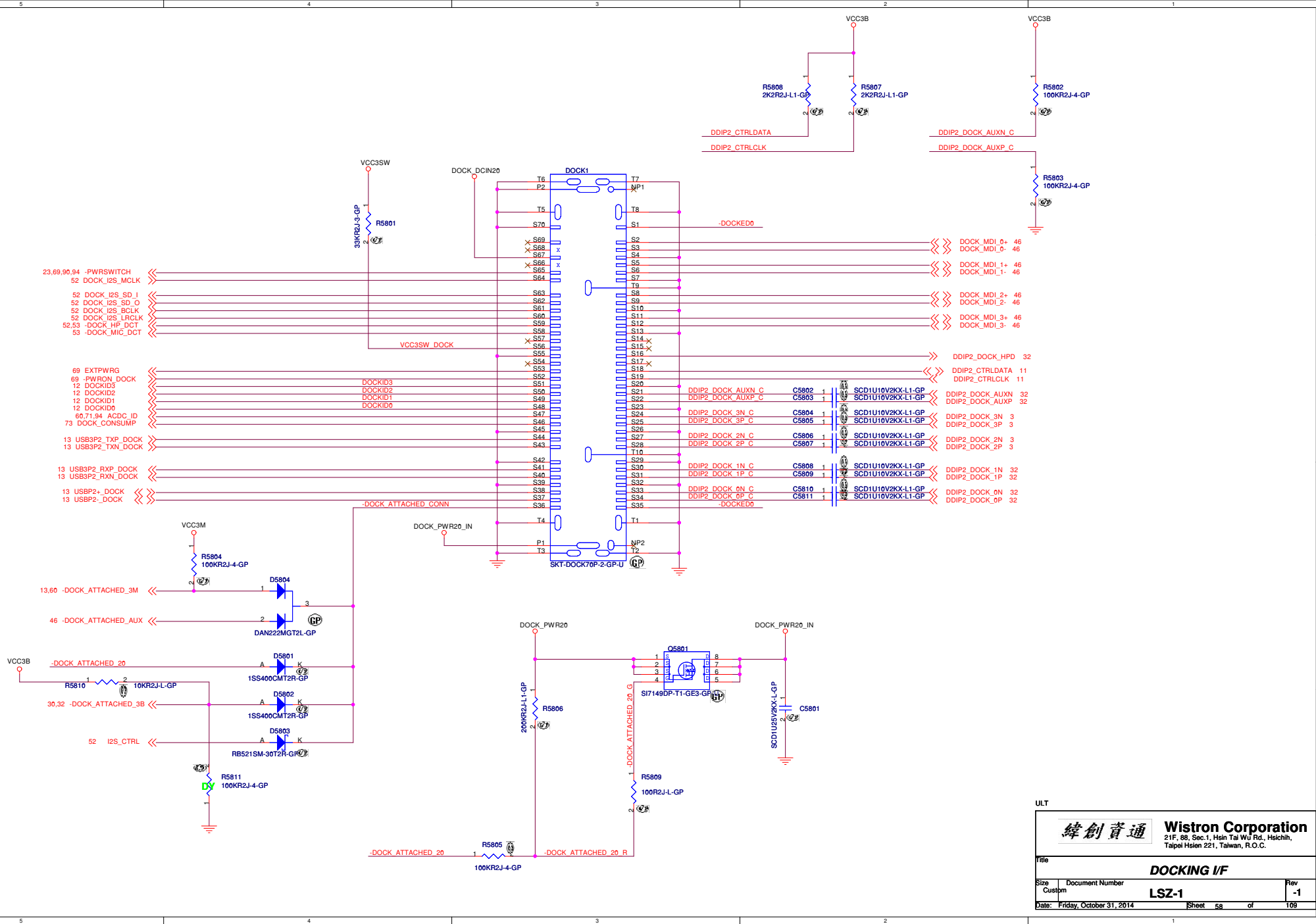
Size Custom Document Number **LSZ-1** Rev **-1**

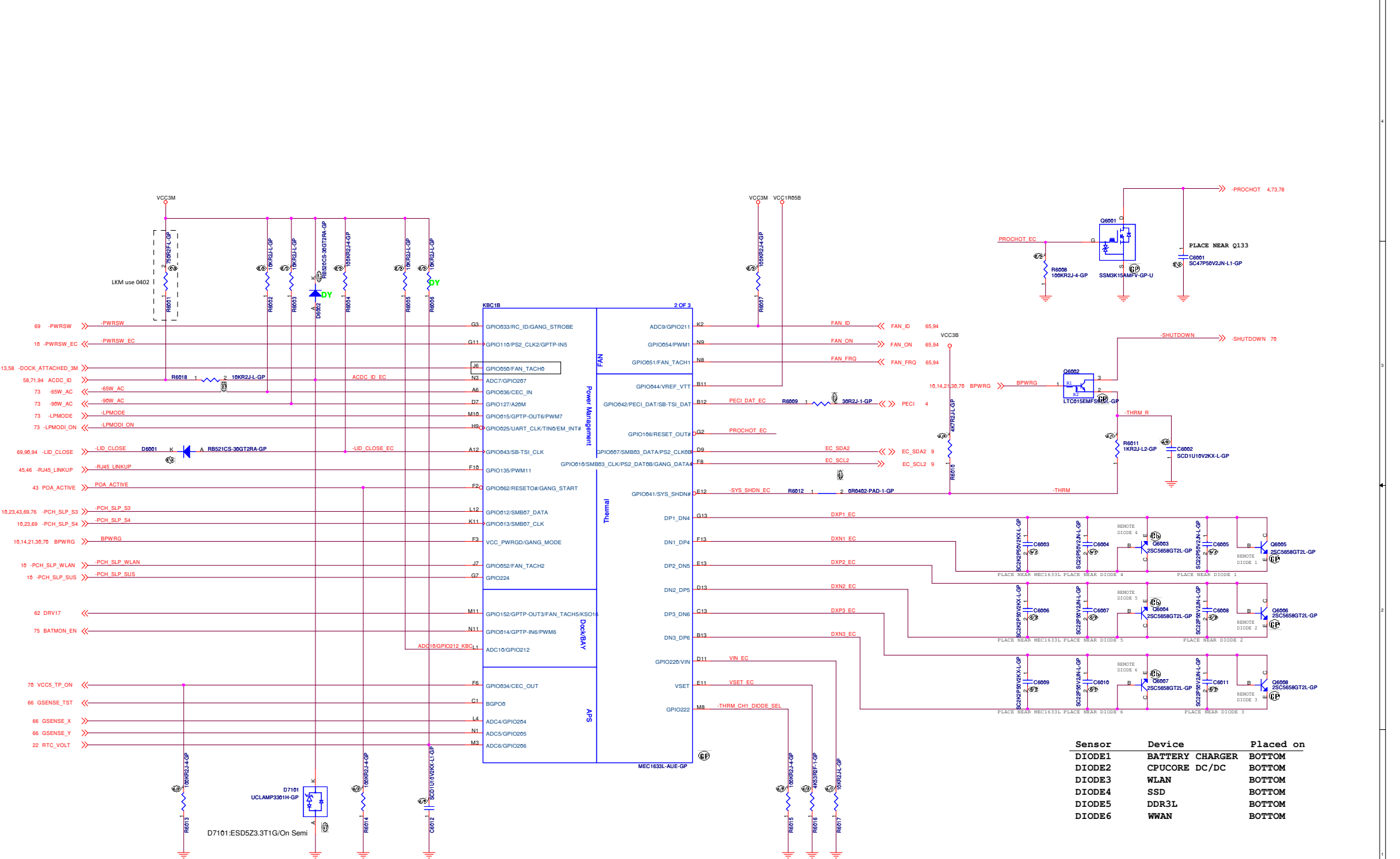
Date: Friday, October 31, 2014 Sheet 56 of 109

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ULT

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Title		
Audio Codec ALC3232+		
Size A	Document Number LSZ-1	Rev -1
Date: Friday, October 31, 2014	Sheet 57 of	109





Sensor	Device	Placed on
DIODE1	BATTERY CHARGER	BOTTOM
DIODE2	CPUCORE DC/DC	BOTTOM
DIODE3	WLAN	BOTTOM
DIODE4	SSD	BOTTOM
DIODE5	DDR3L	BOTTOM
DIODE6	WWAN	BOTTOM

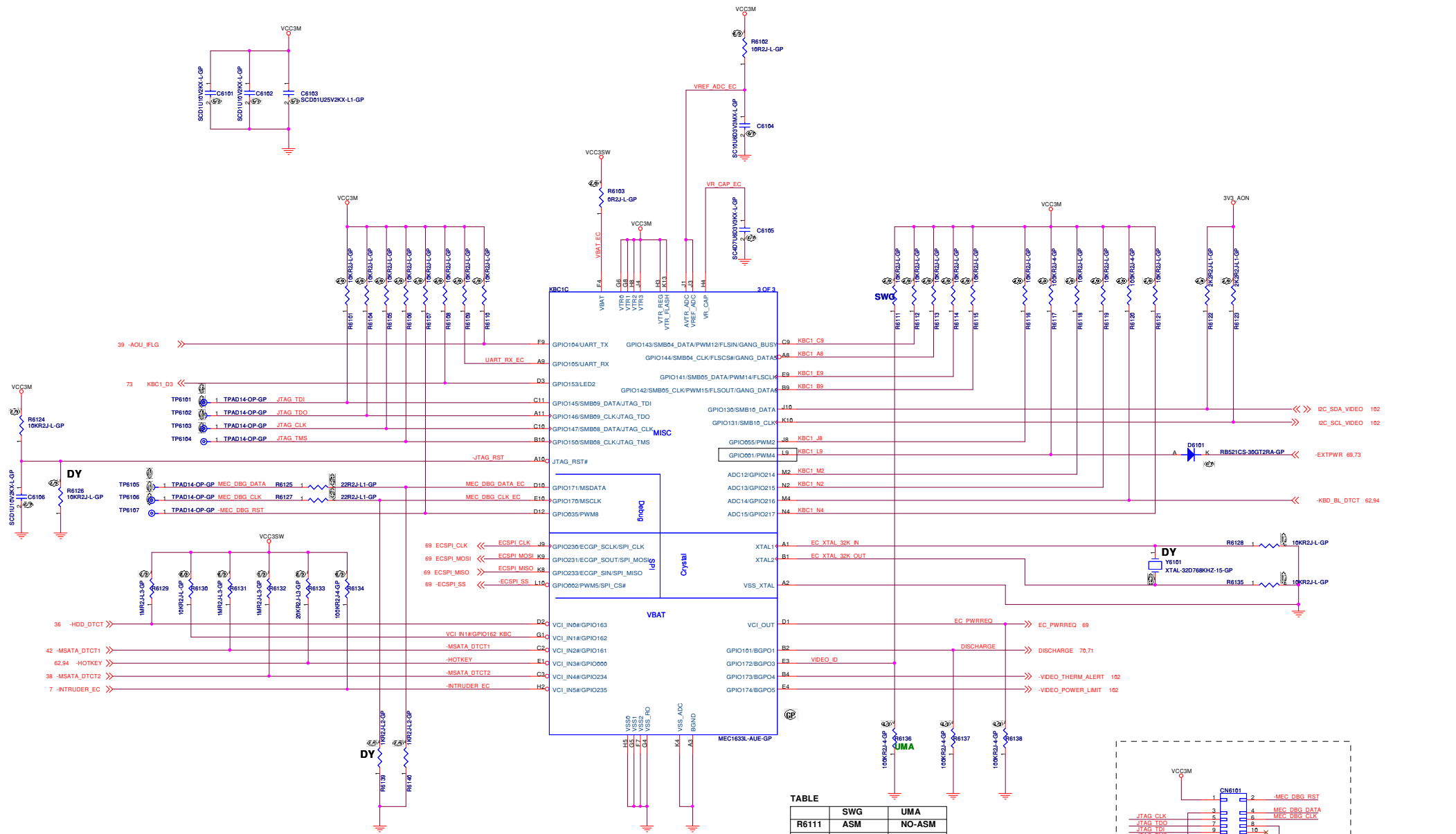


TABLE	SWG	UMA
R6111	ASM	NO-ASM
R6136	NO-ASM	ASM

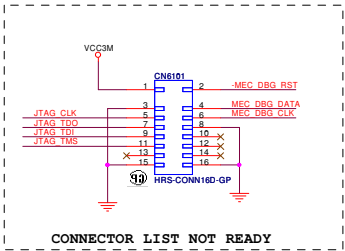


TABLE		
JTAG debug port		
	Enable	Disable
R6124	ASM	NO-ASM
R6126	NO-ASM	ASM

LOGIC

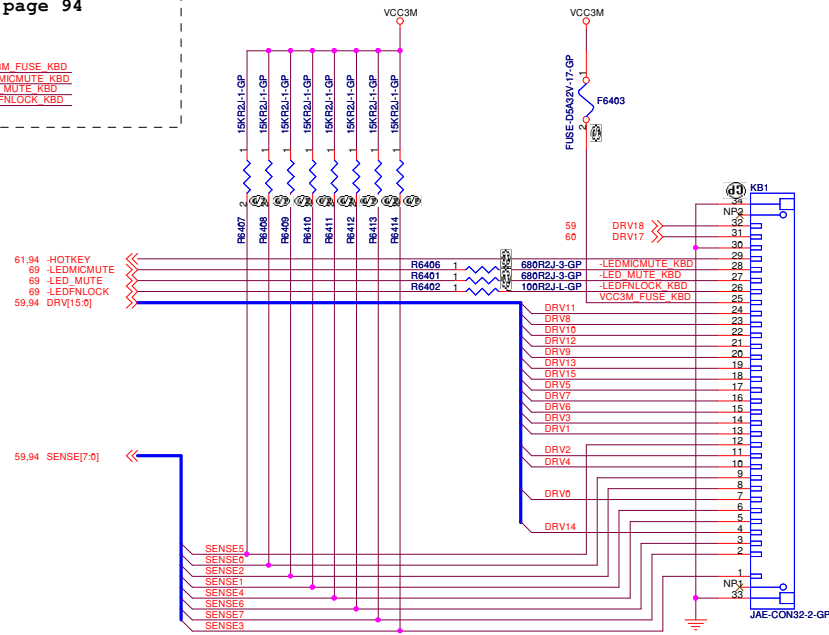
TABLE		
trace FIFO debug port		
	Enable	Disable
R6125	ASM	NO-ASM
R6127	ASM	NO-ASM
R6139	NO-ASM	ASM

LOGIC

LEVEL	CN6101
SDV	ASM
ME FVT	NO ASM
FVT	NO ASM
SIT	NO ASM
SVT	NO ASM

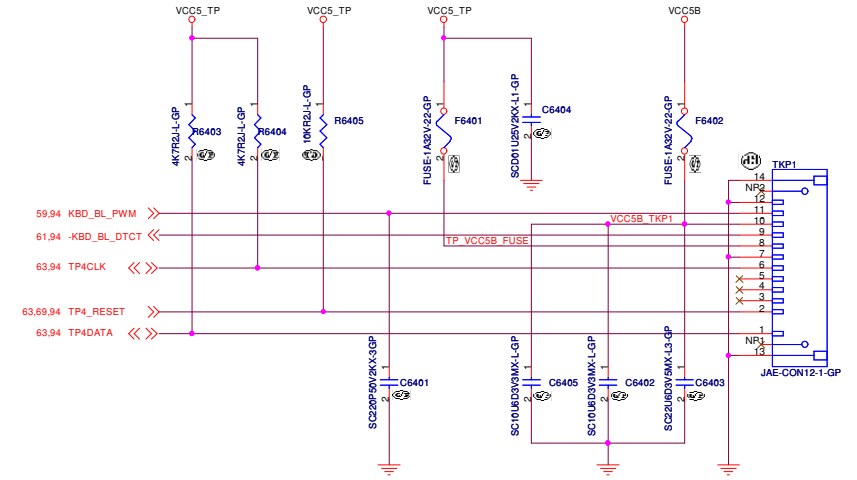
KBD (32PIN)

for test point, page 94



TRACKPOINT (12PIN)

for test point, page 94



ULT

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KEYBOARD CONNECTOR	
Title Size Custom	Document Number LSZ-1
Date: Friday, October 31, 2014	Rev -1
Sheet 62 of 109	

Click Pad

Clickpad

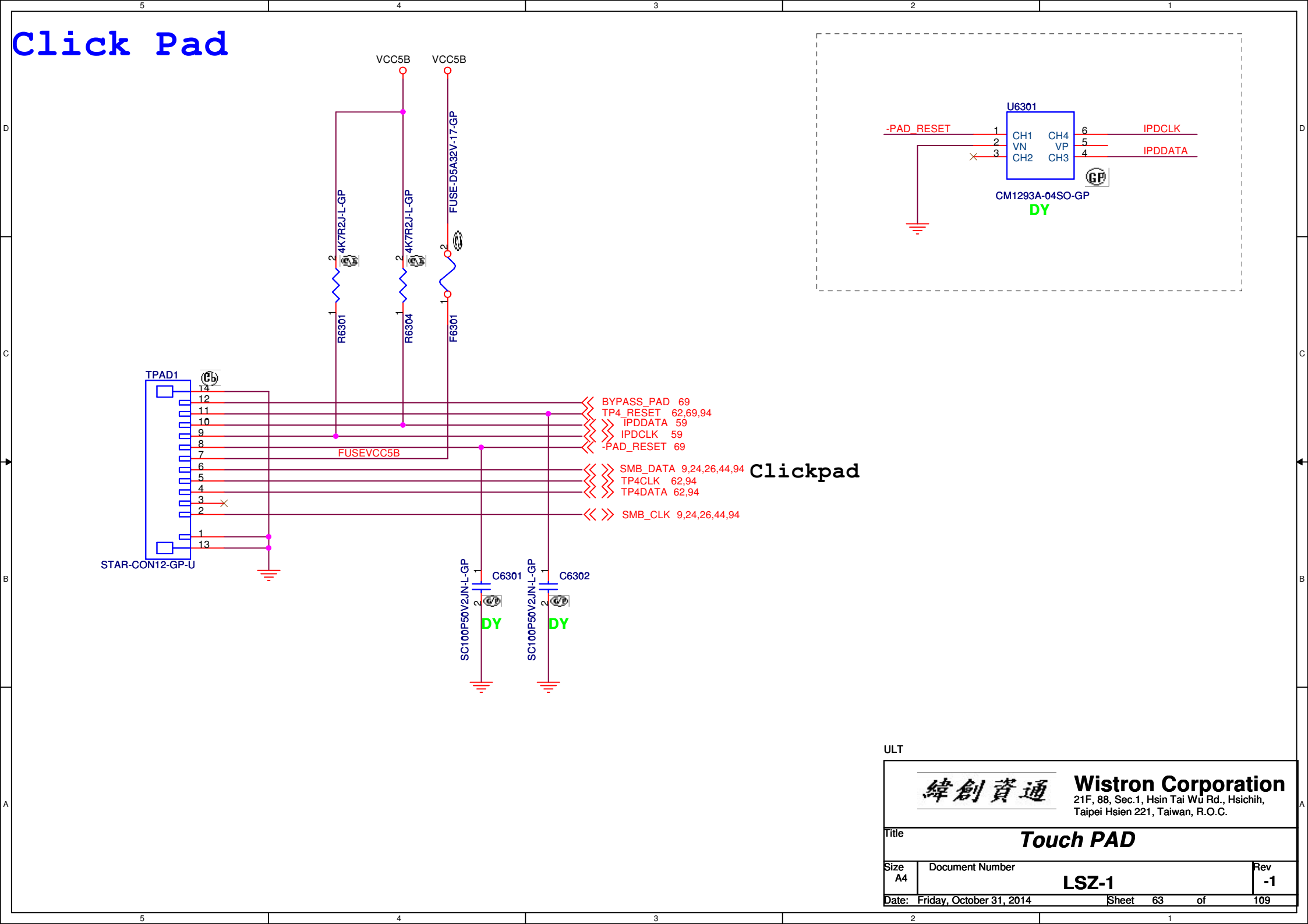
ULT

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

Title Touch PAD

Size A4 Document Number LSZ-1 Rev -1

Date: Friday, October 31, 2014 Sheet 63 of 109

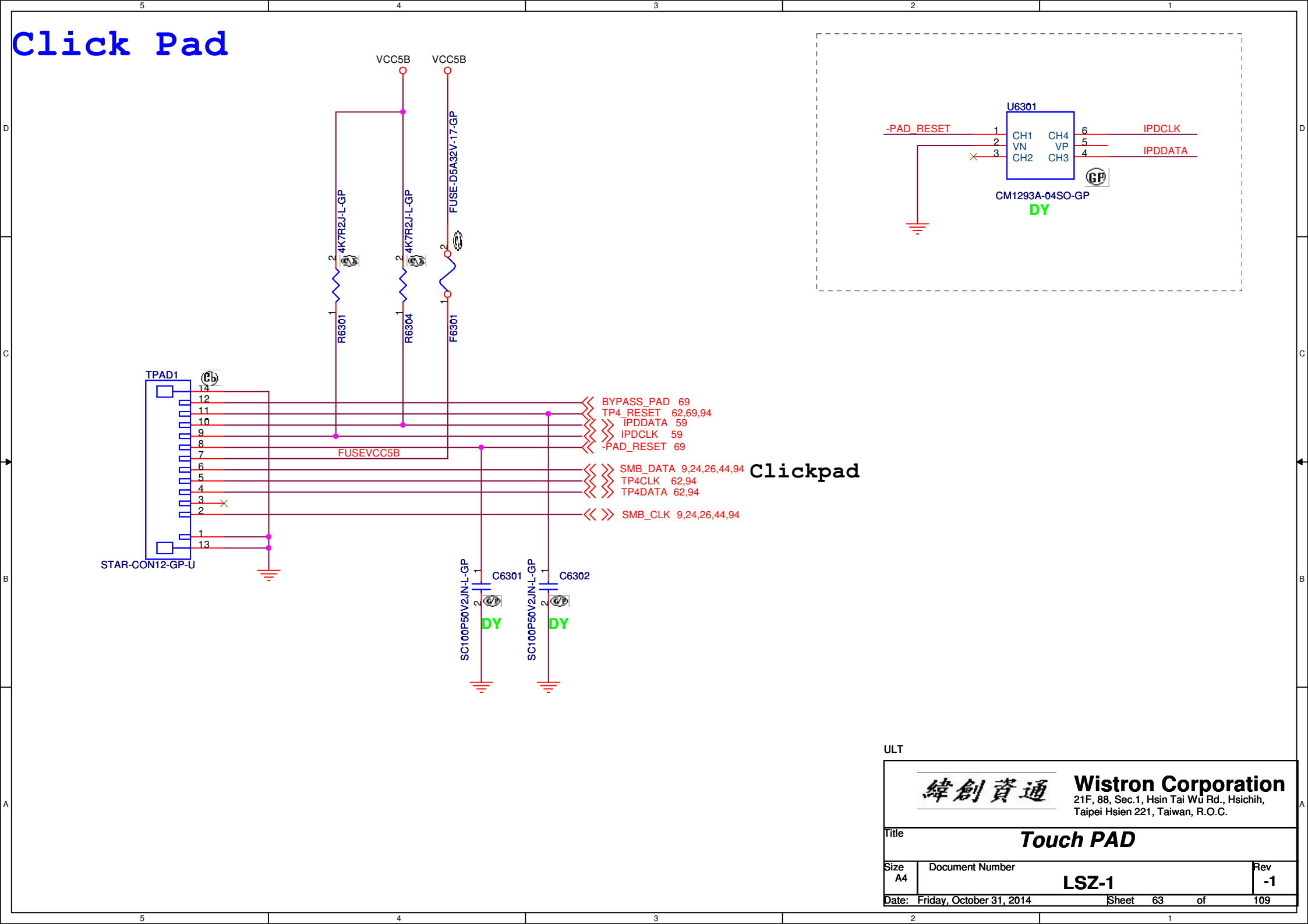


Click Pad

Clickpad

ULT

Title		Touch PAD	
Size A4	Document Number LSZ-1	Rev -1	
Date: Friday, October 31, 2014		Sheet 63	of 109



Click Pad

Clickpad

ULT

Title		Touch PAD	
Size A4	Document Number LSZ-1	Rev -1	
Date: Friday, October 31, 2014		Sheet 63	of 109

Click Pad

Clickpad

ULT

緯創資通 Wistron Corporation
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Taipei Hsien 221, Taiwan, R.O.C.

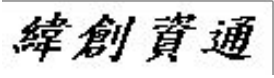
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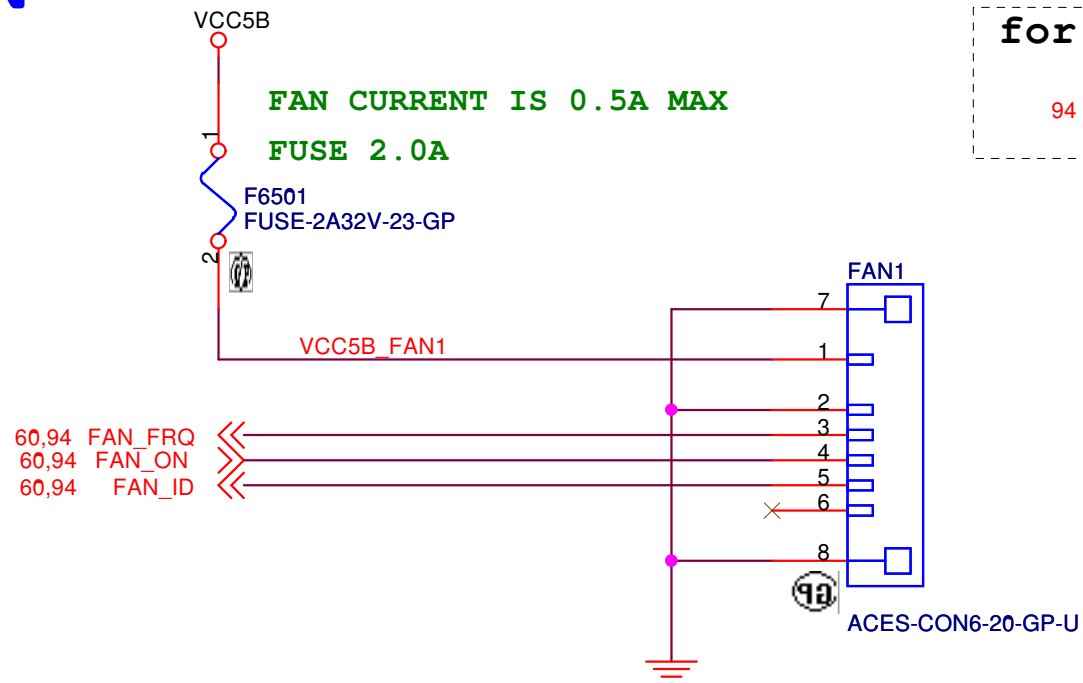
Date: Friday, October 31, 2014 Sheet 63 of 109

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ULT

		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title TOUCH SCREEN/DIGITIZER			
Size A	Document Number LSZ-1		Rev -1
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FAN



for test point, page 94

94 VCC5B_FAN1 << VCC5B_FAN1

<Variant Name>

緯創資通

Wistron Corporation

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

Title

FAN I/F

Size

Custom

Document Number

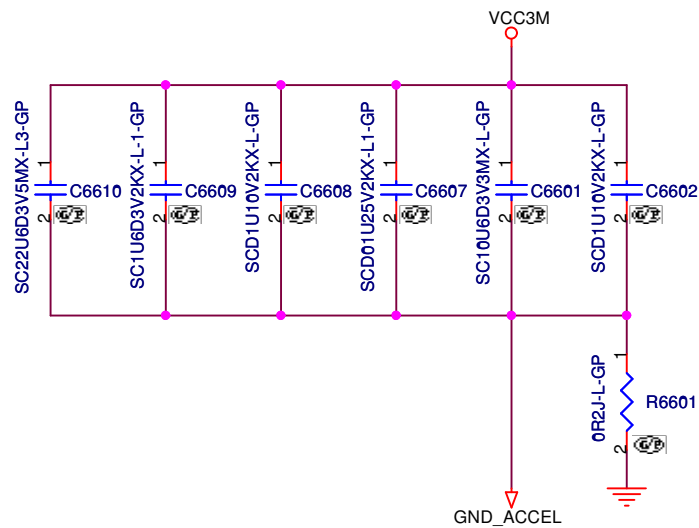
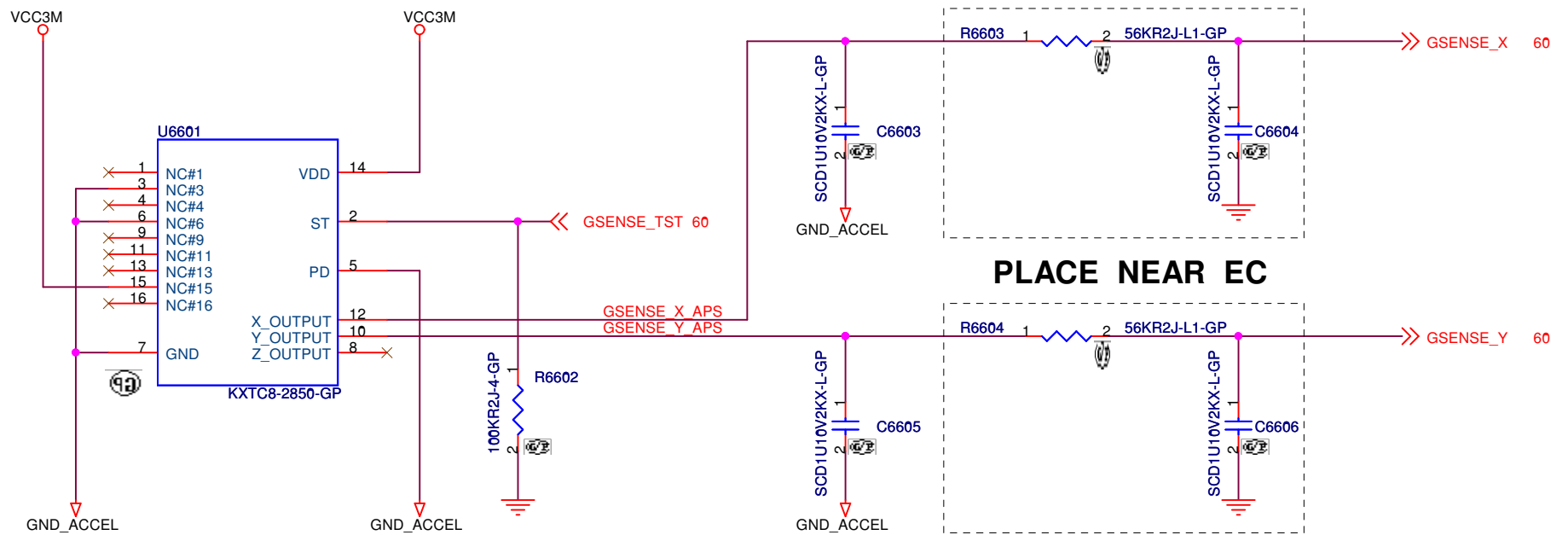
LSZ-1

Rev

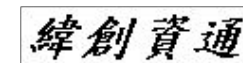
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Date: Friday, October 31, 2014

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<Variant Name>



Wistron Corporation

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

Title

APS(G SENSOR)

Size	Document Number
Custom	

Document Number

LSZ-1

Rev

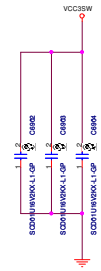
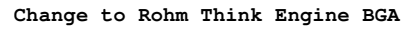
Date: Friday, October 31, 2014

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緯創資通		Wistron Corporation	
21F, 88, Sec.1, Hsin Tai Wu Rd., Haichih, Taipei Hsien 221, Taiwan, R.O.C.			
Title			
EEPROM/SMBUS SW			
Size	Document Number	Rev	
Custom	LSZ-1	-1	
Date	Friday, October 31, 2014	Sheet	68 of 108



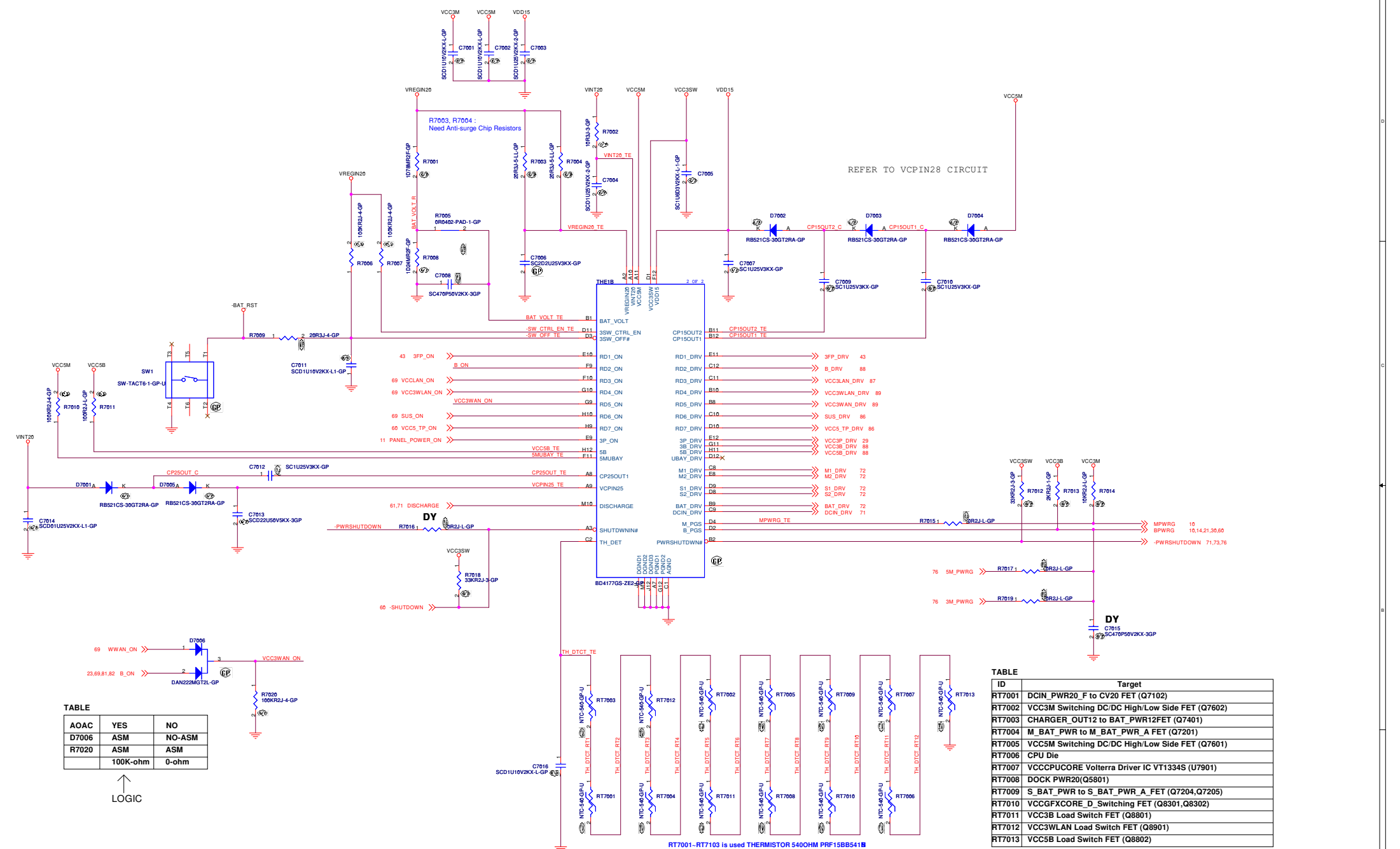
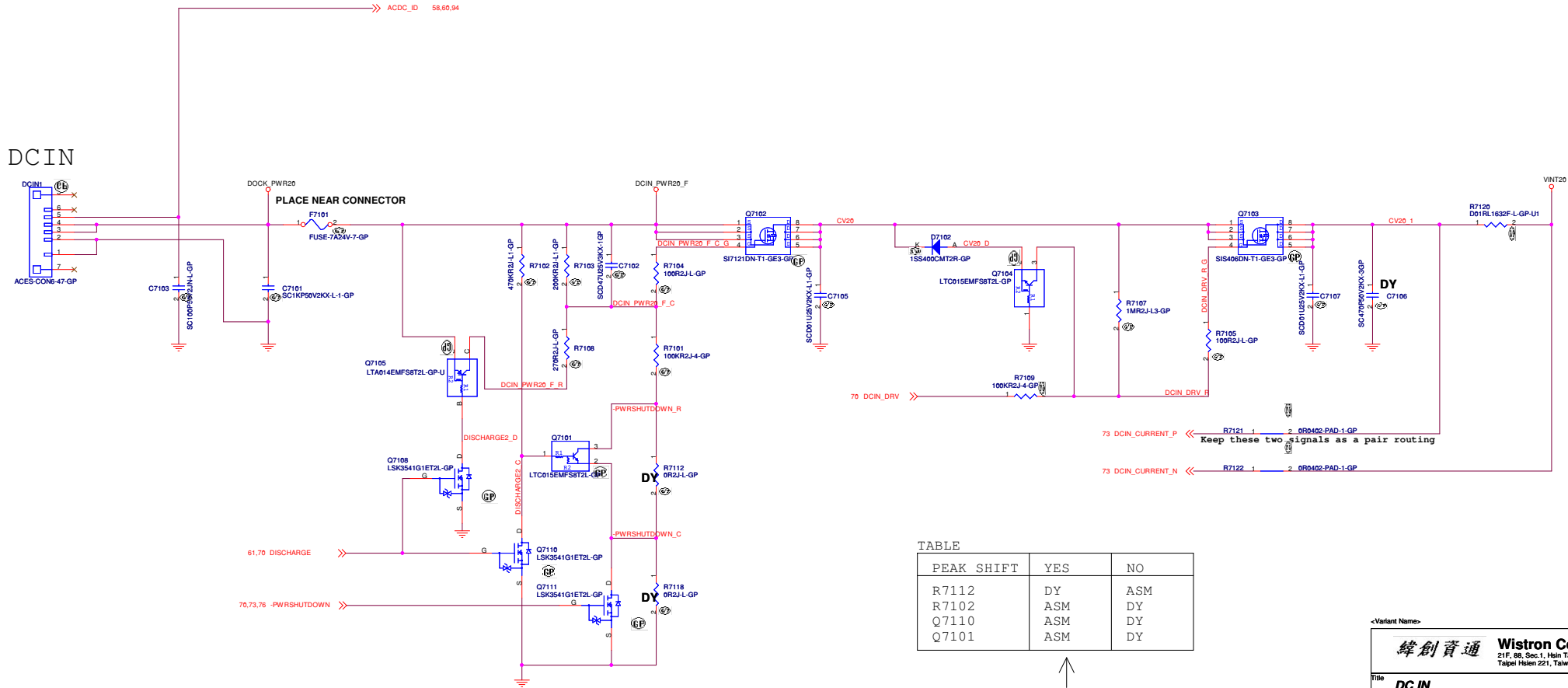


TABLE		
AOAC	YES	NO
D7006	ASM	NO-ASM
R7020	ASM	ASM
	100K-ohm	0-ohm

LOGIC

TABLE	
ID	Target
RT7001	DCIN_PWR20_F to CV20 FET (Q7102)
RT7002	VCC3M Switching DC/DC High/Low Side FET (Q7602)
RT7003	CHARGER_OUT12 to BAT_PWR12 FET (Q7401)
RT7004	M_BAT_PWR to M_BAT_PWR_A FET (Q7201)
RT7005	VCC5M Switching DC/DC High/Low Side FET (Q7601)
RT7006	CPU Die
RT7007	VCCCPUCORE Voltage Driver IC VT1334S (U7901)
RT7008	DOCK_PWR20 (Q5801)
RT7009	S_BAT_PWR to S_BAT_PWR_A FET (Q7204, Q7205)
RT7010	VCCGFXCORE_D Switching FET (Q8301, Q8302)
RT7011	VCC3B Load Switch FET (Q8801)
RT7012	VCC3WLAN Load Switch FET (Q8901)
RT7013	VCC5B Load Switch FET (Q8802)

DCIN



TABLE

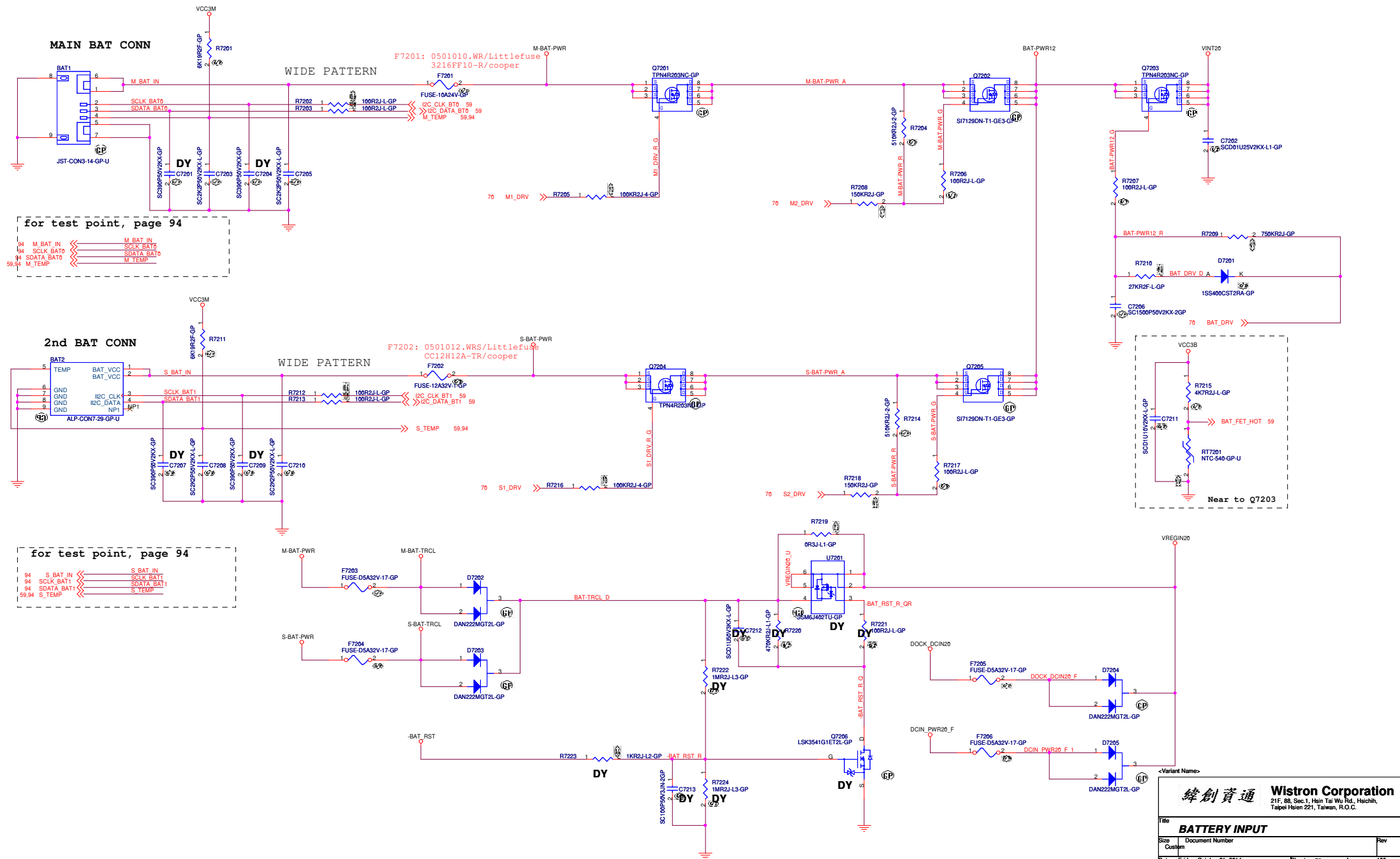
PEAK SHIFT	YES	NO
R7112	DY	ASM
R7102	ASM	DY
Q7110	ASM	DY
Q7101	ASM	DY

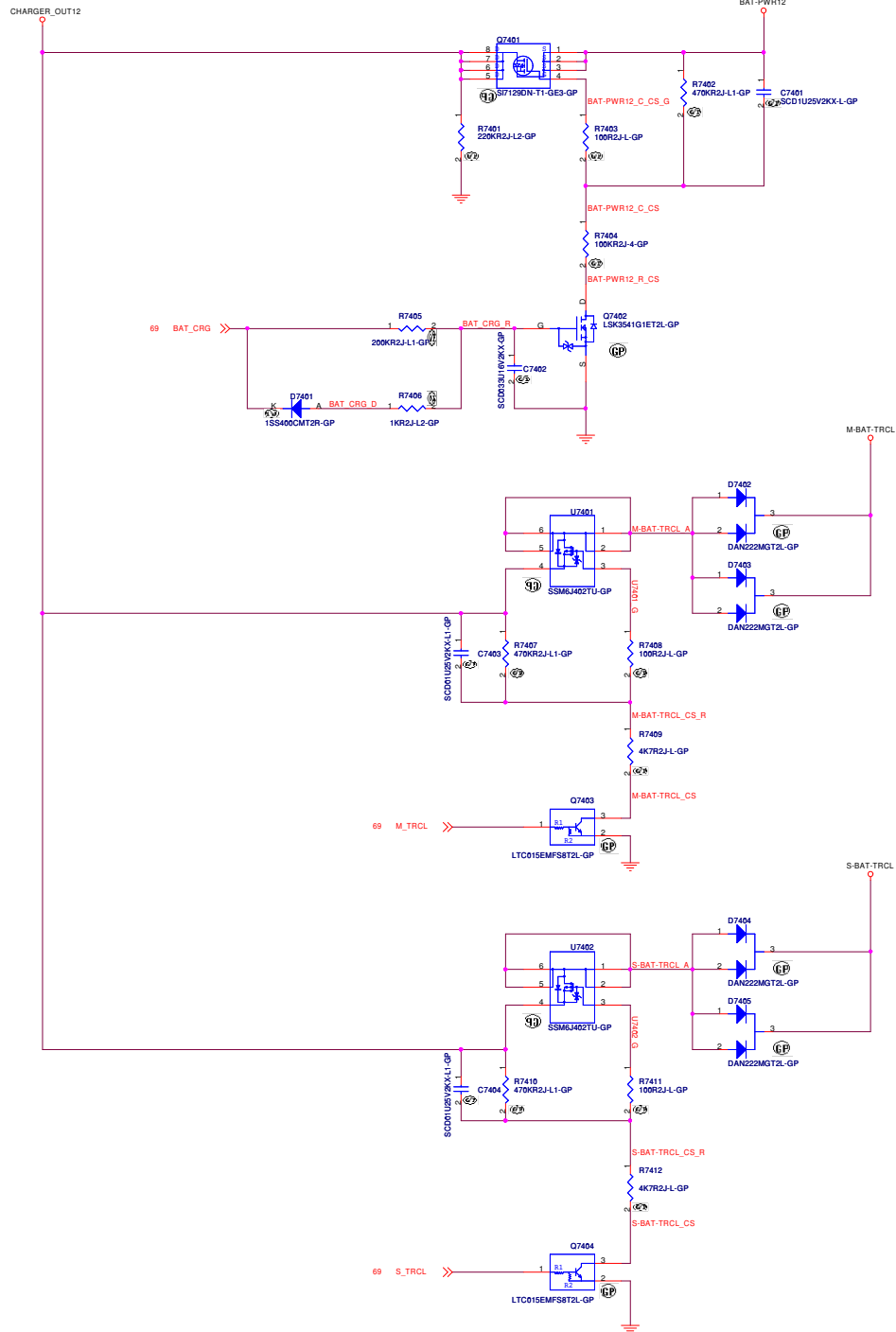
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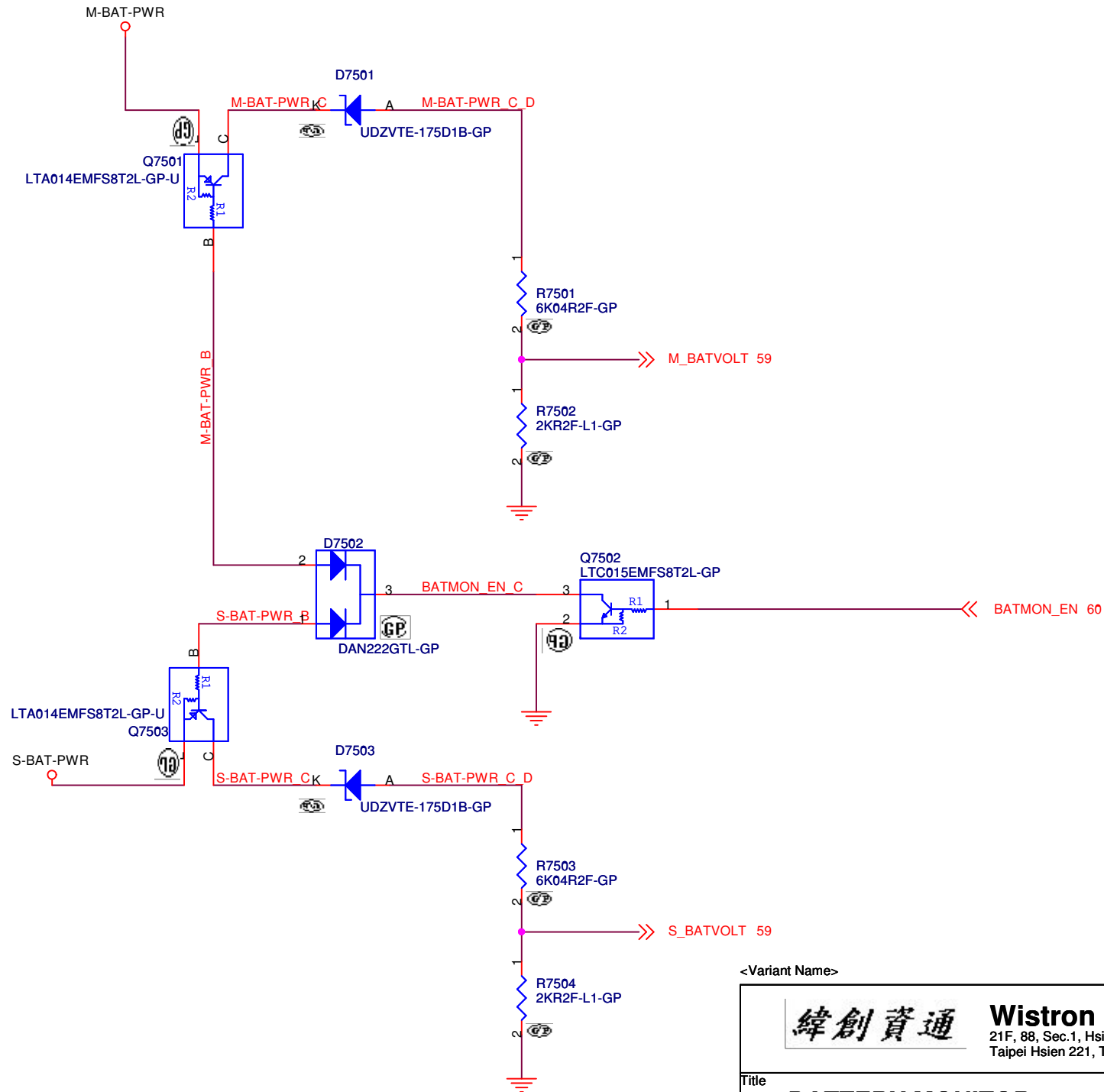
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21F, 88, Sec.1, Main Tai Wu Rd., Heichin,
Taipai Hsien 221, Taiwan, R.O.C.

Title	DC IN	Rev
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<Variant Name>

緯創資通

Wistron Corporation
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Title

BATTERY MONITOR

Size
A4

Document Number

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-1

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All the input MLCCs on 20V must be placed symmetrically on Top and Bottom.

19A(TDC:12.5A) for 28W CPU
18A(TDC:10.2A) for 15W CPU & 18W Gfx

6TPE330MAA ESR=10mOHM

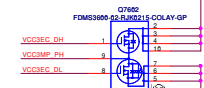
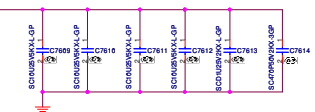
R7638 2 0R02J-L-GP

Q7601	
1st	BSC0921NDI 84.00921.030
2nd	AON6970 084.06970.0037

L7601
Main source: FDVE1040-H-1R5M=P3 68.1R51C.10G
2nd source: PIMB104T-1R5MS

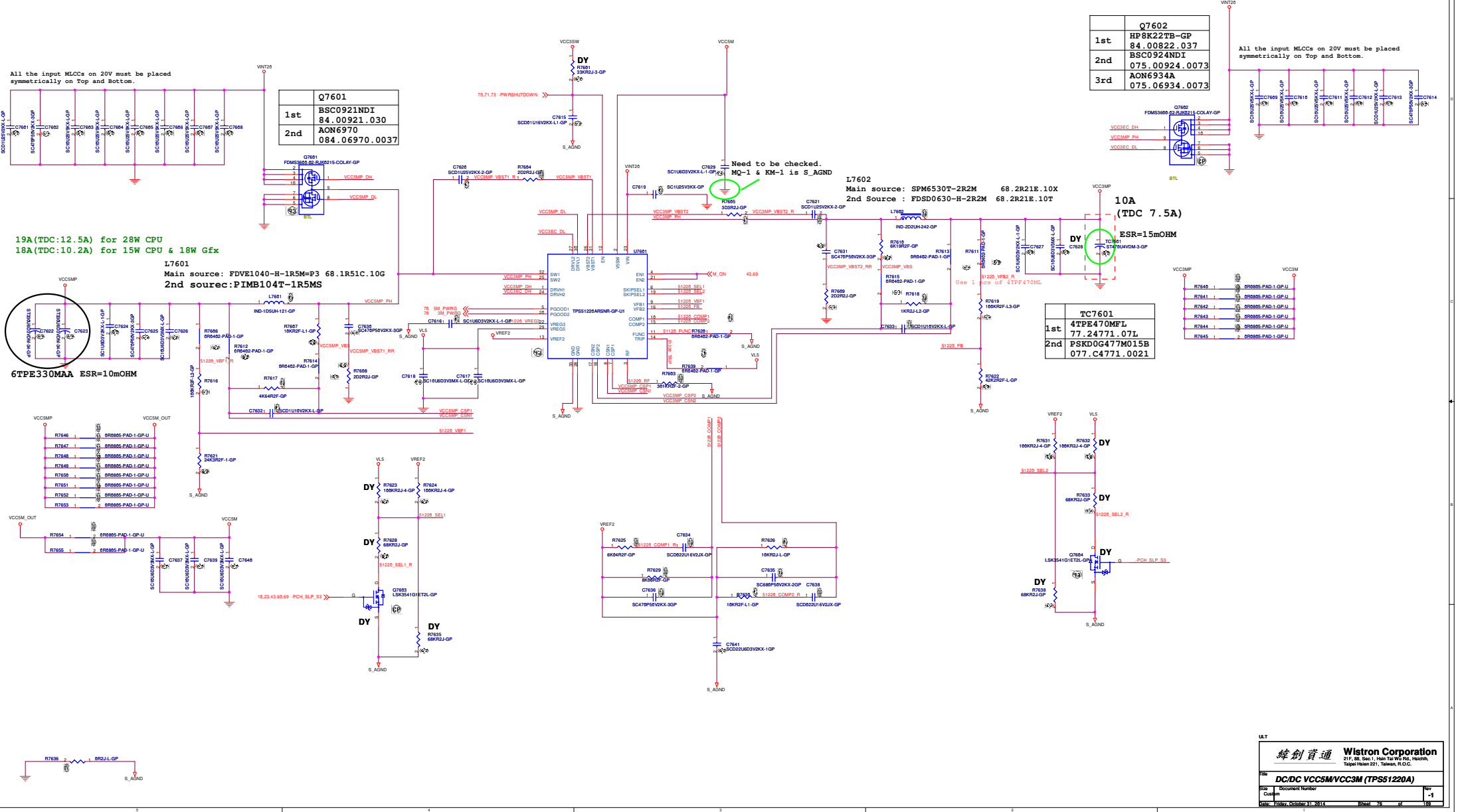
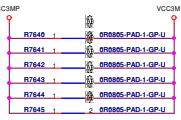
Q7602	
1st	HP8K22TB-GP 84.00822.037
2nd	BSC0924NDI 075.00924.0073
3rd	AON6934A 075.06934.0073

All the input MLCCs on 20V must be placed symmetrically on Top and Bottom.

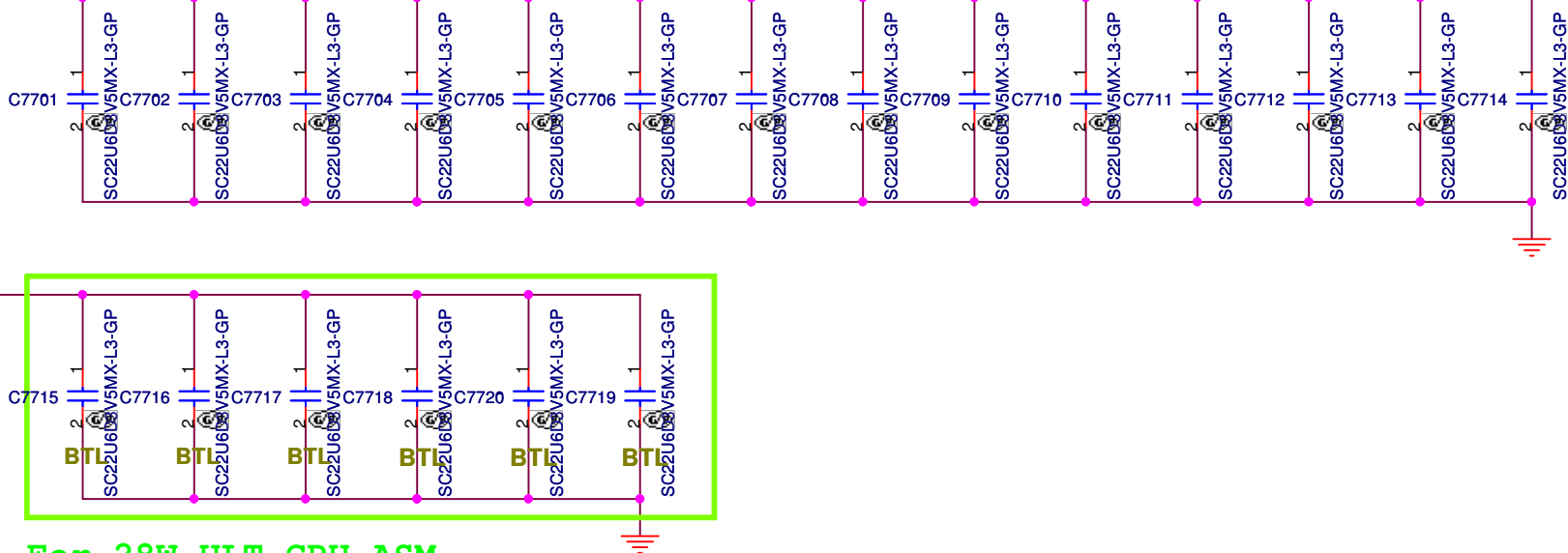


10A
(TDC 7.5A)
ESR=15mOHM

TC7601	
1st	4TPE470MFL 77.24771.07L
2nd	PSKD0G477M015B 077.C4771.0021



VCCCPUCORE



For 28W ULT CPU,ASM
For 15W ULT CPU,DY

ULT

緯創資通

Wistron Corporation

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

Title

VCCCPUCORE DECOUPLING

Size
A4

Document Number

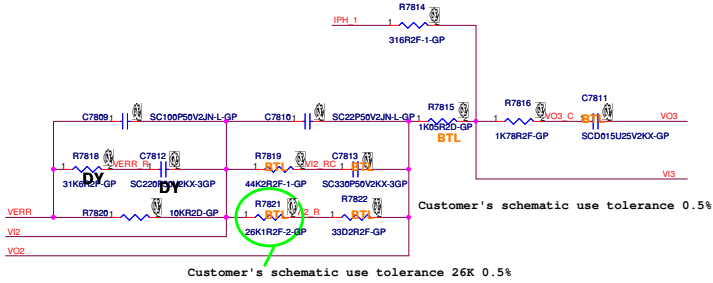
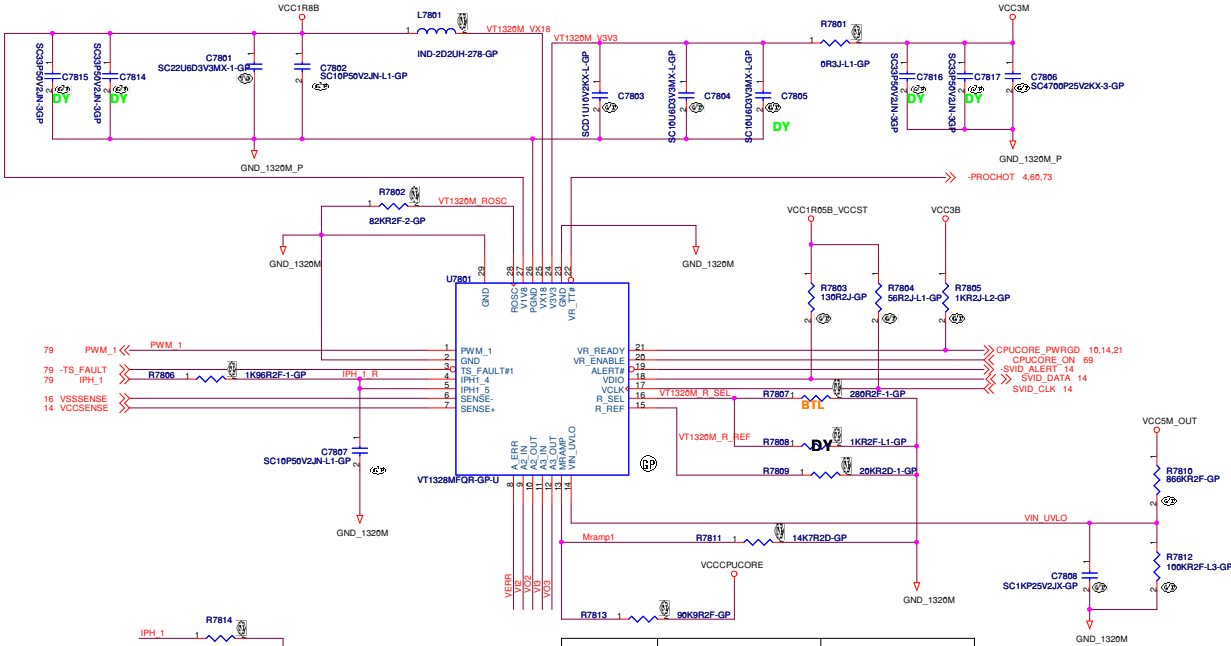
Rev
-1

Date: Friday, October 31, 2014

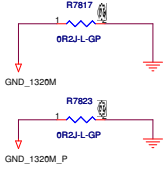
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L7801
TDK MLF1608V2R2B 68.2R21G.10D
TOKO MDT1608-CH2R2N 68.2R25B.10S

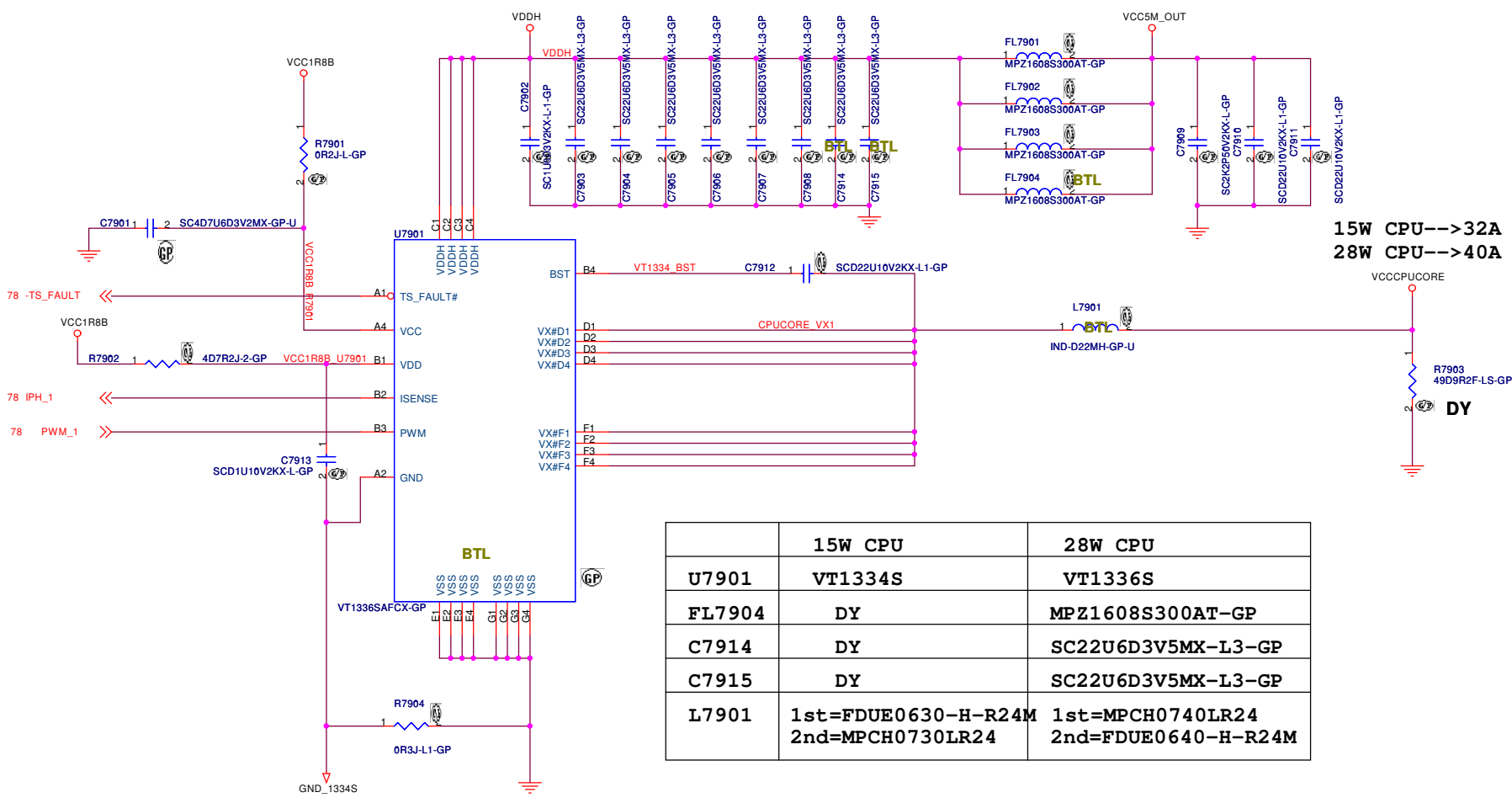
88831 if noise is visible,
option to place chip bead instead of resistor to reduce noise



	15W CPU	28W CPU
R7807	0 ohm	280 ohm
R7815	1.47K ohm 0.5%	1.05K ohm 0.5%
R7819	61.9K ohm 1%	44.2K ohm 1%
R7821	34.8K ohm 0.5%	26.1K ohm 0.5%
R7822	2.05K ohm 1%	33.2 ohm 1%
C7811	0.022uF	0.015uF
C7813	220pF	330pF

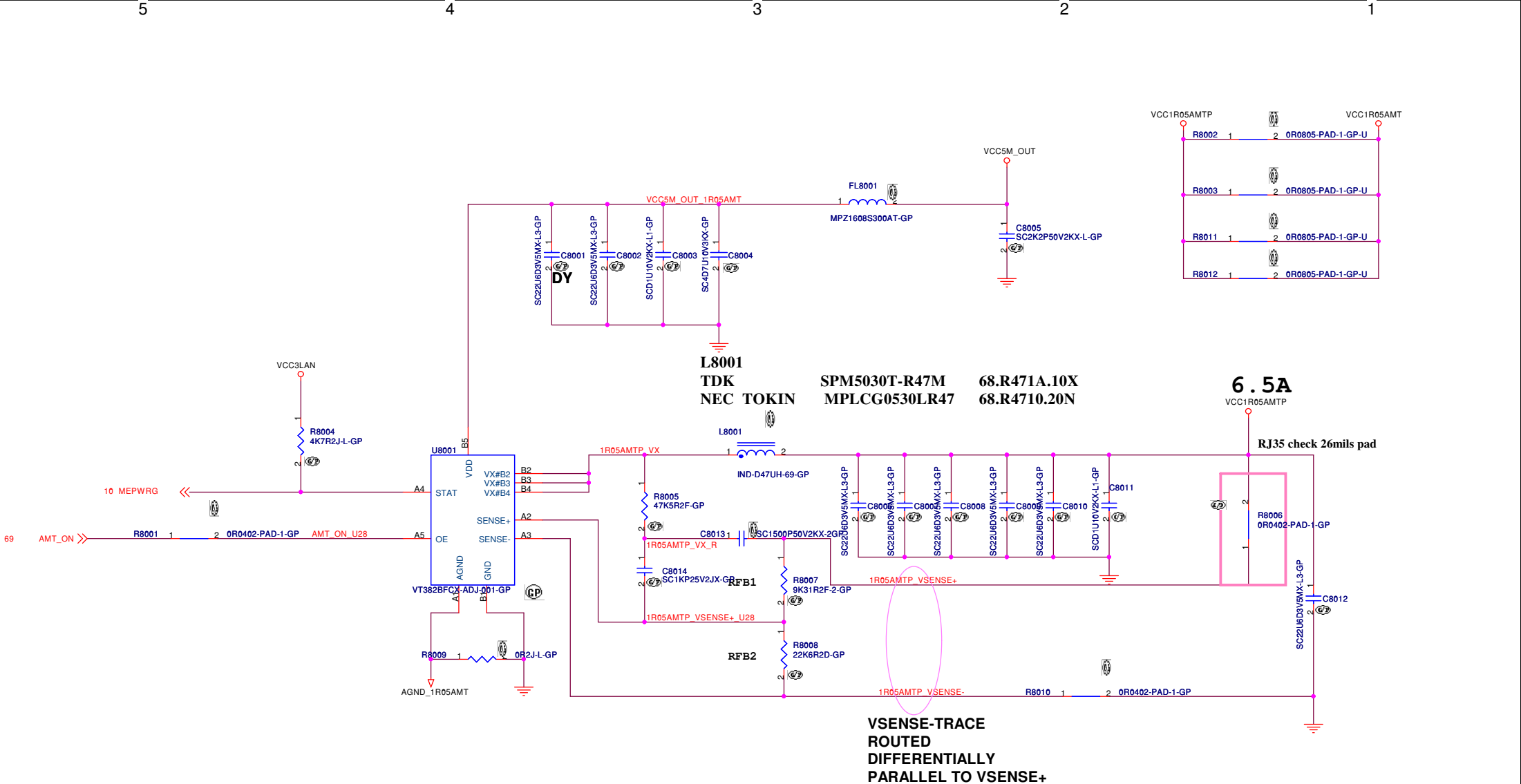


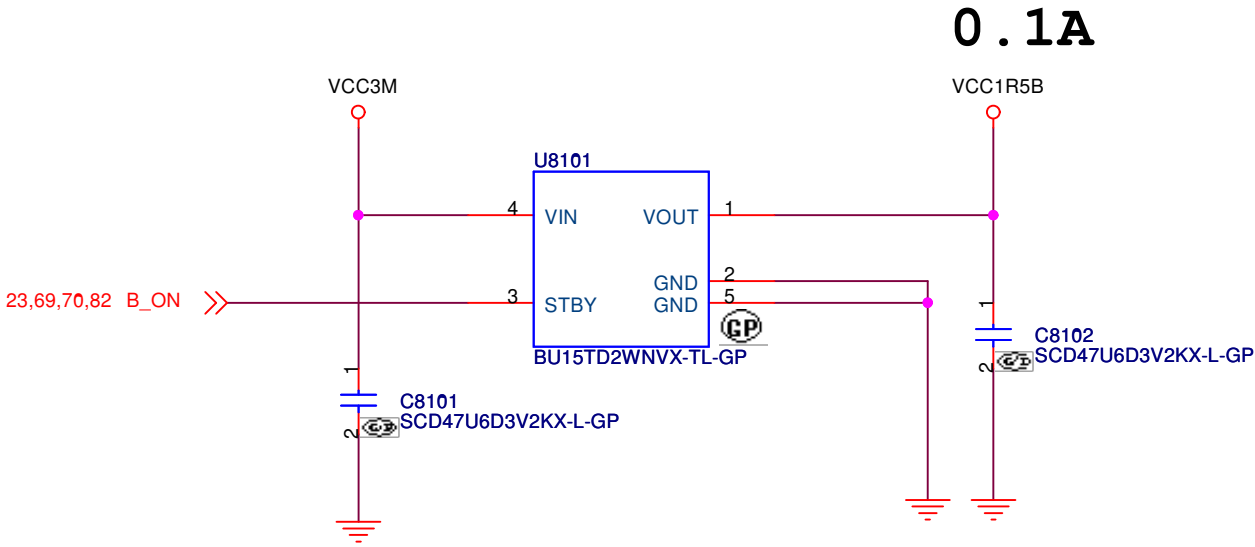
ULT



15W CPU-->32A
28W CPU-->40A

	15W CPU	28W CPU
U7901	VT1334S	VT1336S
FL7904	DY	MPZ1608S300AT-GP
C7914	DY	SC22U6D3V5MX-L3-GP
C7915	DY	SC22U6D3V5MX-L3-GP
L7901	1st=FDUE0630-H-R24M 2nd=MPCH0730LR24	1st=MPCH0740LR24 2nd=FDUE0640-H-R24M





<Variant Name>

緯創資通

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Title

DC/DC VCC1R5B

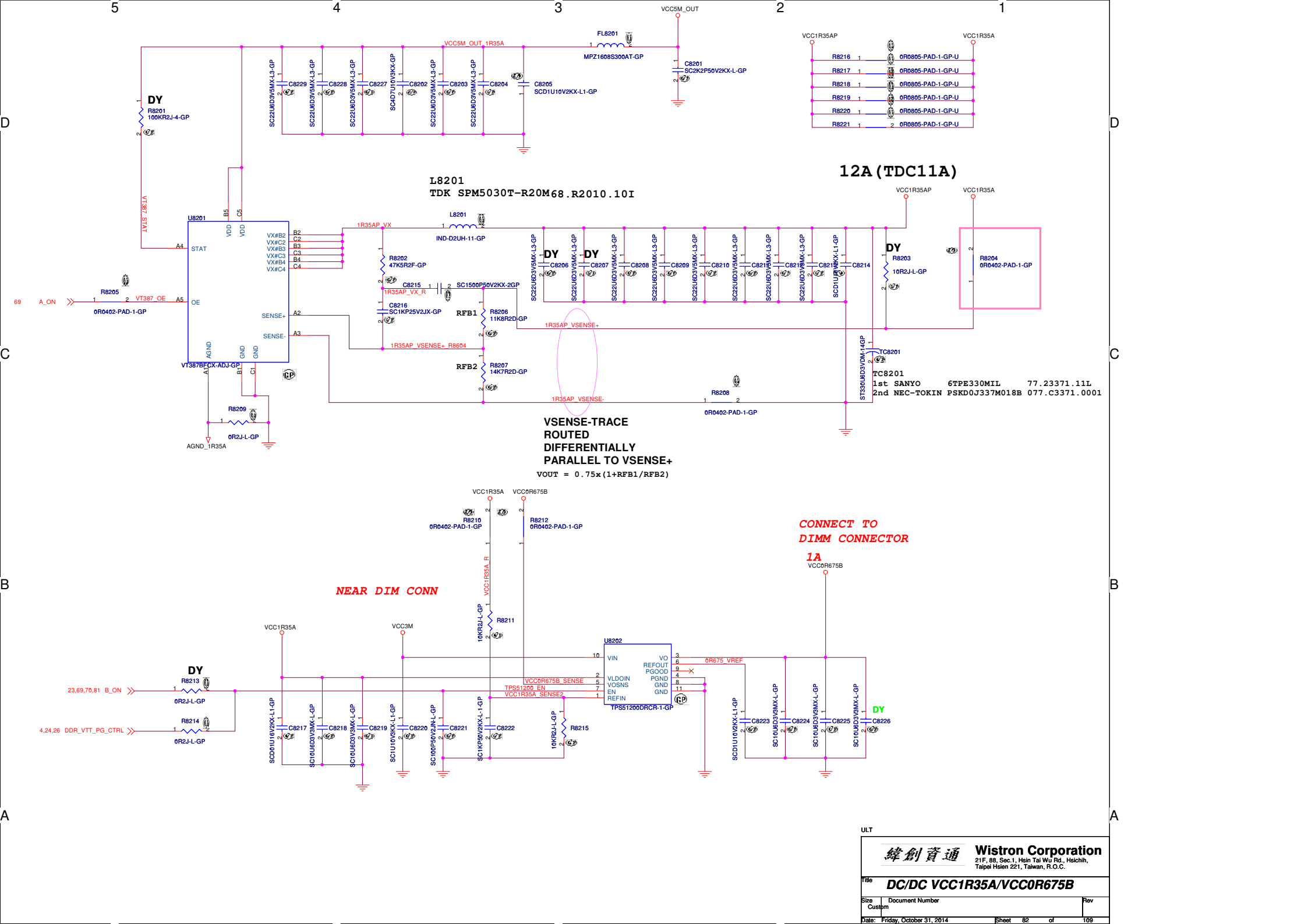
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Rev

Date: Friday, October 31, 2014

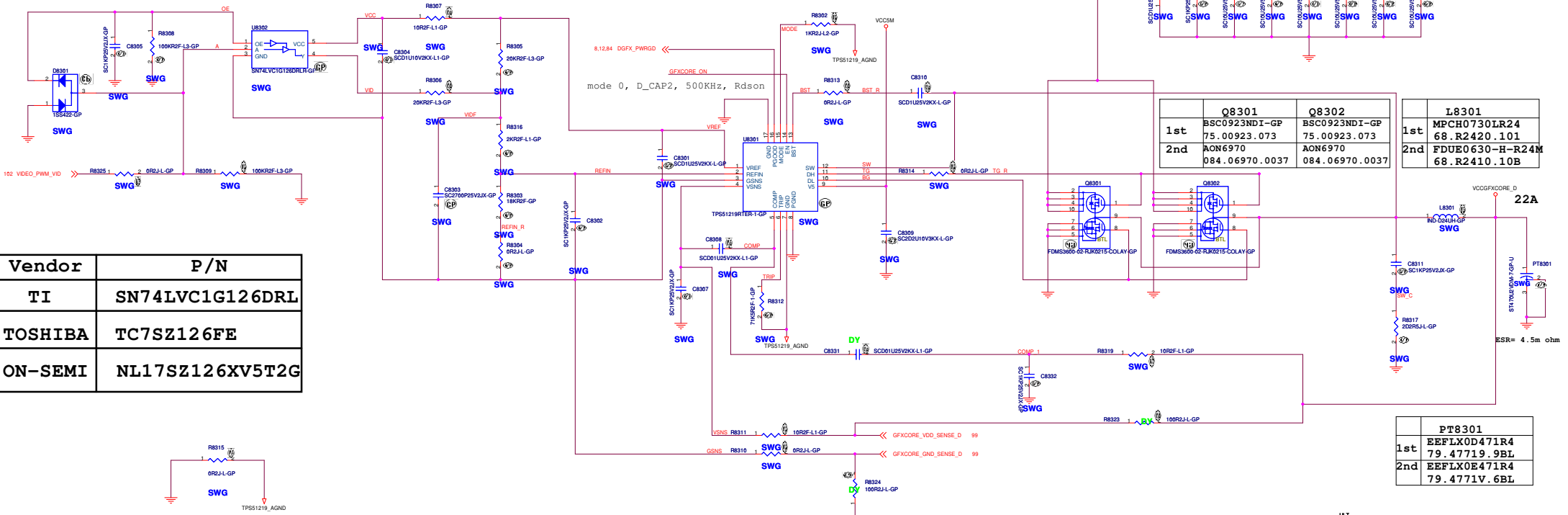
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	Support GC 6 2.0	No Support GC 6 2.0
Q8304	ASM	No-ASM
Q8333	ASM	No-ASM
R8301	No-ASM	ASM
		Logic

R8302	C8308	C8331	Mode	SW Freq.
1kohm	ASM	No ASM	D-CAP2	500kHz
200kohm	No ASM	ASM	D-CAP	400kHz
100kohm	No ASM	ASM	D-CAP	300kHz

All the input MLCCs on 20V must be placed symmetrically on top and bottom



Vendor	P/N
TI	SN74LVC1G126DRL
TOSHIBA	TC7SZ126FE
ON-SEMI	NL17SZ126XV5T2G

	Q8301	Q8302	L8301
1st	BSC0923NDI-GP 75.00923.073	BSC0923NDI-GP 75.00923.073	MPCH0730LR24 68.R2420.101
2nd	AON6970 084.06970.0037	AON6970 084.06970.0037	FDUE0630-H-R24M 68.R2410.10B

	PT8301
1st	EEFLX0D471R4 79.47719.9BL
2nd	EEFLX0E471R4 79.4771V.6BL

D

D

C

C

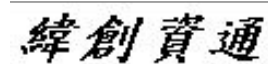
B

B

A

A

<Variant Name>



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Title

Reserved(DC/DC)

Size
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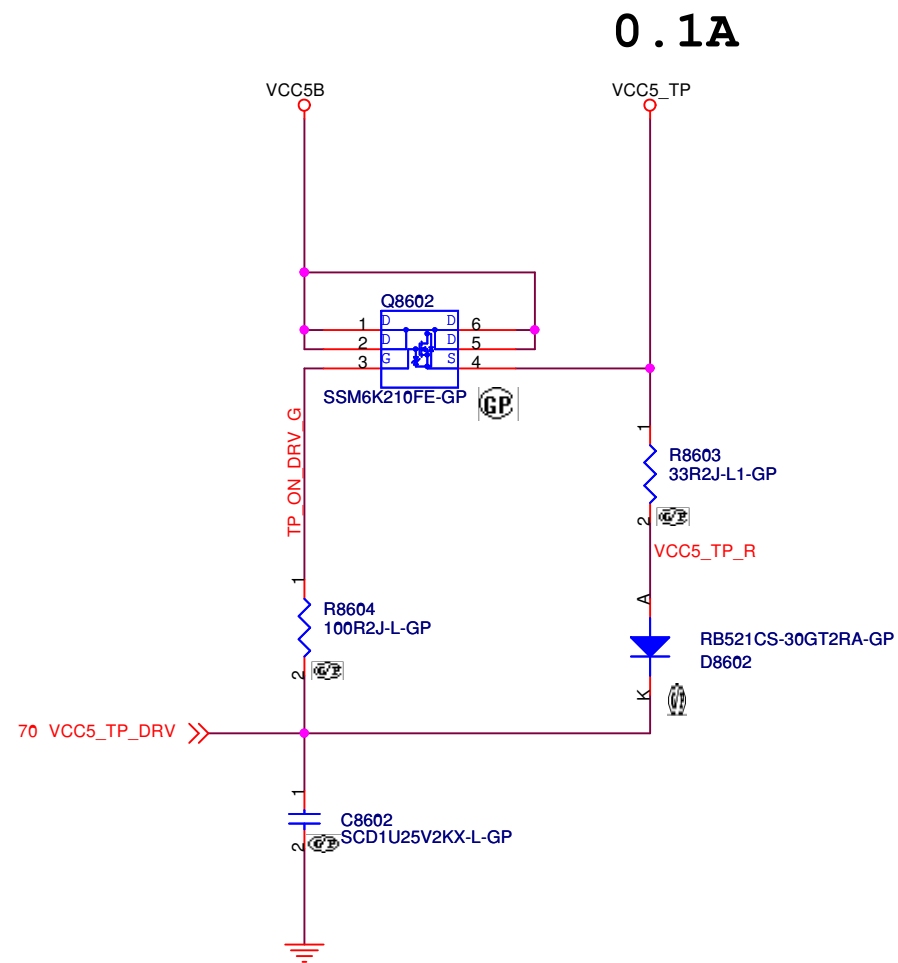
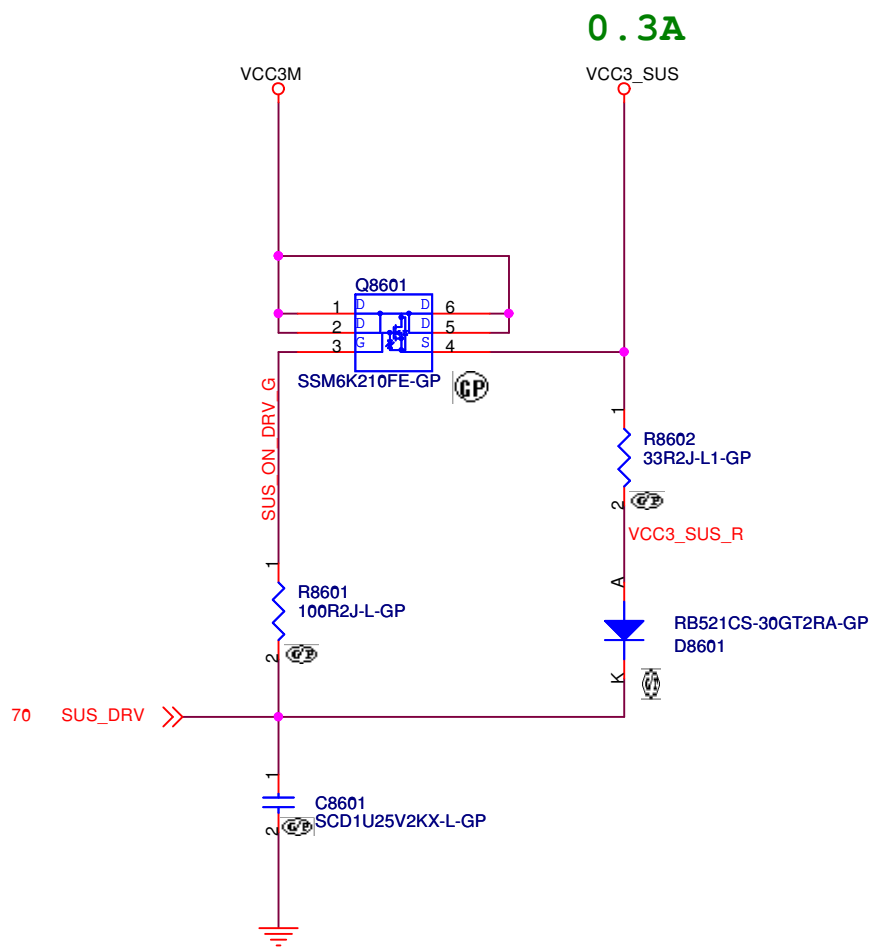
Document Number

LSZ-1

Rev	-
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<Variant Name>

緯創資通

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
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Title

LOAD SW PCH SUS

Size
A4

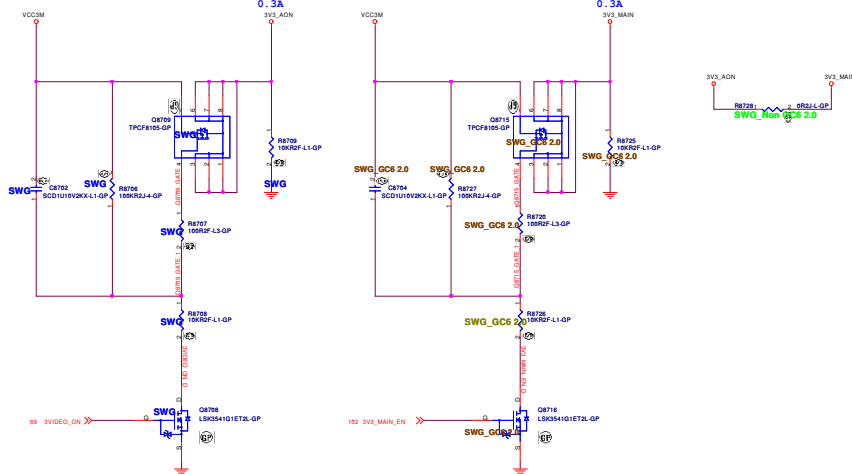
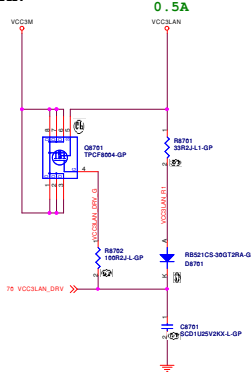
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Rev

Date: Friday, October 31, 2014

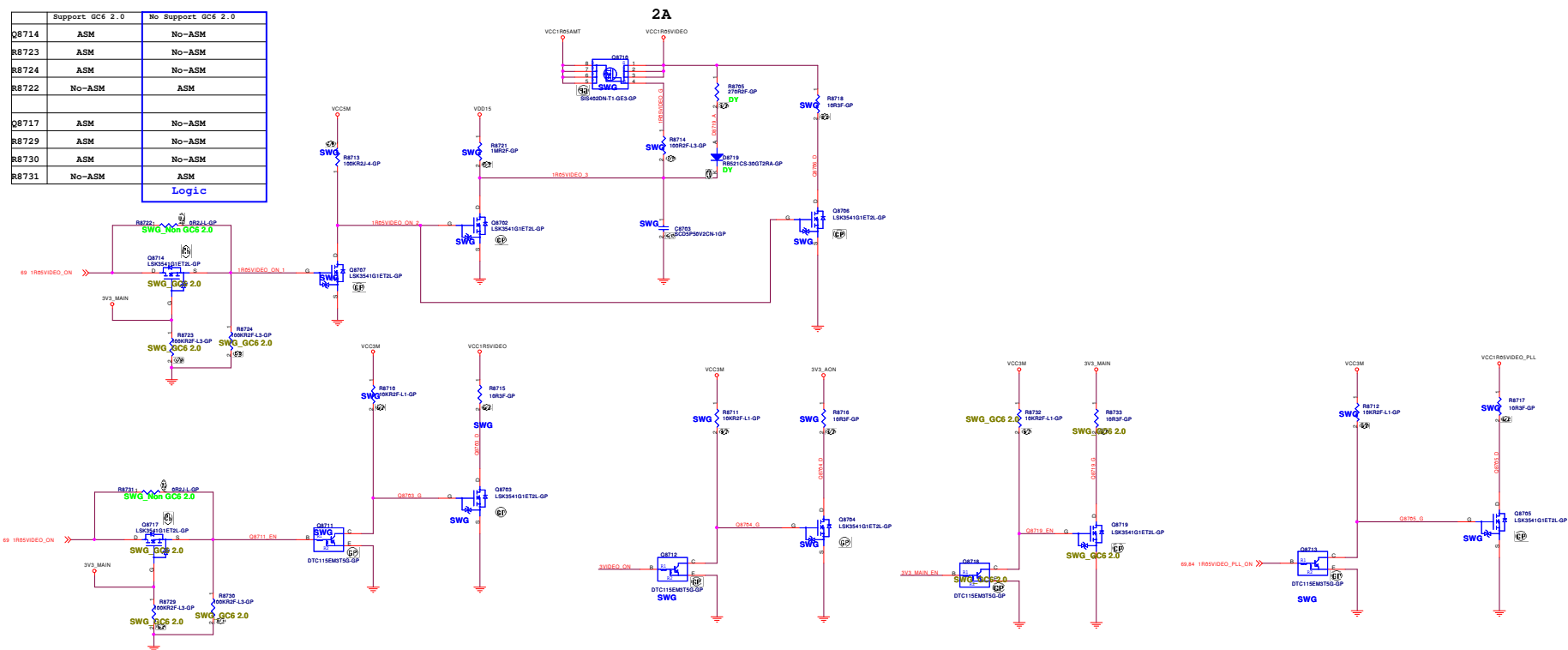
Sheet 86 of 109

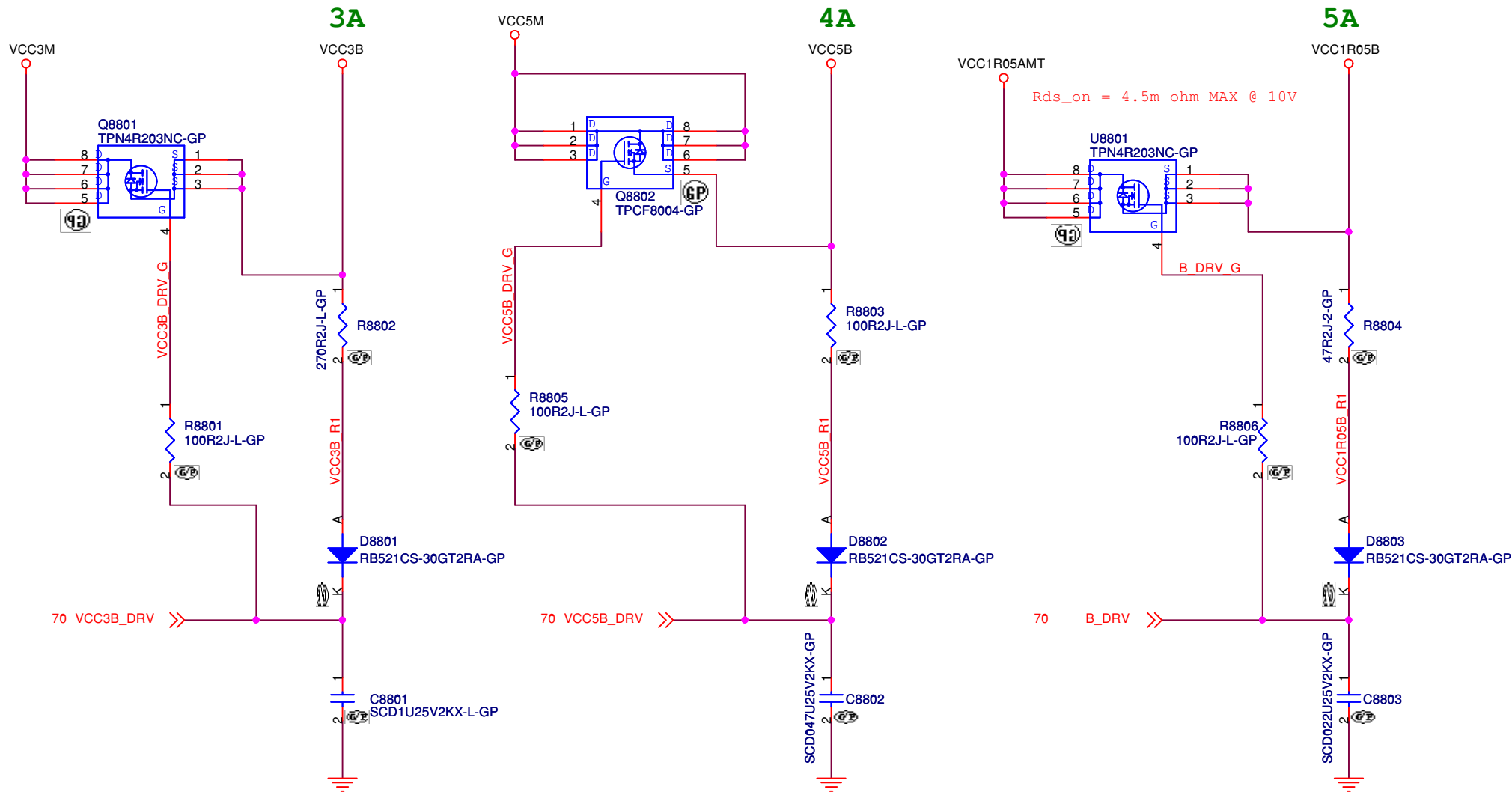
LOAD SWITCH VIDEO



	Support GC6 2.0	No Support GC6 2.0
Q8714	ASM	No-ASM
R8723	ASM	No-ASM
R8724	ASM	No-ASM
R8722	No-ASM	ASM
Q8717	ASM	No-ASM
R8729	ASM	No-ASM
R8730	ASM	No-ASM
R8731	No-ASM	ASM

Logic





<Variant Name>

緯創資通

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Title

LOAD SW VCCB

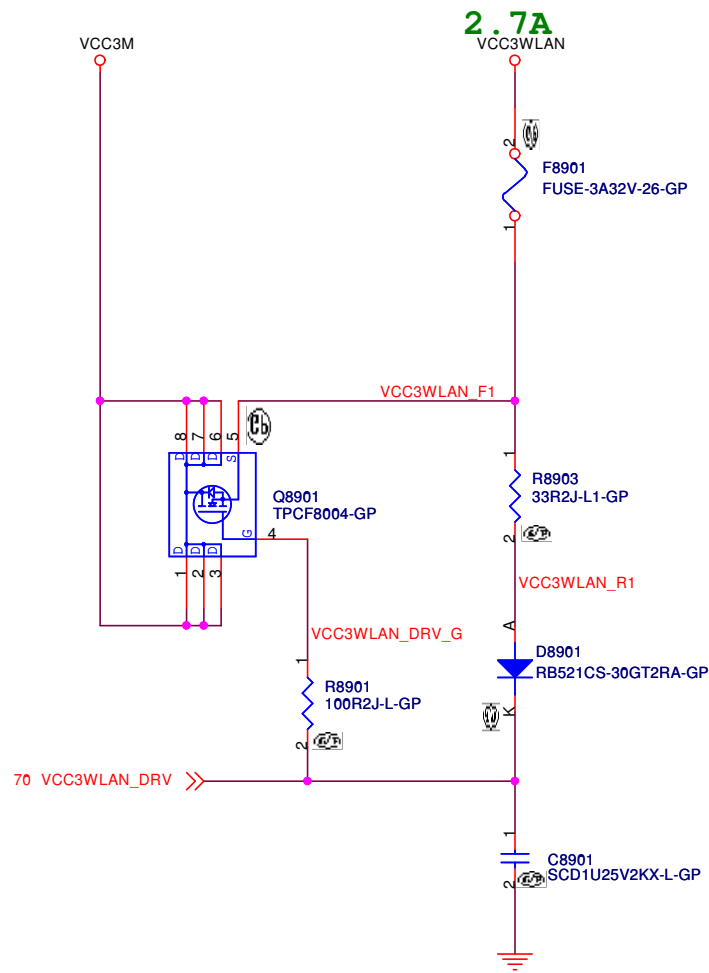
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Document Number

Rev

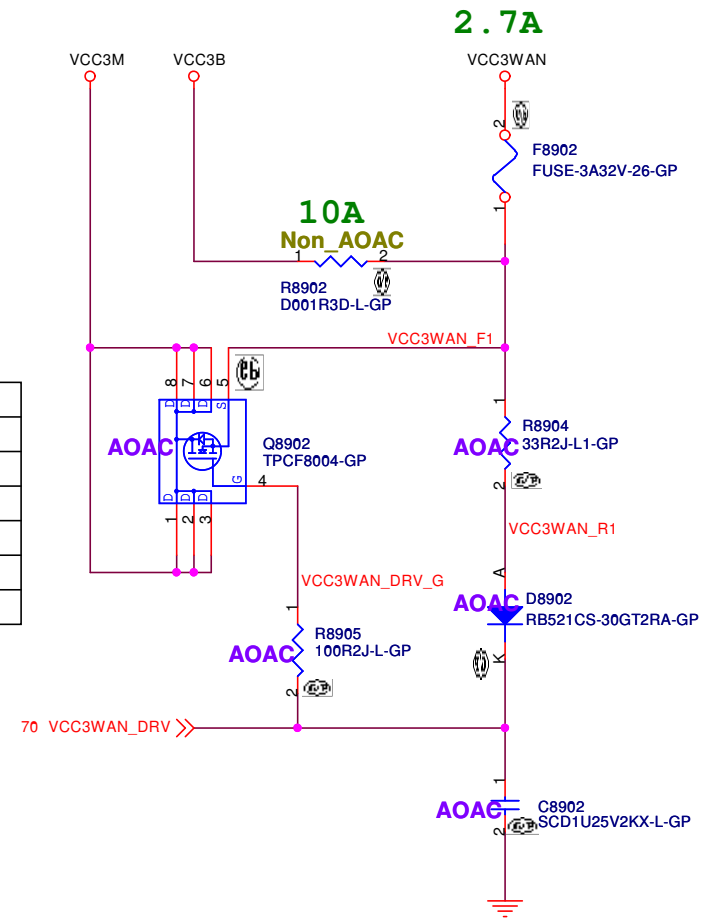
Date: Friday, October 31, 2014

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AOAC	YES	NO
R8902	DY	ASM
R8904	ASM	DY
R8905	ASM	DY
Q8902	ASM	DY
D8902	ASM	DY
C8902	ASM	DY

LOGIC



<Variant Name>

緯創資通

Wistron Corporation

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Title

LOAD SW WWAN&WLAN

Size
Custom

Document Number

Rev

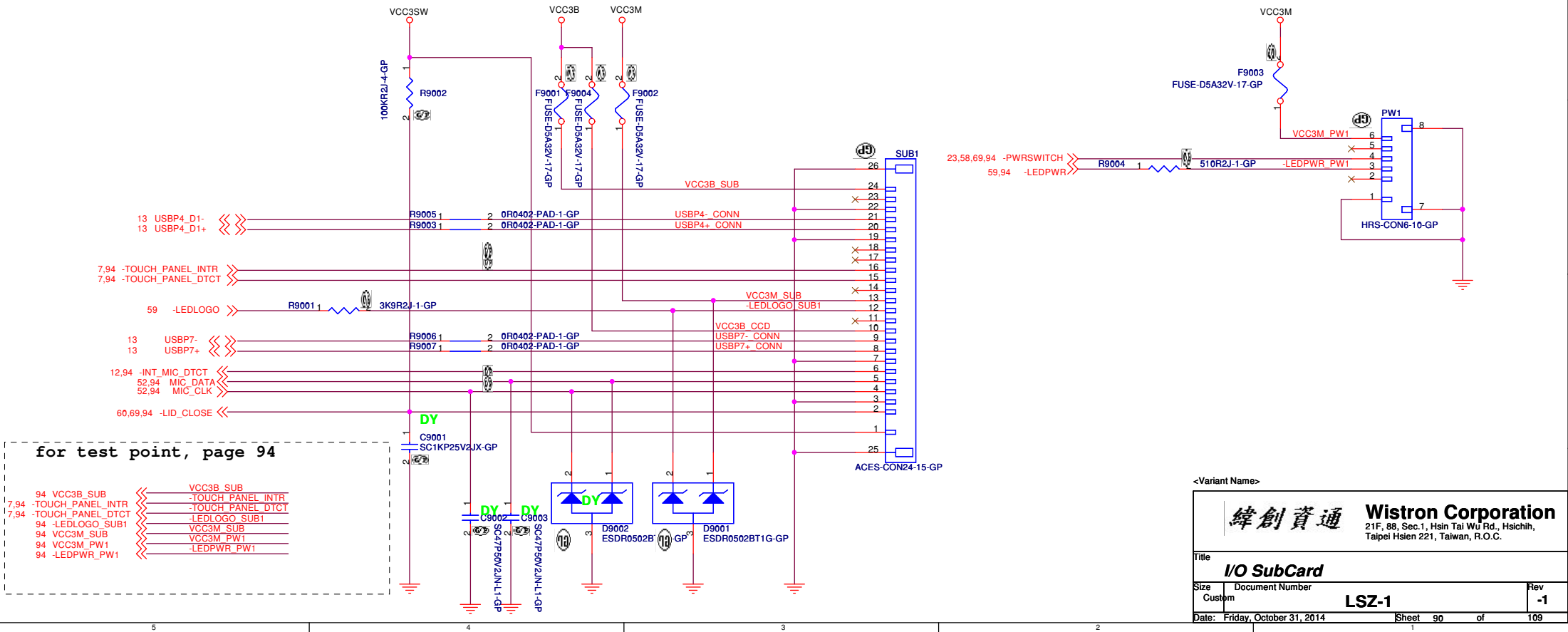
Date: Friday, October 31, 2014

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SubCard

Subcard has Mic/Camera/Lid/Touch Screen function.

Power BTN

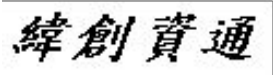


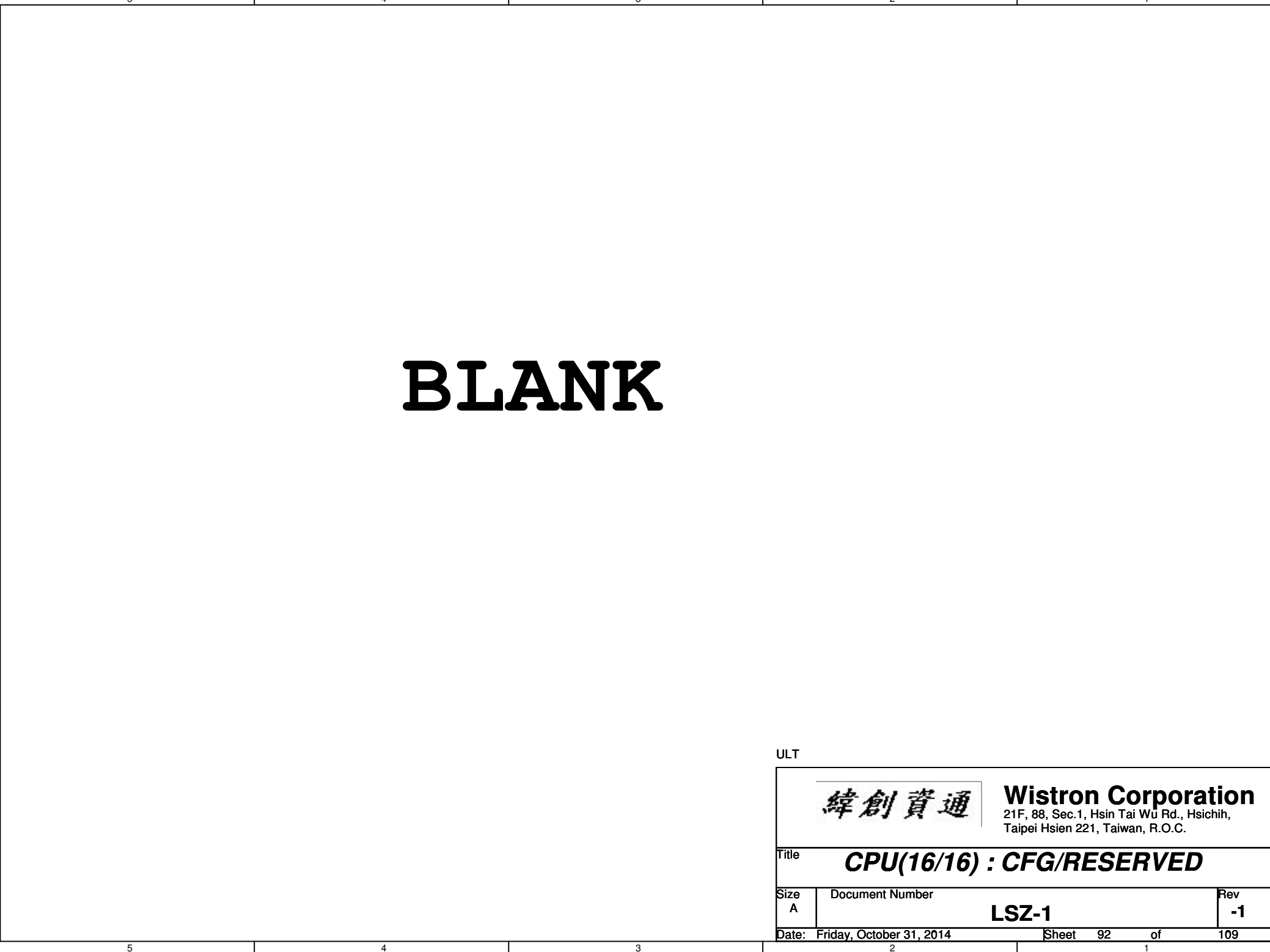
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21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.			
Title			
I/O SubCard			
Size	Document Number	Rev	
Custom	LSZ-1	-1	
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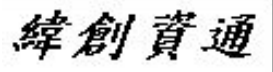
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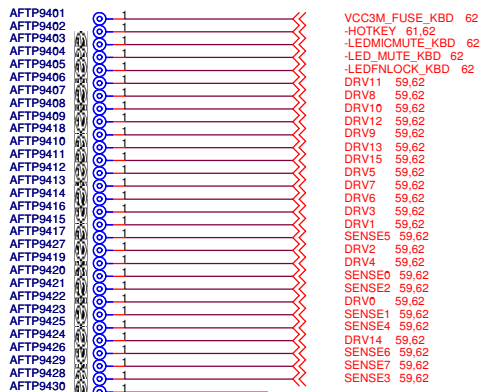
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Title CPU(16/16) : CFG/RESERVED			
Size A	Document Number LSZ-1		Rev -1
Date: Friday, October 31, 2014		Sheet 91 of	109



ULT

		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title CPU(16/16) : CFG/RESERVED			
Size A	Document Number LSZ-1		Rev -1
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Near KB1 (Keyboard connector)



Near TKP1 (Track point connector)



Near DC1 (Adapter in)



Near USB3 (USB 3.0 conn)



Near BAT1 (Battery in)



Near USB2 (USB 3.0 conn)



Near FAN1 (FAN Connector)



Near BAT2 (Battery in)



Near USB1 (USB 3.0 conn)



Near RTC1 (RTC Battery)



Near LCD1 (eDP connector)



Near MCS1 (MediaCard Slot)



Near SUB1 (Mic/CCD/Lid/Touch Screen)



For Power Switch



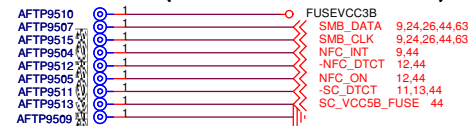
Near PW1 (Power Button)



Near SIM1 (SIM Card)



Near SUB2 (NFC + SMART CARD)



Bottom side



Near DP1 (Display port)



Near CRT1



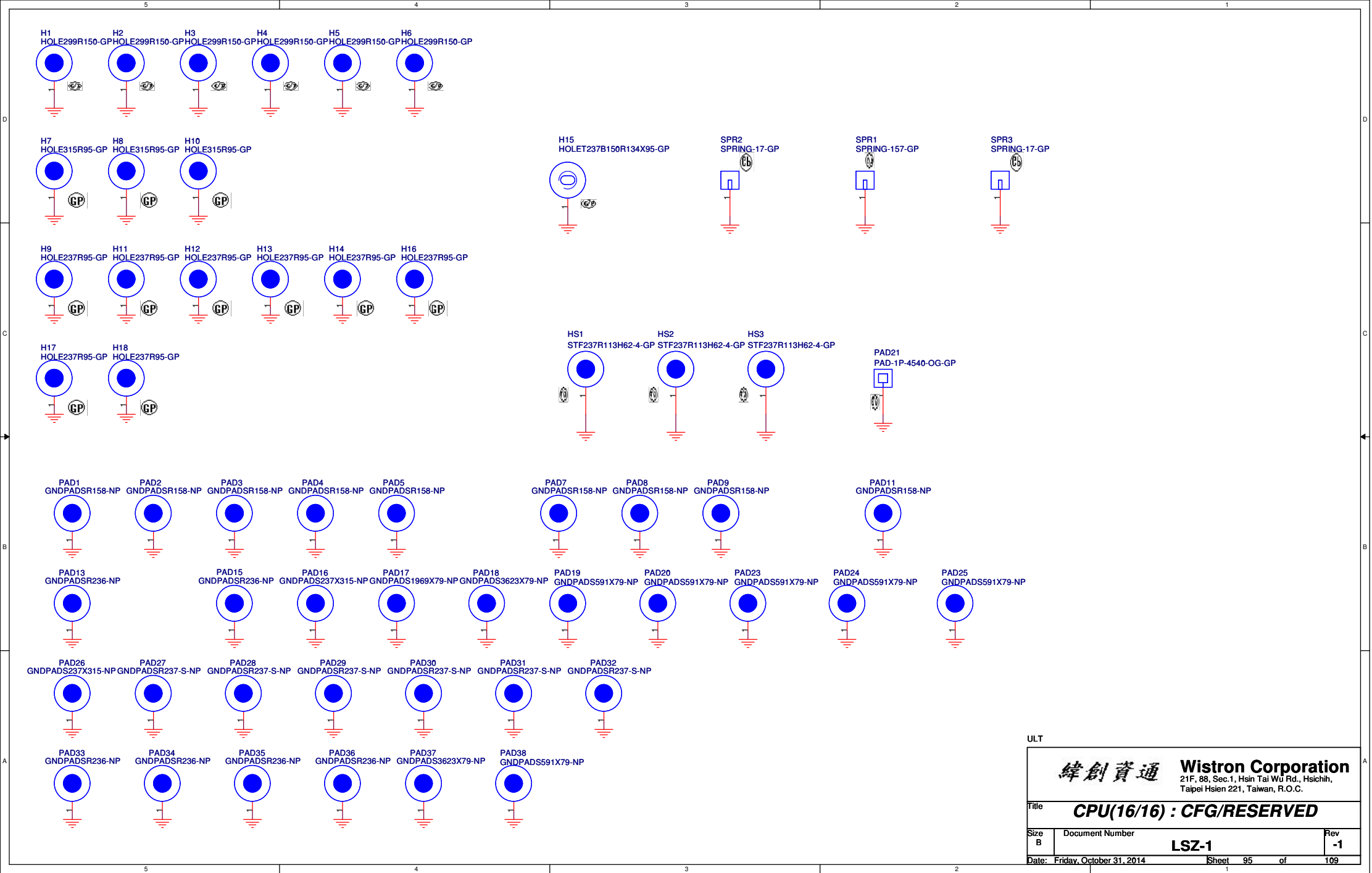
ULT

緯創資通

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

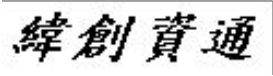
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Size	Document Number	Rev
Custm	LSZ-1	-1
Date:	Friday, October 31, 2014	Sheet 94 of 109



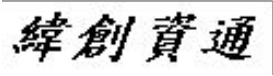
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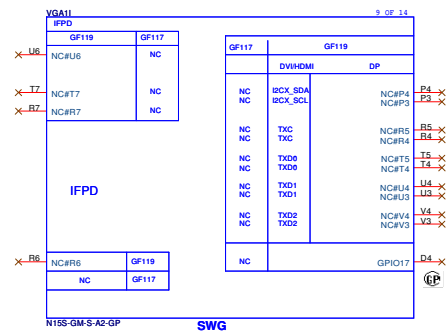
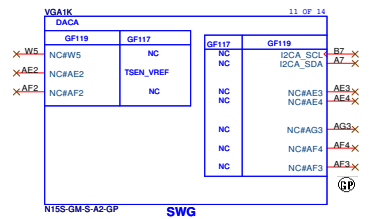
ULT

		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title CPU(16/16) : CFG/RESERVED			
Size A	Document Number LSZ-1		Rev -1
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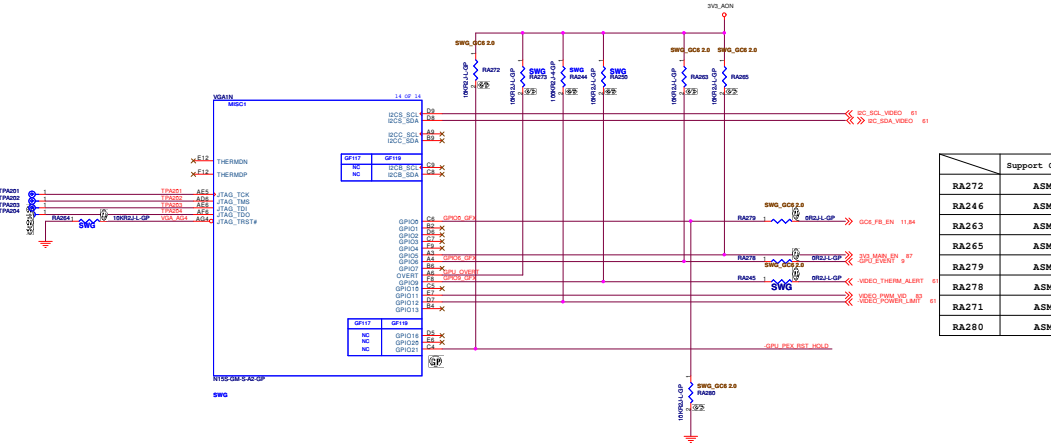
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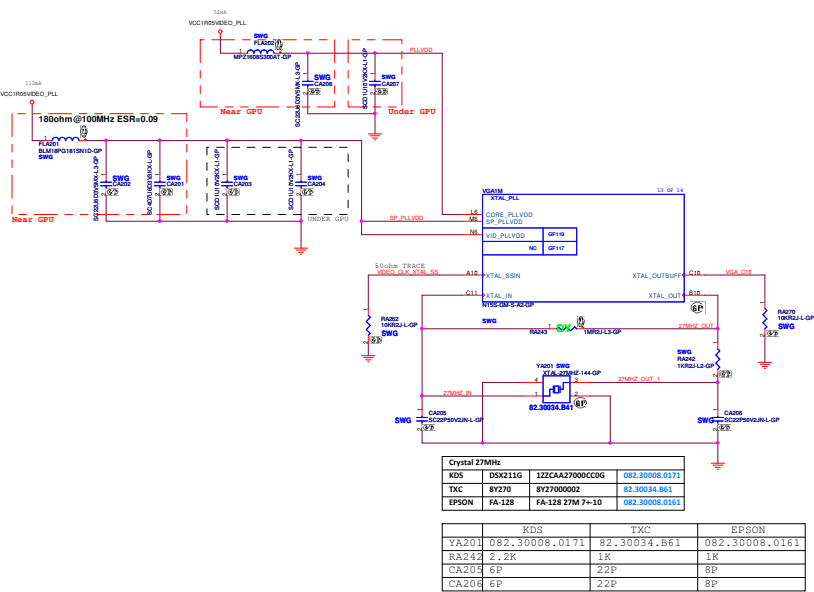
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Title CPU(16/16) : CFG/RESERVED			
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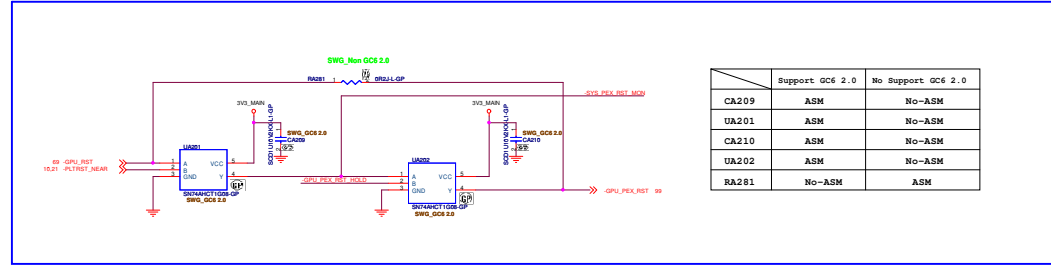


	Support GC6 2.0	No Support GC6 2.0
RA272	ASM	No-ASM
RA246	ASM	No-ASM
RA263	ASM	No-ASM
RA265	ASM	No-ASM
RA279	ASM	No-ASM
RA278	ASM	No-ASM
RA271	ASM	No-ASM
RA280	ASM	No-ASM



Crystal 27MHz			
KDS	DSX211G	12ZCA27000CCG	082.30008.0171
TXC	BY270	8Y27000002	82.30034.B61
EPSON	FA-128	FA-128 27M 7-10	082.30008.0161

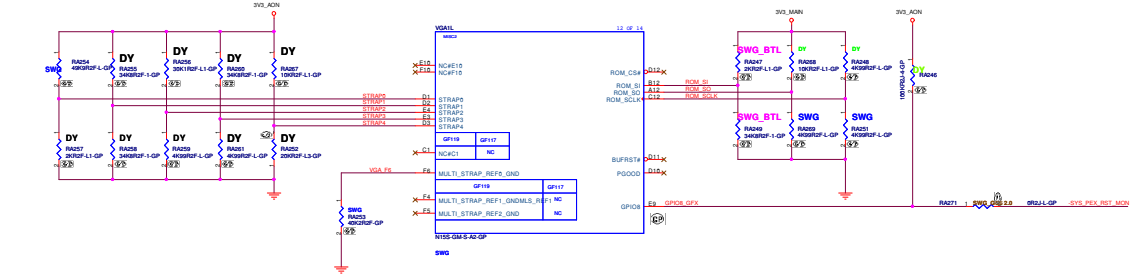
	KDS	TXC	EPSON
YA201	082.30008.0171	82.30034.B61	082.30008.0161
RA242	2.2K	1K	1K
CA209	6P	22P	8P
CA206	6P	22P	8P

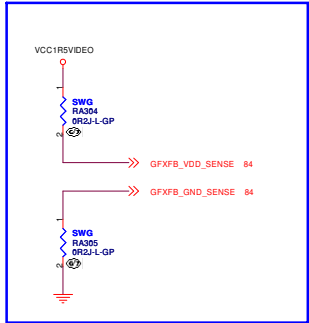
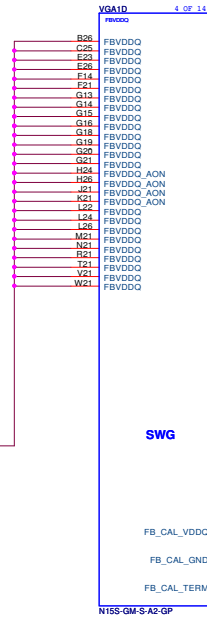
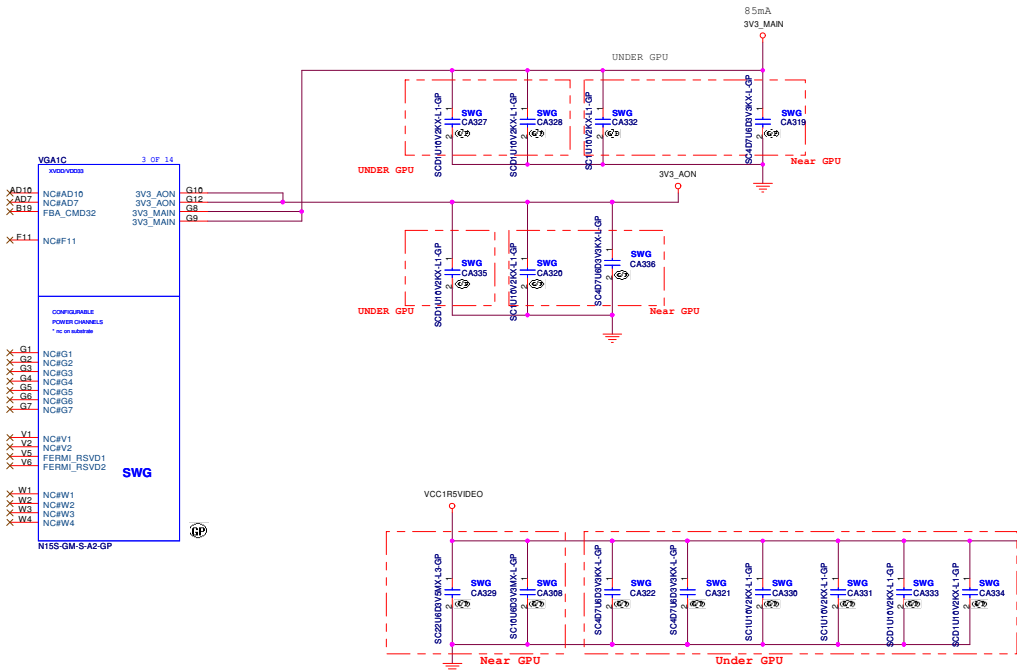
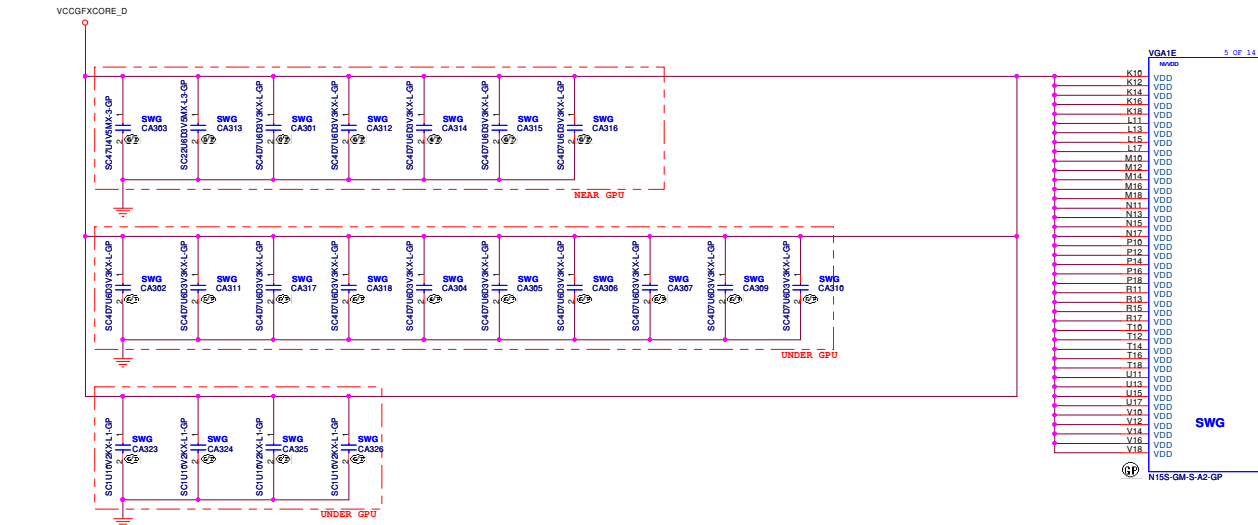


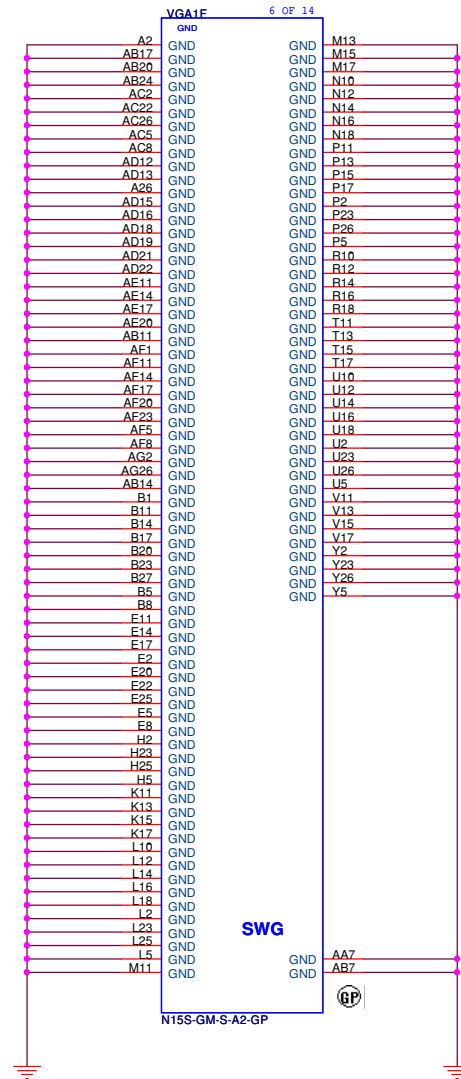
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CA209	ASM	No-ASM
UA201	ASM	No-ASM
CA210	ASM	No-ASM
UA202	ASM	No-ASM
RA281	No-ASM	ASM

TABLE
VIDEO MEMORY

	For N16S-GT			For N15M-Q3		
ROM_S1	Hynix 128Mx16 VH1G@	Micron 128Mx16 VM1G@	Samsung 128Mx16 VS1G	Hynix 256Mx16 VH2G@	Micron 256Mx16 VM2G@	Samsung 256Mx16 VS2G
RA249	34.8Kohm 64.34825.6DL	45.3Kohm 64.45325.6DL	DY	4.99Kohm 64.49915.6DL	10.0Kohm 64.10025.10L	15.0Kohm 64.15025.6DL
RA247	DY	DY	4.99Kohm 64.49915.6DL	DY	DY	DY








ULT

Title		Wistron Corporation	
Size		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Document Number		N14M-GS(6/6) : GND	
Date: Friday, October 31, 2014		Rev -1	
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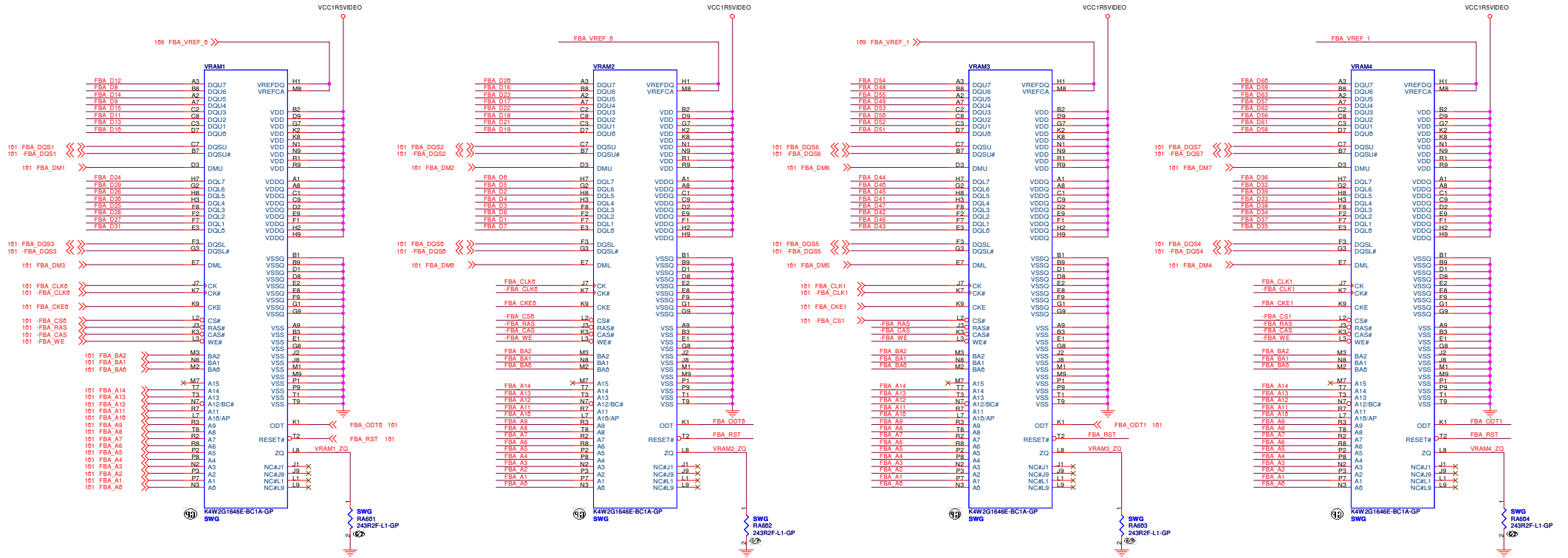
ULT

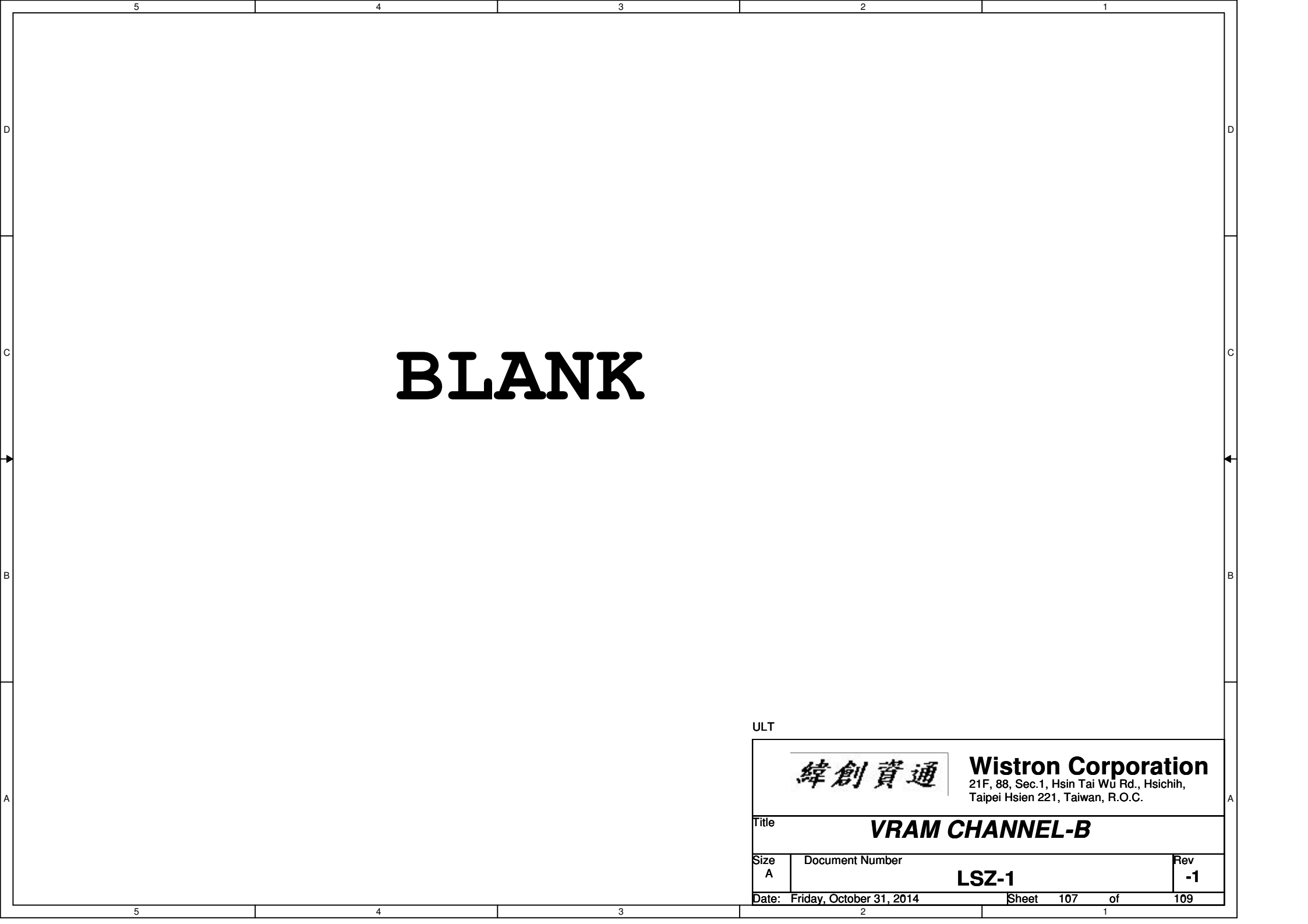
		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title CPU(16/16) : CFG/RESERVED			
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FB CMD mapping Mode D-N14x

TABLE
DDR3 VIDEO MEMORY

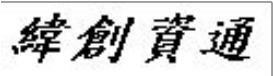
	For N16S-GT			For N15M-Q3		
	Hynix 2GBITS (128Mx16)	Micron 2GBITS (128Mx16)	SAMSUNG 2GBITS (128Mx16)	Hynix 4GBITS (256Mx16)	Micron 4GBITS (256Mx16)	SAMSUNG 4GBITS (256Mx16)
VRAM1 VRAM2 VRAM3 VRAM4	H5TC2G63FFR-11C	MT41J128M16JT-093G:K	K4W2G1646Q-BC1A	H5TC4G63AFR-11C	MT41J256M16HA-093G	K4W4G1646D-BC1A
BOM Structure	VH1G@	VM1G@	VS1G@	VH2G@	VM2G@	VS2G@





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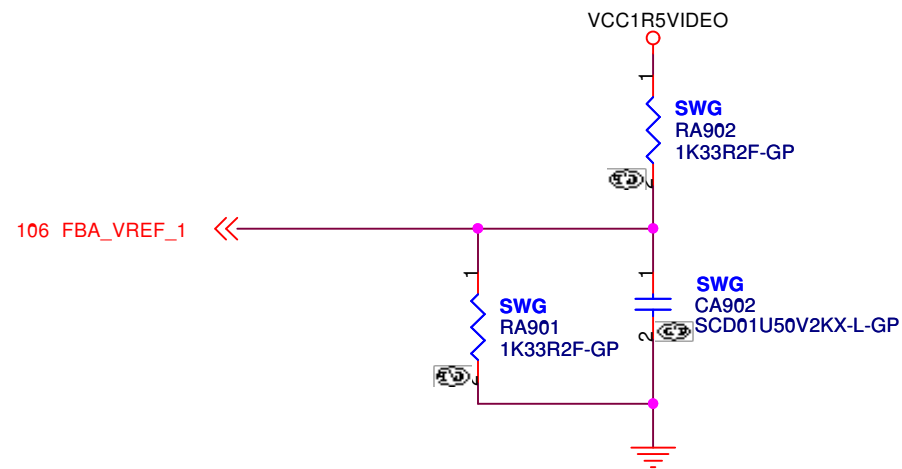
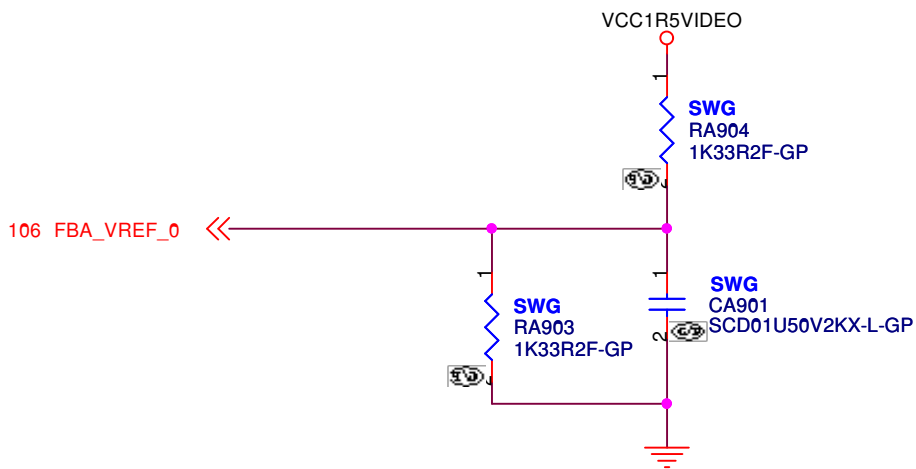
ULT

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Title VRAM CHANNEL-B			
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