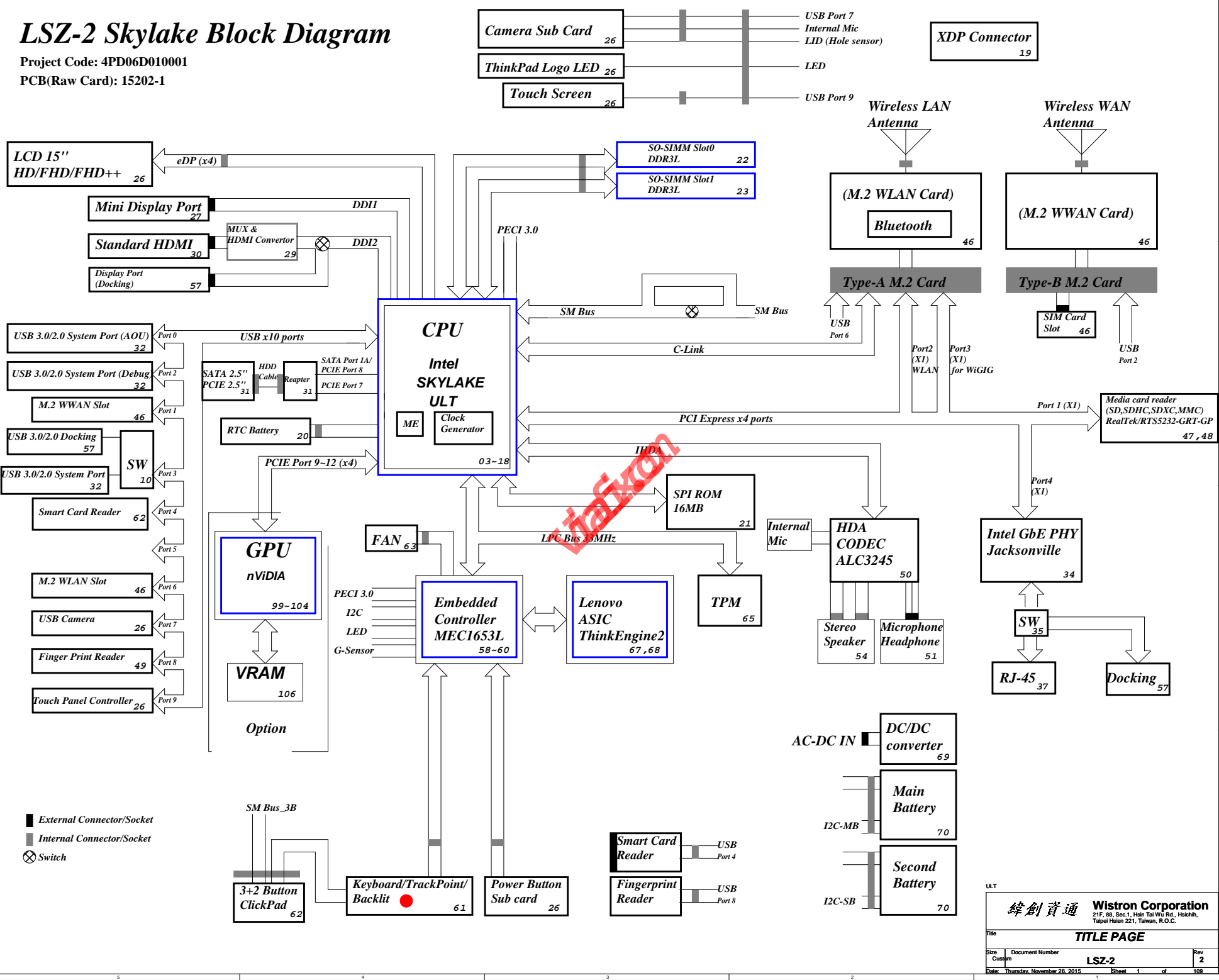


LSZ-2 Skylake Block Diagram

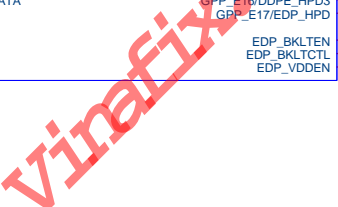
Project Code: 4PD06D010001
PCB(Raw Card): 15202-1



RESISTOR

CAPACITOR

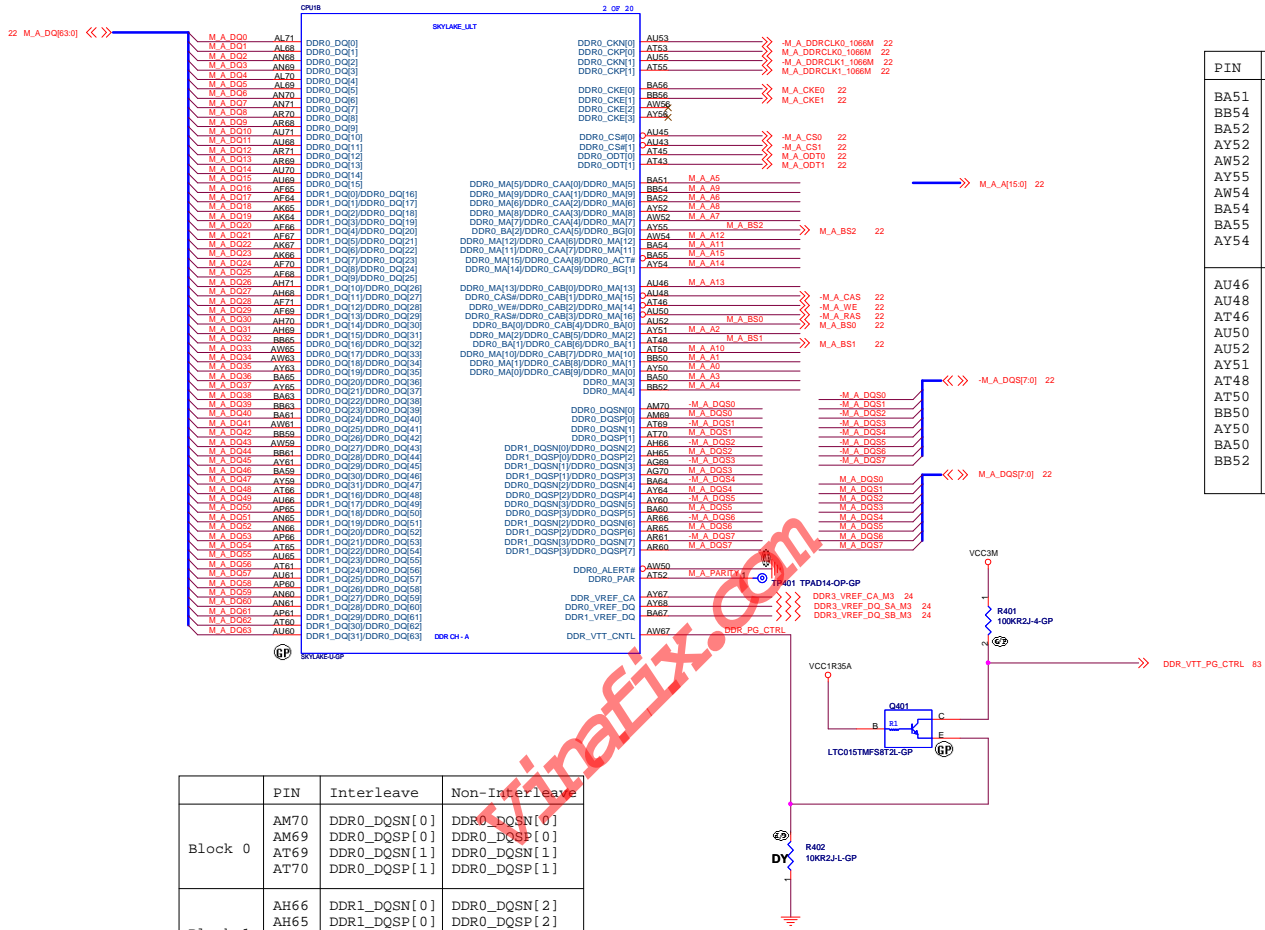
Virefix.com



<p>DDPB_CTRLDATA</p> <p>HIGH Port B is detected.</p> <p>LOW Port B is not detected.</p>
<p>DDPC_CTRLDATA</p> <p>HIGH Port C is detected.</p> <p>LOW Port C is not detected.</p>

	PIN	Interleave	Non-Interleave
Block 0	AL71	DDR0_DQ[0]	DDR0_DQ[0]
	AL68	DDR0_DQ[1]	DDR0_DQ[1]
	AN68	DDR0_DQ[2]	DDR0_DQ[2]
	AN69	DDR0_DQ[3]	DDR0_DQ[3]
	AL70	DDR0_DQ[4]	DDR0_DQ[4]
	AL69	DDR0_DQ[5]	DDR0_DQ[5]
	AN70	DDR0_DQ[6]	DDR0_DQ[6]
	AN71	DDR0_DQ[7]	DDR0_DQ[7]
	AR70	DDR0_DQ[8]	DDR0_DQ[8]
	AR68	DDR0_DQ[9]	DDR0_DQ[9]
	AU71	DDR0_DQ[10]	DDR0_DQ[10]
	AU68	DDR0_DQ[11]	DDR0_DQ[11]
	AR71	DDR0_DQ[12]	DDR0_DQ[12]
	AR69	DDR0_DQ[13]	DDR0_DQ[13]
	AU70	DDR0_DQ[14]	DDR0_DQ[14]
	AU69	DDR0_DQ[15]	DDR0_DQ[15]
Block 1	AF65	DDR1_DQ[0]	DDR0_DQ[16]
	AF64	DDR1_DQ[1]	DDR0_DQ[17]
	AK65	DDR1_DQ[2]	DDR0_DQ[18]
	AK64	DDR1_DQ[3]	DDR0_DQ[19]
	AF66	DDR1_DQ[4]	DDR0_DQ[20]
	AF67	DDR1_DQ[5]	DDR0_DQ[21]
	AK67	DDR1_DQ[6]	DDR0_DQ[22]
	AK66	DDR1_DQ[7]	DDR0_DQ[23]
	AF70	DDR1_DQ[8]	DDR0_DQ[24]
	AF68	DDR1_DQ[9]	DDR0_DQ[25]
	AH71	DDR1_DQ[10]	DDR0_DQ[26]
	AH68	DDR1_DQ[11]	DDR0_DQ[27]
	AF71	DDR1_DQ[12]	DDR0_DQ[28]
	AF69	DDR1_DQ[13]	DDR0_DQ[29]
	AH70	DDR1_DQ[14]	DDR0_DQ[30]
	AH69	DDR1_DQ[15]	DDR0_DQ[31]
Block 2	BB65	DDR0_DQ[16]	DDR0_DQ[32]
	AW65	DDR0_DQ[17]	DDR0_DQ[33]
	AW63	DDR0_DQ[18]	DDR0_DQ[34]
	AY63	DDR0_DQ[19]	DDR0_DQ[35]
	BA65	DDR0_DQ[20]	DDR0_DQ[36]
	AY65	DDR0_DQ[21]	DDR0_DQ[37]
	BA63	DDR0_DQ[22]	DDR0_DQ[38]
	BB63	DDR0_DQ[23]	DDR0_DQ[39]
	BA61	DDR0_DQ[24]	DDR0_DQ[40]
	AW61	DDR0_DQ[25]	DDR0_DQ[41]
	BB59	DDR0_DQ[26]	DDR0_DQ[42]
	AW59	DDR0_DQ[27]	DDR0_DQ[43]
	BB61	DDR0_DQ[28]	DDR0_DQ[44]
	AY61	DDR0_DQ[29]	DDR0_DQ[45]
	BA59	DDR0_DQ[30]	DDR0_DQ[46]
	AY59	DDR0_DQ[31]	DDR0_DQ[47]
Block 3	AT66	DDR1_DQ[16]	DDR0_DQ[48]
	AU66	DDR1_DQ[17]	DDR0_DQ[49]
	AP65	DDR1_DQ[18]	DDR0_DQ[50]
	AN65	DDR1_DQ[19]	DDR0_DQ[51]
	AN66	DDR1_DQ[20]	DDR0_DQ[52]
	AP66	DDR1_DQ[21]	DDR0_DQ[53]
	AT65	DDR1_DQ[22]	DDR0_DQ[54]
	AU65	DDR1_DQ[23]	DDR0_DQ[55]
	AT61	DDR1_DQ[24]	DDR0_DQ[56]
	AU61	DDR1_DQ[25]	DDR0_DQ[57]
	AP60	DDR1_DQ[26]	DDR0_DQ[58]
	AN60	DDR1_DQ[27]	DDR0_DQ[59]
	AN61	DDR1_DQ[28]	DDR0_DQ[60]
	AP61	DDR1_DQ[29]	DDR0_DQ[61]
	AT60	DDR1_DQ[30]	DDR0_DQ[62]
	AU60	DDR1_DQ[31]	DDR0_DQ[63]

LOGIC

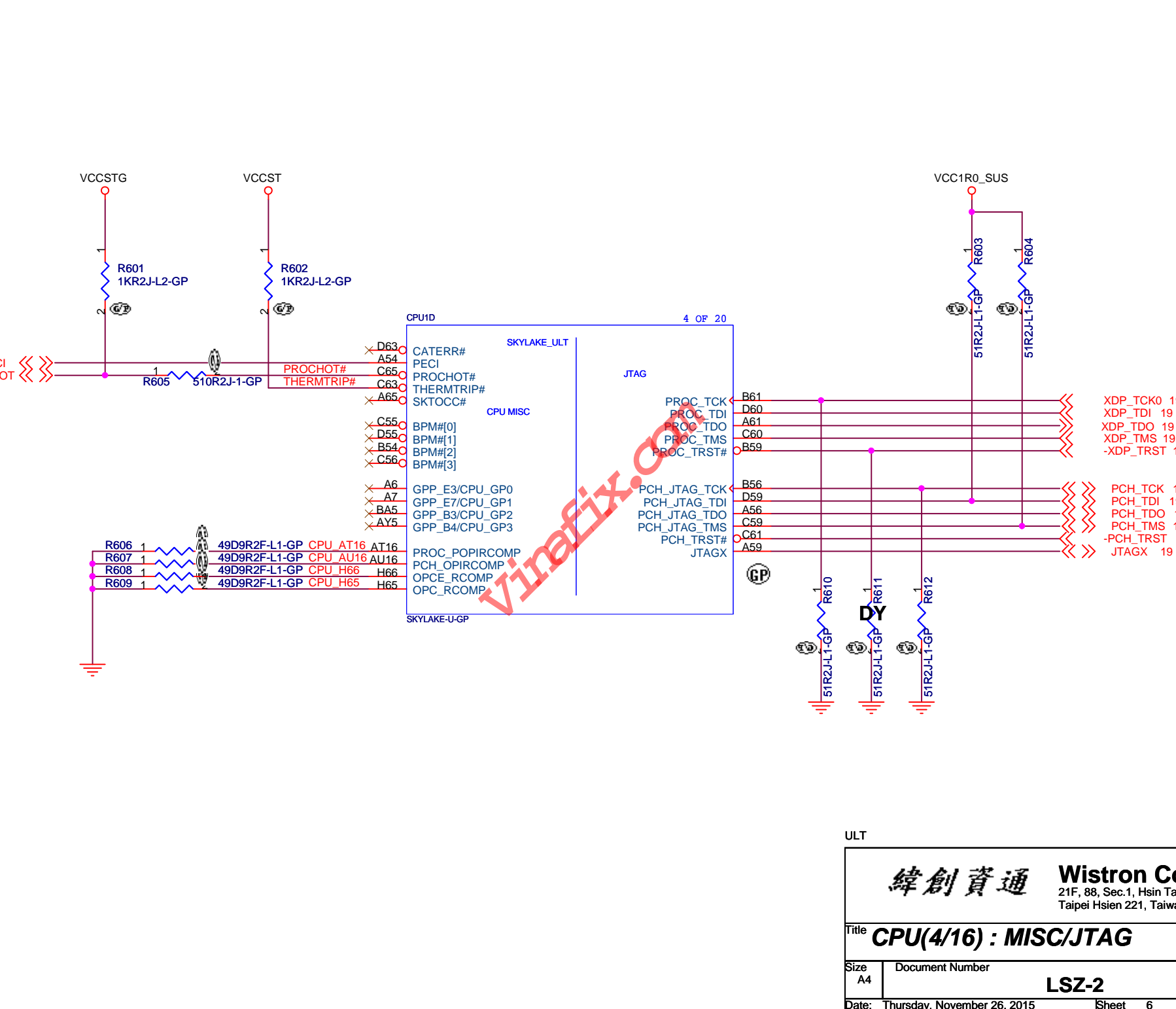


	PIN	Interleave	Non-Interleave
Block 0	AM70	DDR0_DQSN[0]	DDR0_DQSN[0]
	AM69	DDR0_DQSP[0]	DDR0_DQSP[0]
	AT69	DDR0_DQSN[1]	DDR0_DQSN[1]
	AT70	DDR0_DQSP[1]	DDR0_DQSP[1]
Block 1	AH66	DDR1_DQSN[0]	DDR0_DQSN[2]
	AH65	DDR1_DQSP[0]	DDR0_DQSP[2]
	AG69	DDR1_DQSN[1]	DDR0_DQSN[3]
	AG70	DDR1_DQSP[1]	DDR0_DQSP[3]
Block 2	BA64	DDR0_DQSN[2]	DDR0_DQSN[4]
	AY64	DDR0_DQSP[2]	DDR0_DQSP[4]
	AY60	DDR0_DQSN[3]	DDR0_DQSN[5]
	BA60	DDR0_DQSP[3]	DDR0_DQSP[5]
Block 3	AR66	DDR1_DQSN[2]	DDR0_DQSN[6]
	AR65	DDR1_DQSP[2]	DDR0_DQSP[6]
	AR61	DDR1_DQSN[3]	DDR0_DQSN[7]
	AR60	DDR1_DQSP[3]	DDR0_DQSP[7]

LOGIC

PIN	DDR3L	LPDDR3	DDR4
BA51	DDR0_MA[5]	DDR0_CAA[0]	DDR0_MA[5]
BB54	DDR0_MA[9]	DDR0_CAA[1]	DDR0_MA[9]
BA52	DDR0_MA[6]	DDR0_CAA[2]	DDR0_MA[6]
AY52	DDR0_MA[8]	DDR0_CAA[3]	DDR0_MA[8]
AW52	DDR0_MA[7]	DDR0_CAA[4]	DDR0_MA[7]
AY55	DDR0_BA[2]	DDR0_CAA[5]	DDR0_BG[0]
AW54	DDR0_MA[12]	DDR0_CAA[6]	DDR0_MA[12]
BA54	DDR0_MA[11]	DDR0_CAA[7]	DDR0_MA[11]
BA55	DDR0_MA[15]	DDR0_CAA[8]	DDR0_ACT#
AY54	DDR0_MA[14]	DDR0_CAA[9]	DDR0_BG[1]
AU46	DDR0_MA[13]	DDR0_CAB[0]	DDR0_MA[13]
AU48	DDR0_CAS#	DDR0_CAB[1]	DDR0_MA[15]
AT46	DDR0_WE#	DDR0_CAB[2]	DDR0_MA[14]
AU50	DDR0_RAS#	DDR0_CAB[3]	DDR0_MA[16]
AU52	DDR0_BA[0]	DDR0_CAB[4]	DDR0_BA[0]
AY51	DDR0_MA[2]	DDR0_CAB[5]	DDR0_MA[2]
AT48	DDR0_BA[1]	DDR0_CAB[6]	DDR0_BA[1]
AT50	DDR0_MA[10]	DDR0_CAB[7]	DDR0_MA[10]
BB50	DDR0_MA[1]	DDR0_CAB[8]	DDR0_MA[1]
AY50	DDR0_MA[0]	DDR0_CAB[9]	DDR0_MA[0]
BA50	DDR0_MA[3]	Not Used	DDR0_MA[3]
BB52	DDR0_MA[4]	Not Used	DDR0_MA[4]

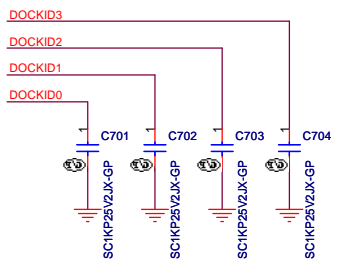
LOGIC



GPP_C5/SMLOALERT# (LPC or eSPI)	
HIGH	eSPI is selected
LOW	LPC is selected (Default)



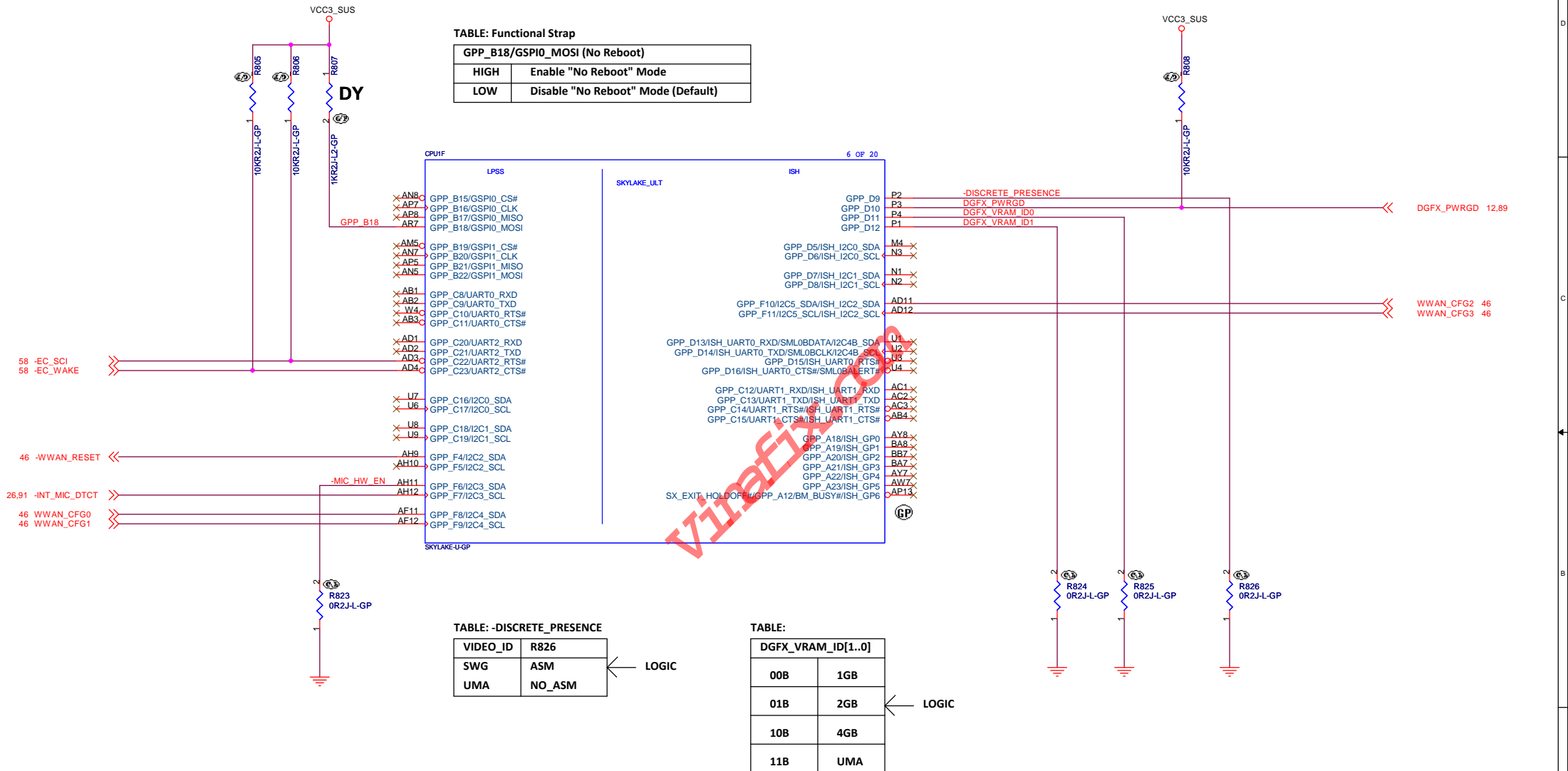
GPP_C2/SMBALERT# (TLS Confidentiality)	
HIGH	Enable ME Crypto TLS with Confidentiality
LOW	Disable ME Crypto TLS (Default)



GPP_B22/GSPI1_MOSI (Boot BIOS Destination)	
HIGH	Boot BIOS from LPC
LOW	Boot BIOS from SPI (Default)

 LOGIC

GPP_B18/GSPI0_MOSI (No Reboot)	
HIGH	Enable "No Reboot" Mode
LOW	Disable "No Reboot" Mode (Default)



VIDEO_ID	R826
SWG	ASM
UMA	NO_ASM

← LOGIC

DGFV_VRAM_ID[1..0]	
00B	1GB
01B	2GB
10B	4GB
11B	UMA

← LOGIC

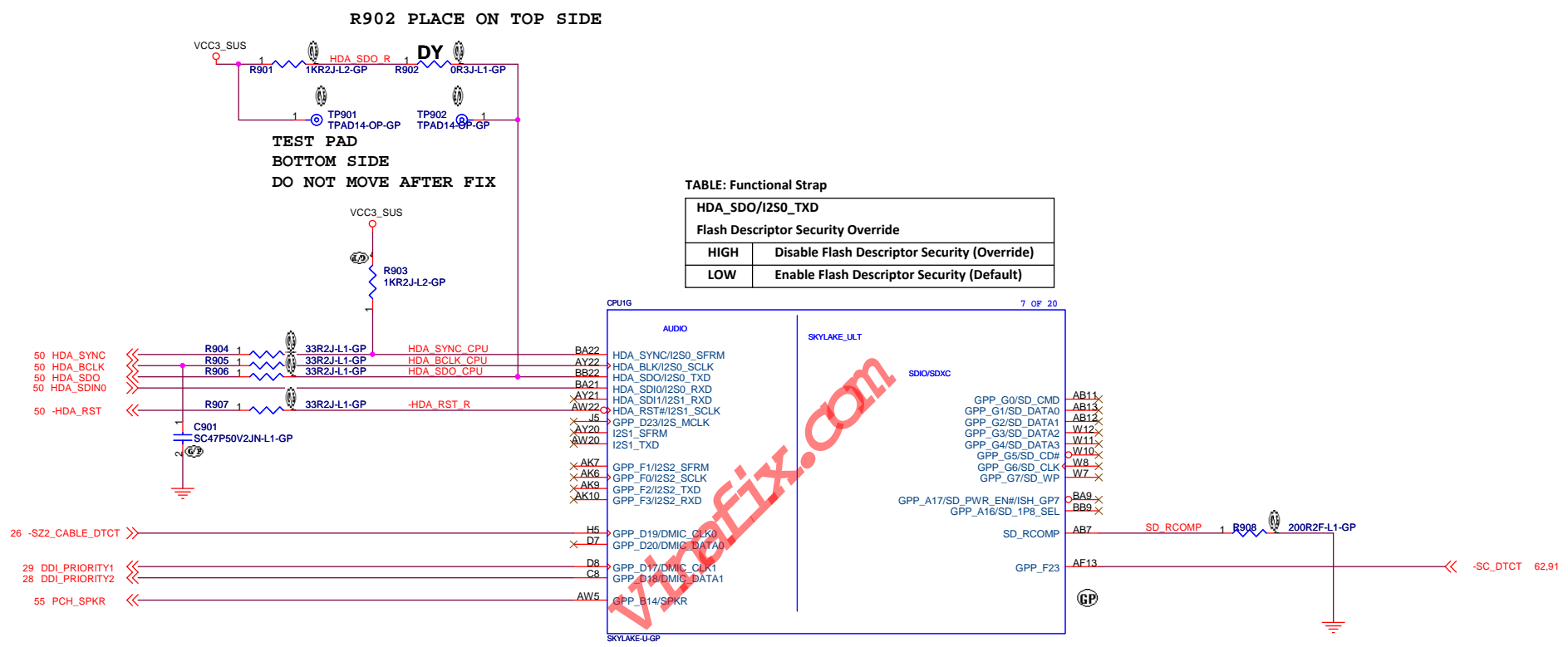


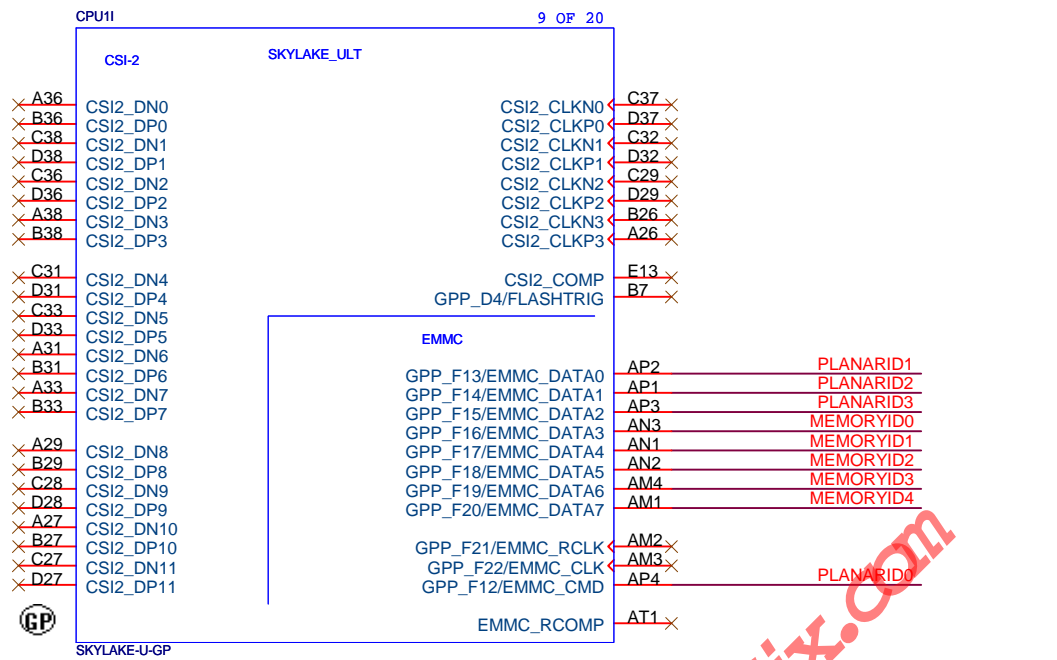
TABLE:

-SZ2_CABLE_DTCT	
HIGH	Non-SZ2 cable, show error message when power on
LOW	SZ2 cable

TABLE:

TP_EN	
HIGH	Enable Touch Panel
LOW	Disable Touch Panel

ULT

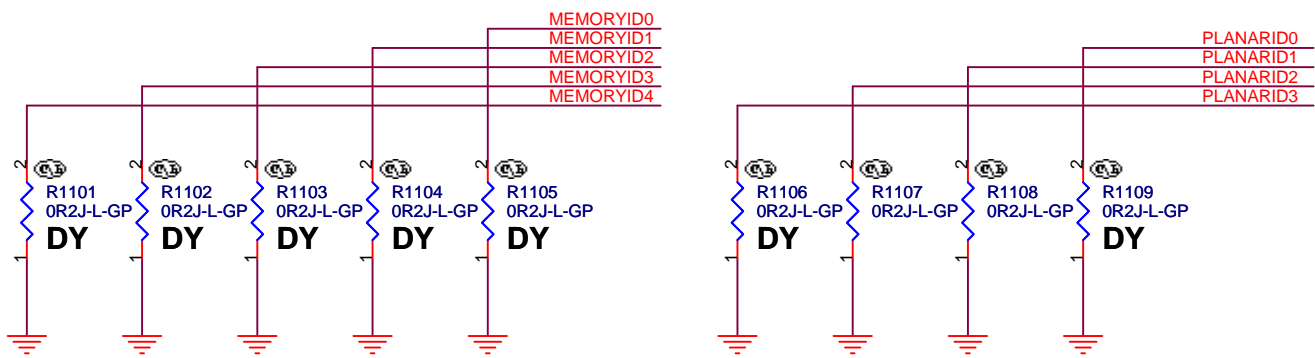


TABLE

LEVEL	PLANAR ID			
	3	2	1	0
	R1106	R1107	R1108	R1109
1	NA	NA	NA	NA
0	ASM	ASM	ASM	ASM

TABLE

LEVEL	PLANARID[3..0]		
	UMA	GeForce (N16S-GT/N16S-GTR)	Quadro(N15M-Q3)
SDV	0000B	0001B	0010B
FVT	0011B	0100B	0101B
SIT	0110B	0111B	1000B
SVT	1001B	1010B	1011B
MP	1100B	1101B	1110B



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Wistron Corporation

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Title

CPU(9/16) : CSI-2/EMMC

Size

A4

Document Number

LSZ-2

Rev

1

Date

Thursday, November 26, 2015

Sheet

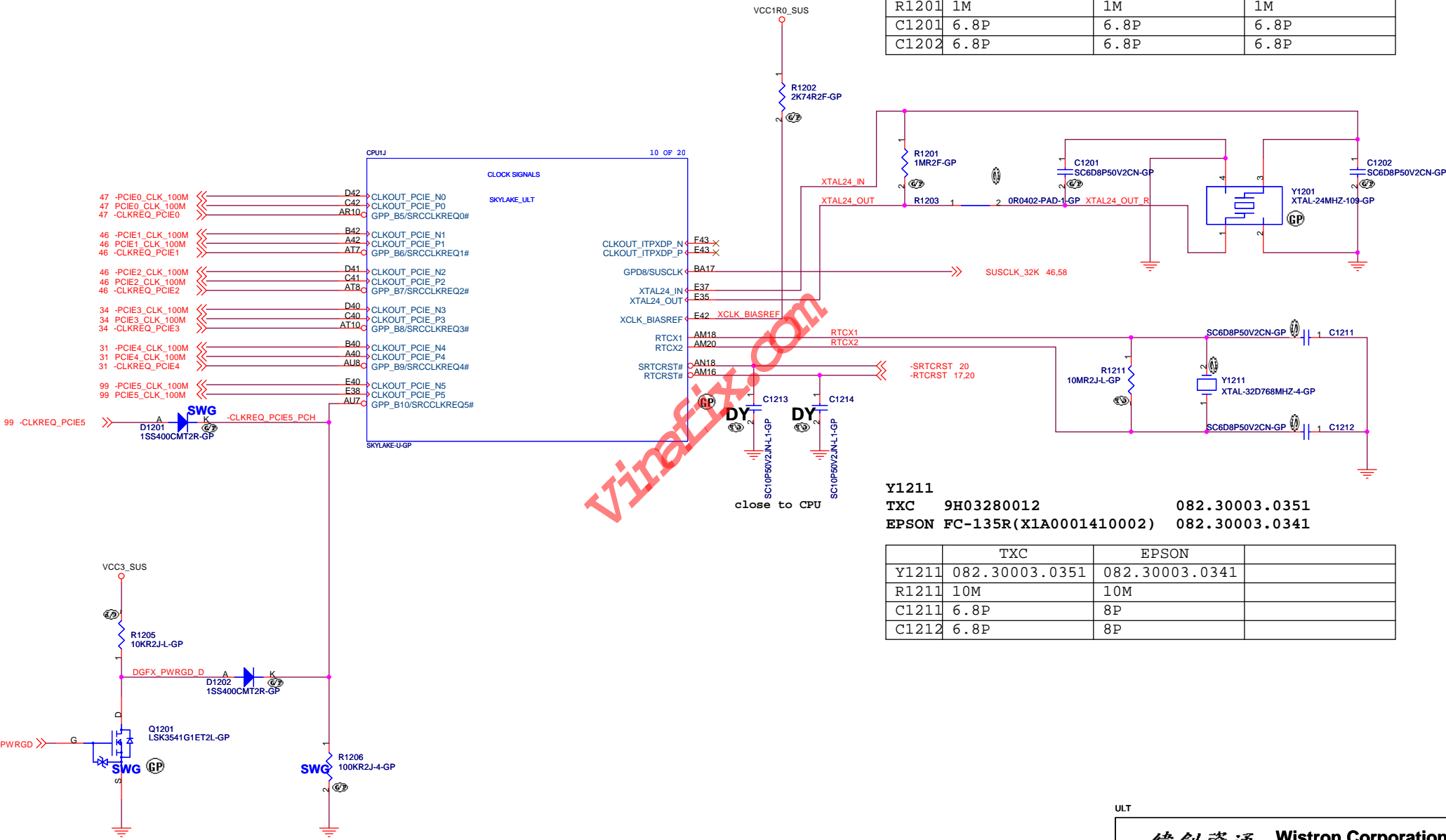
11

of

109

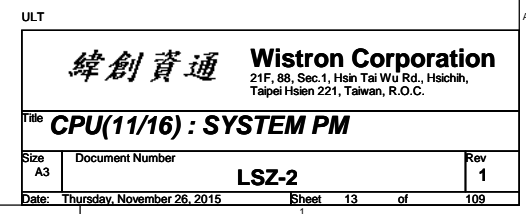
Y1201		
KDS	1ZZCAA24000CC0B	82.30023.991
TXC	8Y24080002	82.30023.981
Epson	Q22FA1280027100	82.30023.961

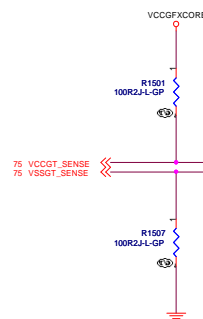
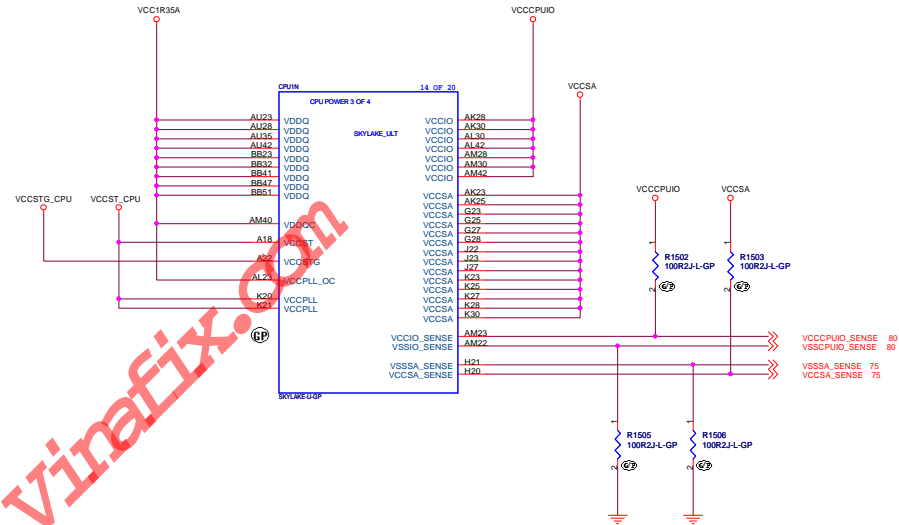
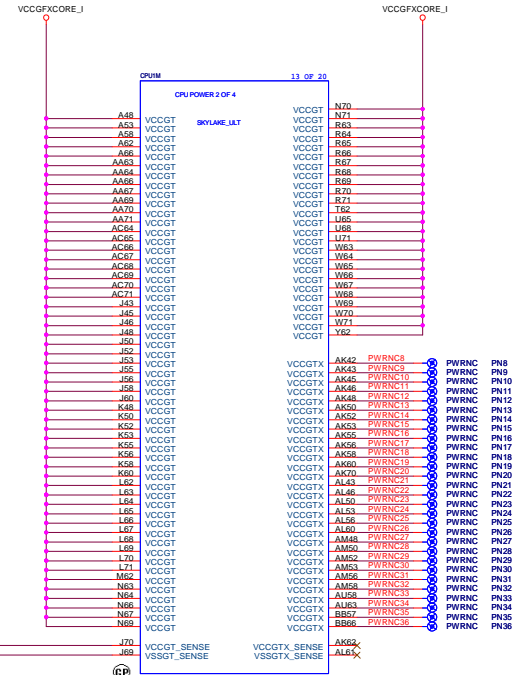
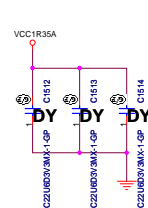
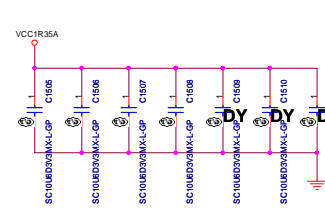
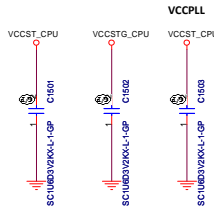
	KDS	TXC	EPSON
Y1201	82.30023.991	82.30023.981	82.30023.961
R1201	1M	1M	1M
C1201	6.8P	6.8P	6.8P
C1202	6.8P	6.8P	6.8P

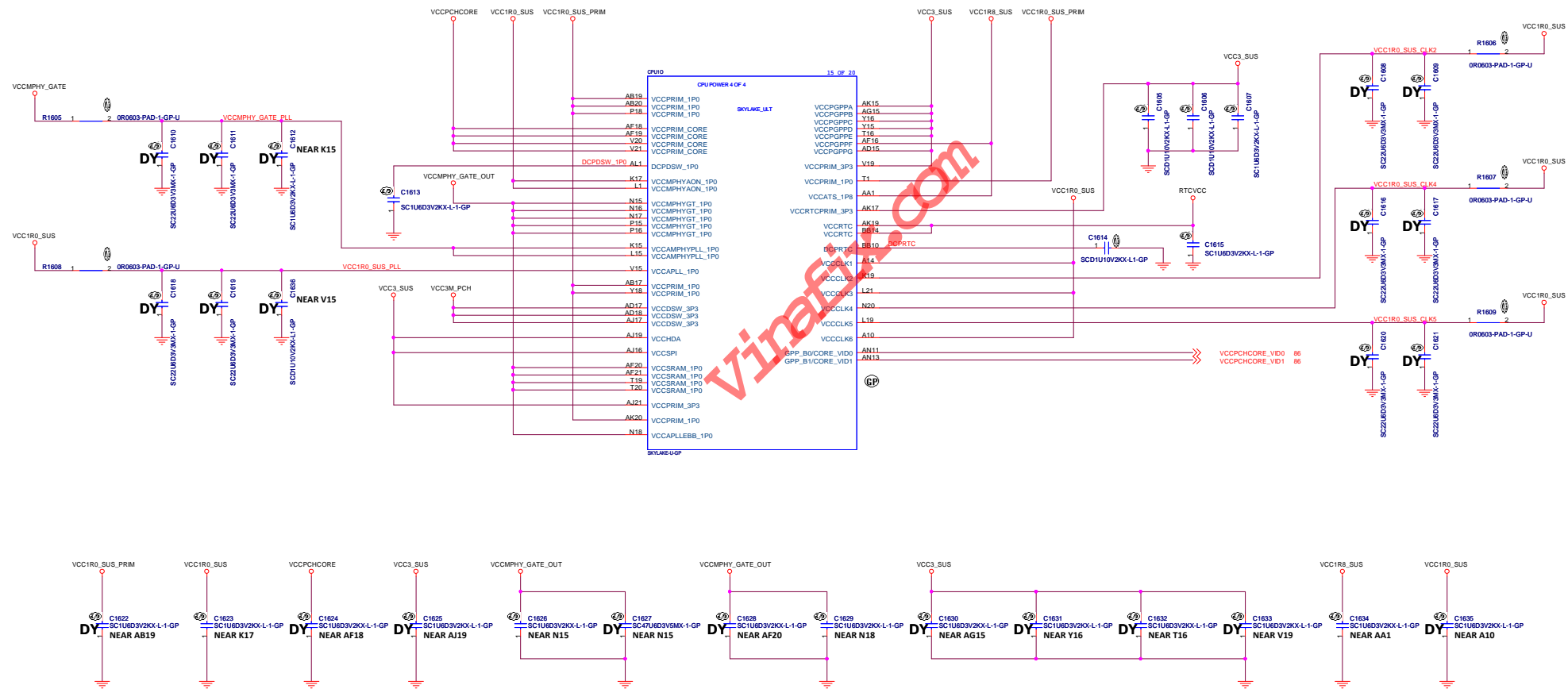
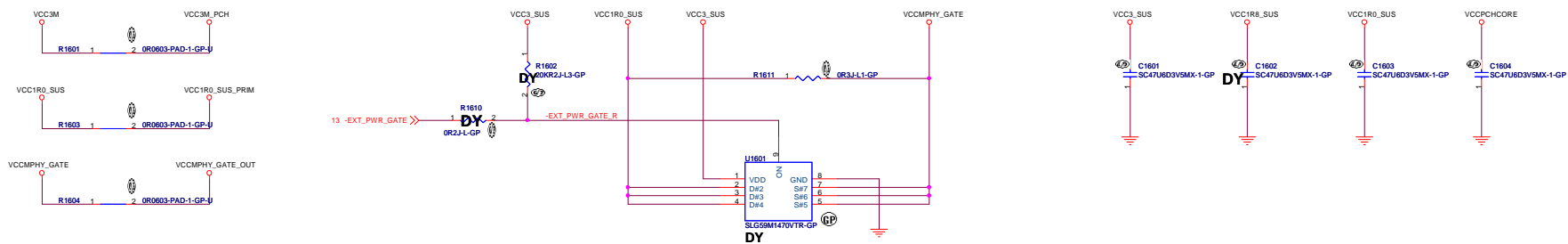


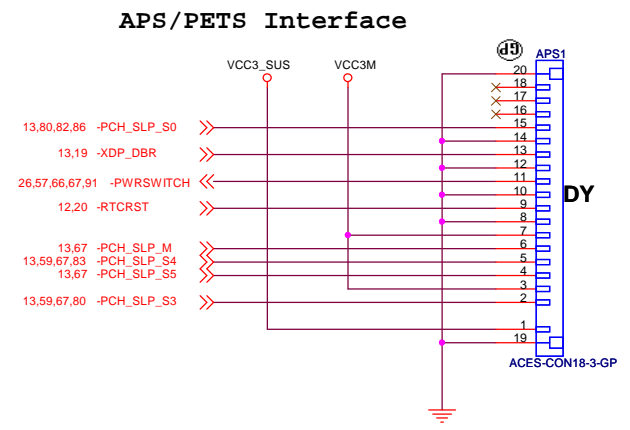
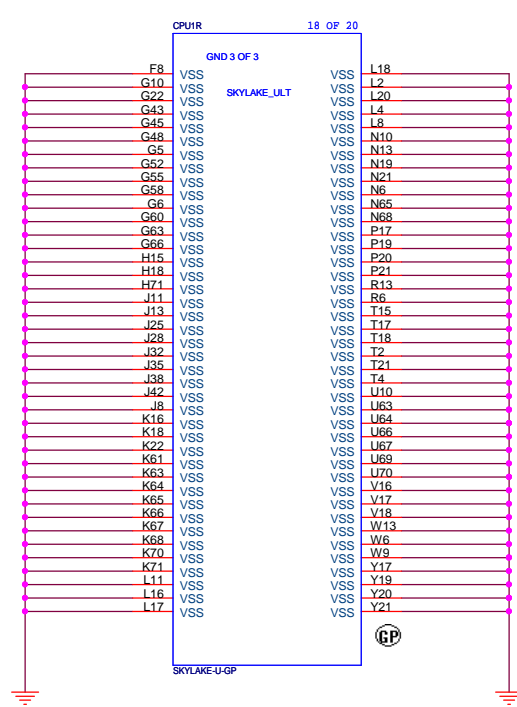
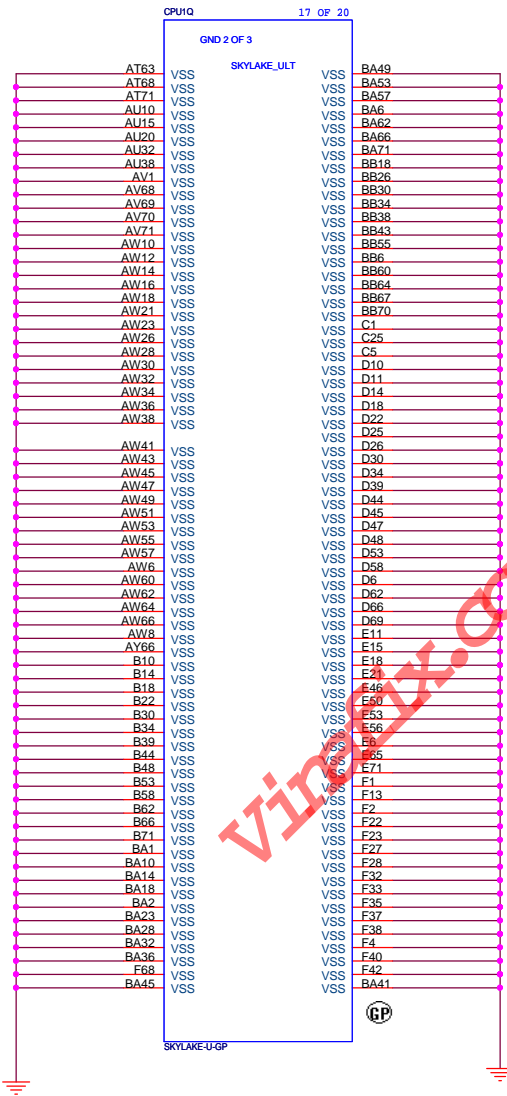
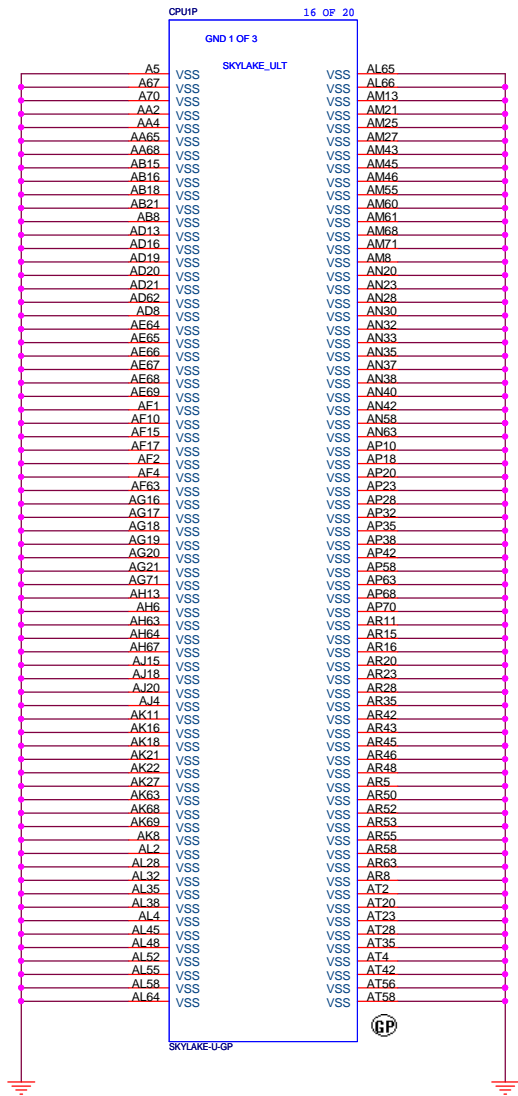
Y1211		
TXC	9H03280012	082.30003.0351
EPSON	FC-135R(X1A0001410002)	082.30003.0341

	TXC	EPSON	
Y1211	082.30003.0351	082.30003.0341	
R1211	10M	10M	
C1211	6.8P	8P	
C1212	6.8P	8P	









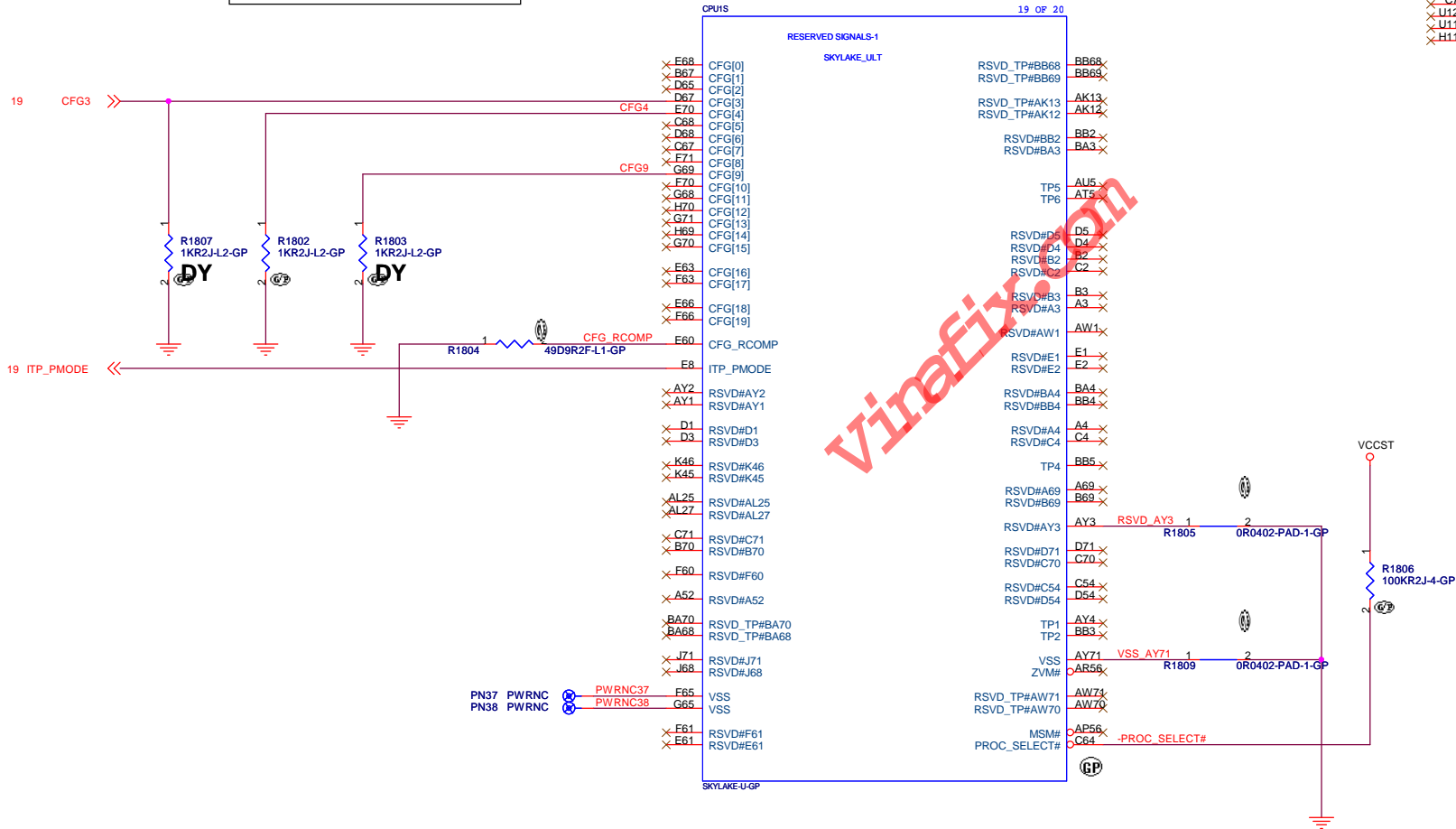
TABLE

CFG0 : Stall Reset Sequence
after PCU PLL Lock until de-asserted
1 : No Stall
0 : Stall

CFG3 : MSR Privacy Bit Feature
1 : MSR (C80h) bit[0] setting
0 : MSR (C80h) bit[0] overridden

CFG4 : eDP Enable
1 : Disabled
0 : Enabled

CFG9 : SVID Bus Communication
1 : Enabled
0 : Disabled

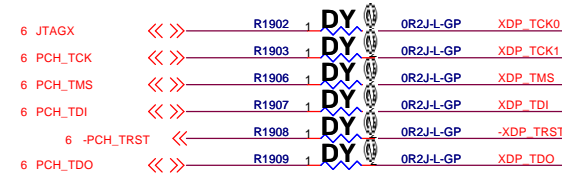
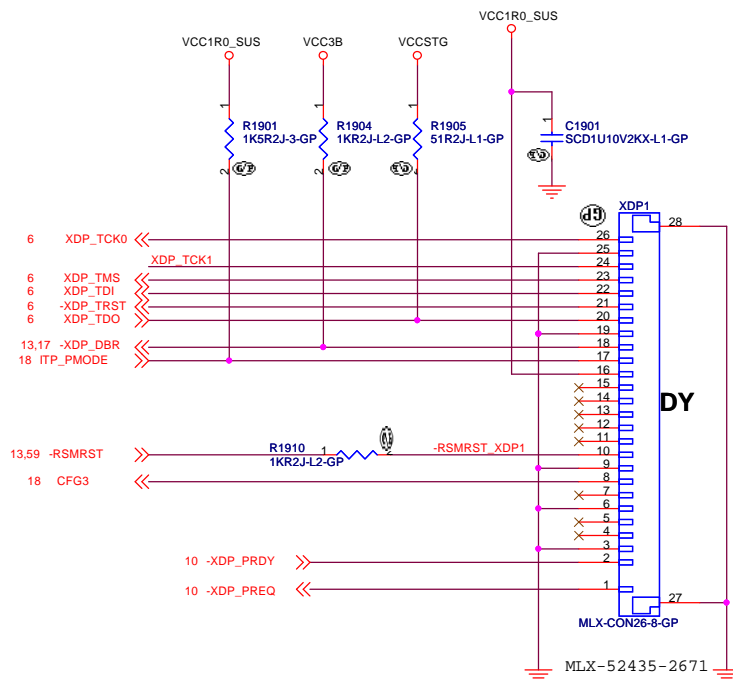


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Title CPU(16/16) : CFG/RESERVED

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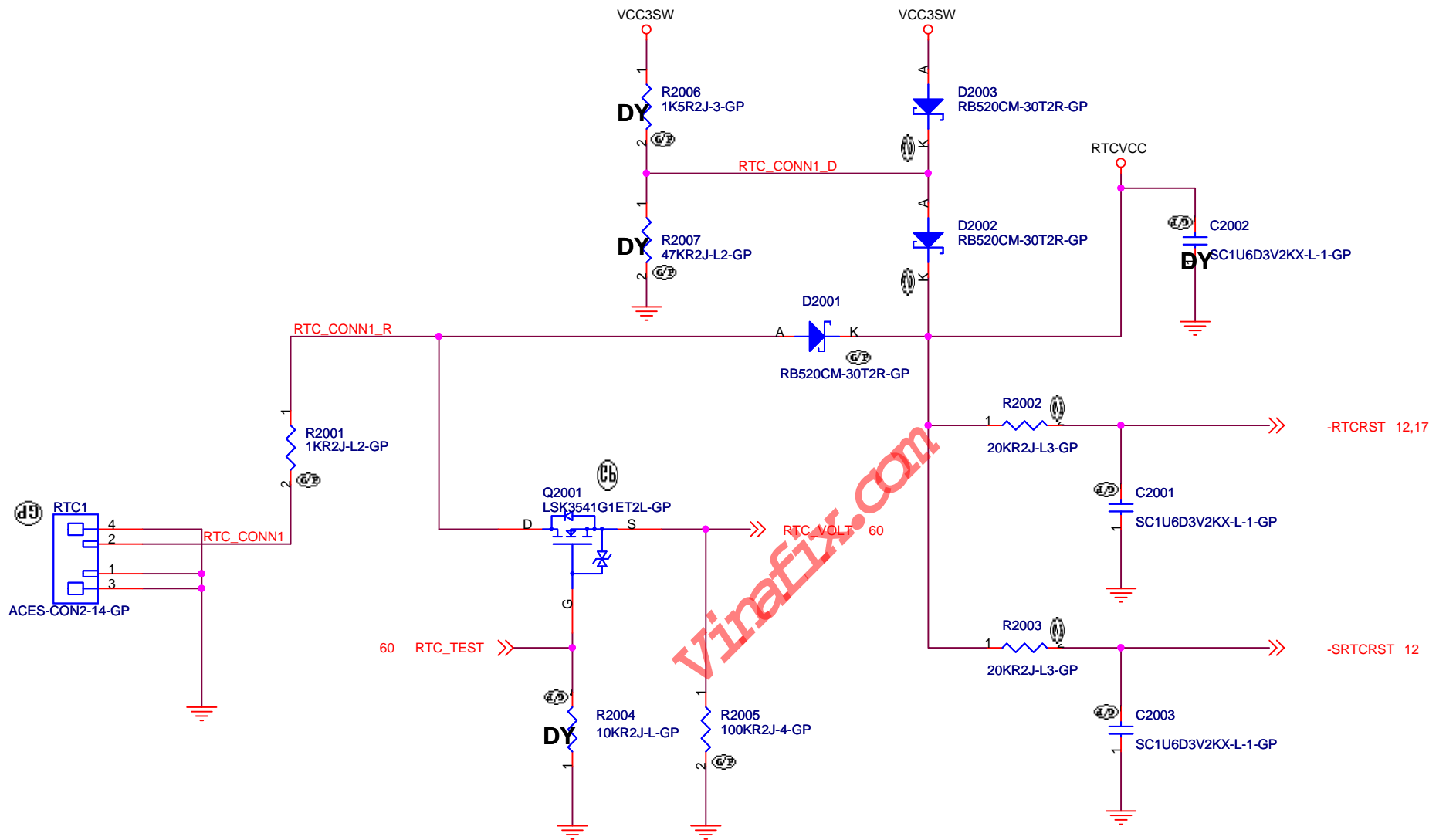


TABLE

Logic	Ref Des	Disabled	CPU XDP	ME XDP	Merged	DCI 2.0
Page 6	R610	ASM	ASM	ASM	ASM	ASM
	R611	ASM	ASM	ASM	NO_ASM	NO_ASM
	R612	NO_ASM	Don't Care	ASM	NO_ASM	NO_ASM
	R603	NO_ASM	Don't Care	ASM	NO_ASM	NO_ASM
Page 7	R712	NO_ASM	Don't Care	ASM	ASM	NO_ASM
Page 18	R1807	NO_ASM	ASM	Don't Care	ASM	NO_ASM
Page 19	XDP1	NO_ASM	ASM	Don't Care	ASM	NO_ASM
	C1901	NO_ASM	ASM	Don't Care	ASM	NO_ASM
	R1905	NO_ASM	ASM	Don't Care	ASM	ASM
	R1904	ASM	ASM	ASM	ASM	ASM
	R1901	NO_ASM	ASM	Don't Care	ASM	NO_ASM
	R1910	NO_ASM	ASM	Don't Care	ASM	NO_ASM
	XDP2	NO_ASM	Don't Care	ASM	NO_ASM	NO_ASM
	C1902	NO_ASM	Don't Care	ASM	NO_ASM	NO_ASM
	R1912	NO_ASM	Don't Care	NO_ASM	NO_ASM	NO_ASM
	R1911	NO_ASM	Don't Care	ASM	NO_ASM	NO_ASM
	R1913	NO_ASM	Don't Care	ASM	NO_ASM	NO_ASM
	R1914	NO_ASM	Don't Care	ASM	NO_ASM	NO_ASM
Page 21	R1902	NO_ASM	NO_ASM	NO_ASM	ASM	ASM
	R1903	NO_ASM	NO_ASM	NO_ASM	ASM	NO_ASM
	R1906	NO_ASM	NO_ASM	NO_ASM	ASM	ASM
	R1907	NO_ASM	NO_ASM	NO_ASM	ASM	ASM
	R1908	NO_ASM	NO_ASM	NO_ASM	ASM	ASM
	R1909	NO_ASM	NO_ASM	NO_ASM	ASM	ASM
	R2103	ASM	Don't Care	NO_ASM	NO_ASM	ASM

LOGIC

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for test point, page 91

RTC_CONN1 >> RTC_CONN1 91

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

Title **RTC BATTERY**

Size
A4

Document Number

LSZ-2

Rev
1

Date: Thursday, November 26, 2015

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TABLE

Skylake	R2111	R2110	R2102	R711
PreES / ES	ASM	ASM	DY	ASM
After QS	DY	DY	ASM	DY

← LOGIC

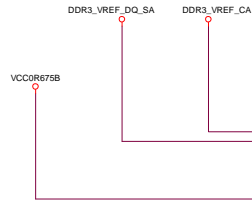
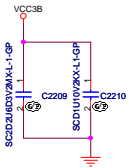
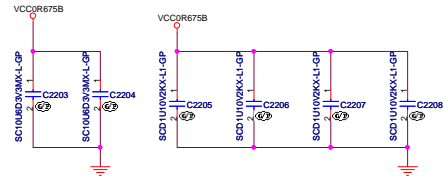
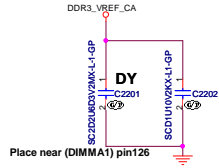
16MB SOIC8
WINBOND W25Q128FVSIQ 72.25128.0E1
MACRONIX MX25L12873FM2I-10G 72.12873.001
EON EN25QH128A-104HIP 72.25128.0N1

TABLE

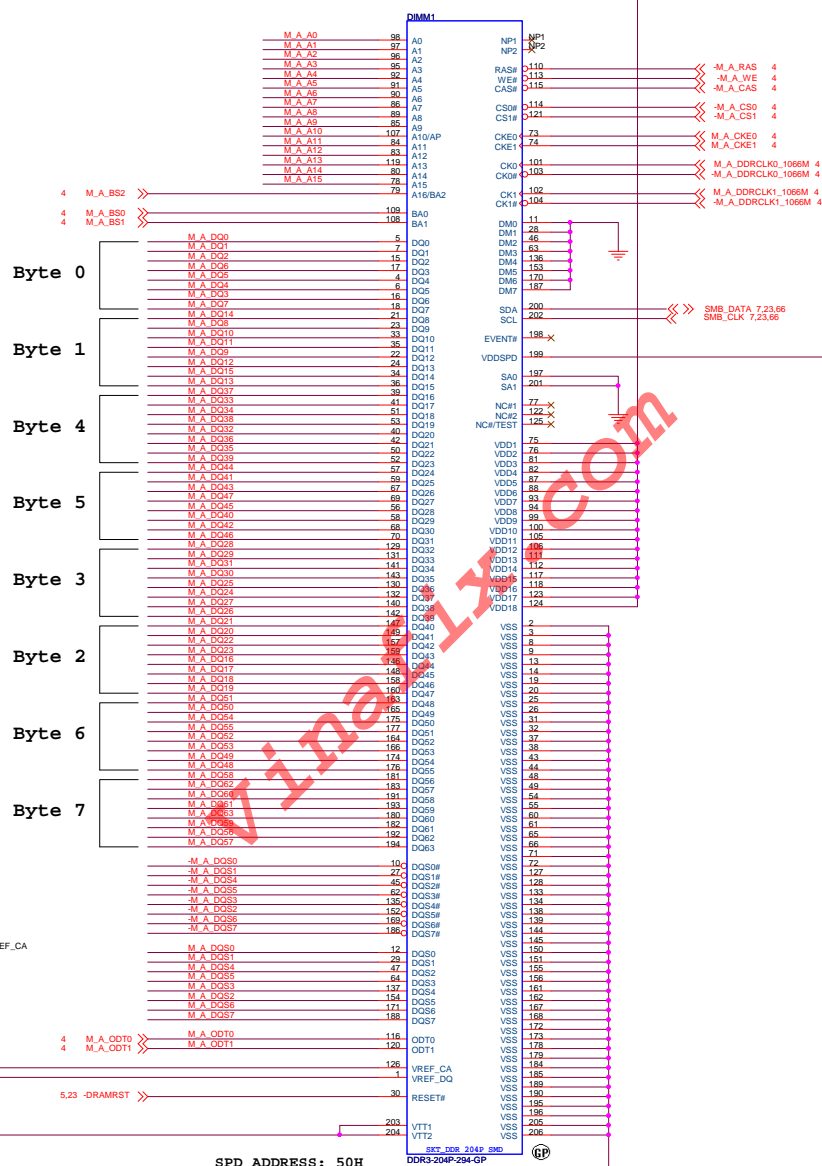
SF100 PIN HEADER INTERFACE (TOP VIEW)							
1	VCC	D2101.K	GND	GND	2		
3	CS#	R2104.2	R2106.2	CLK	4		
5	MISO	R2109.2	R2108.2	MOSI	6		
7	(KEY)	N/A	N/A	(RESET)	8		

ULT

4 M_A.DQ[63:0] << >>
4 -M_A.DQS[7:0] << >>
4 M_A.DQS[7:0] << >>
4 M_A.A[15:0] << >>

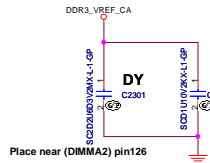


PLACE 1UF NEAR VCC1R35A PIN.

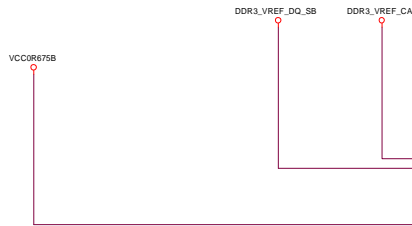
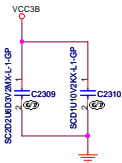
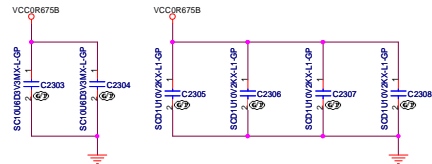


PLACE 1UF NEAR VCC1R35A PIN.

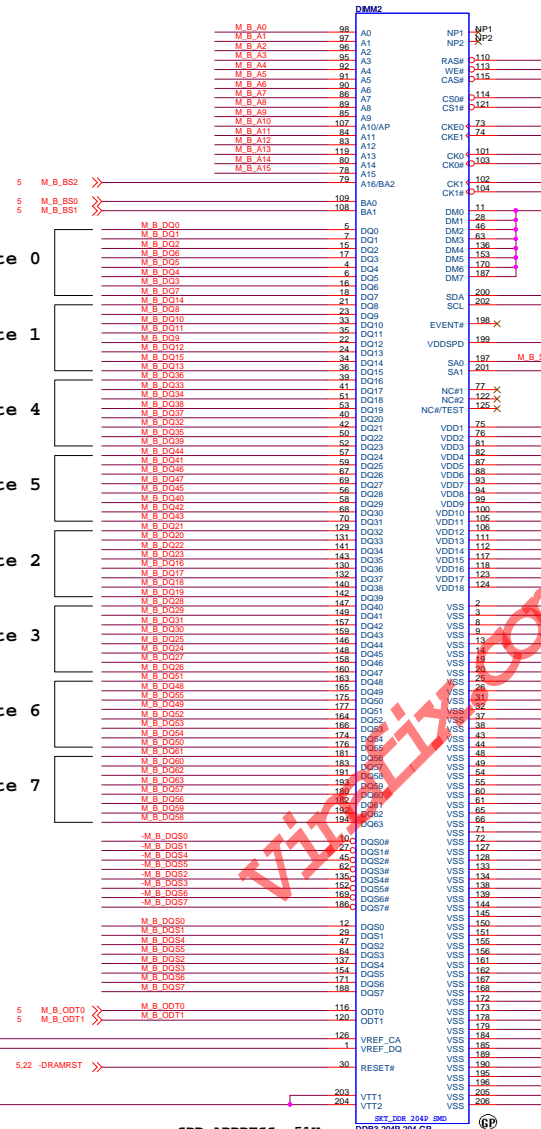
5 M_B_DQ[63:0] << >>
5 -M_B_DQS[7:0] << >>
5 M_B_DQS[7:0] << >>
5 M_B_A[15:0] << >>



Place near (DIMMA2) pin126

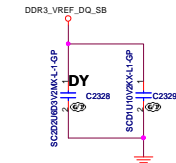
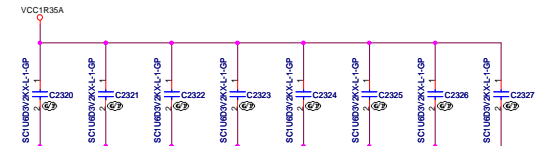
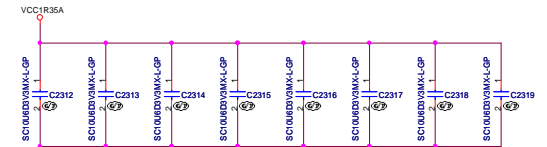


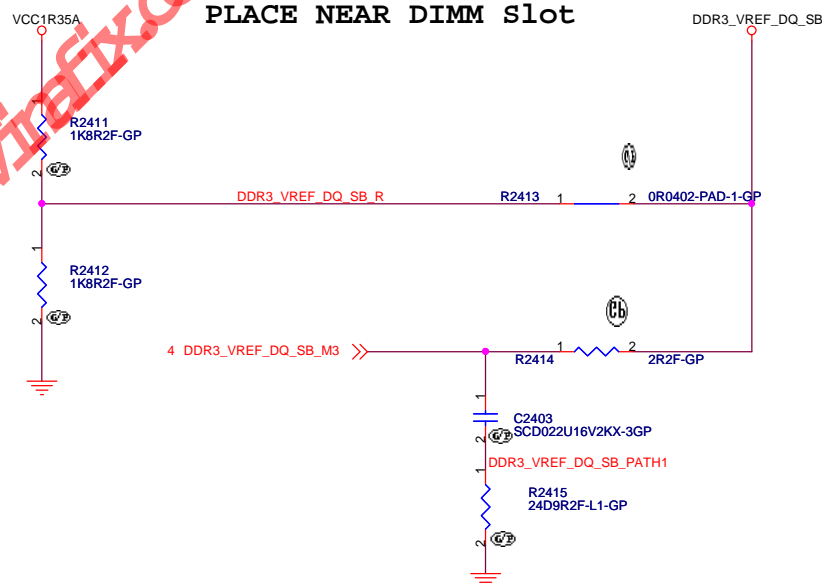
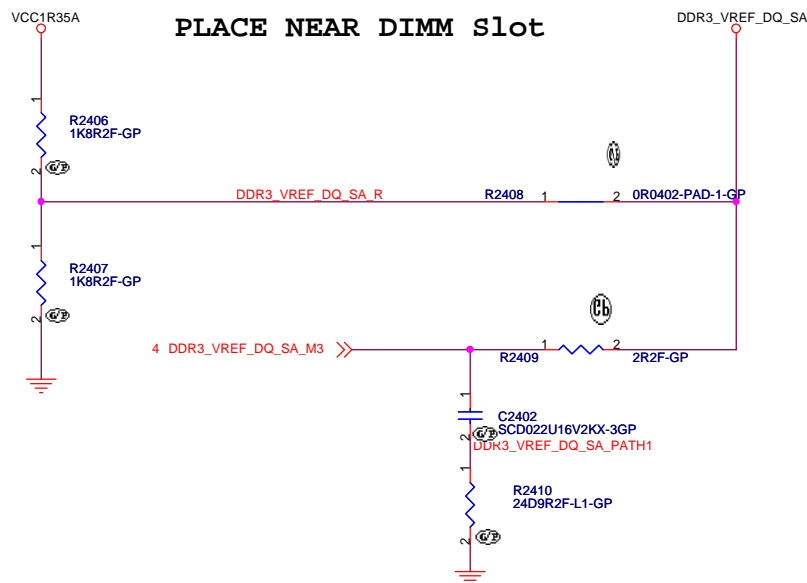
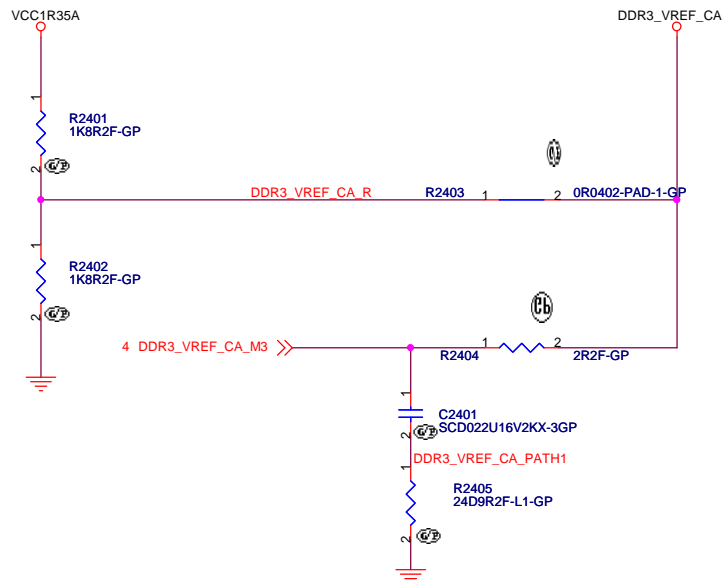
Byte 0
Byte 1
Byte 4
Byte 5
Byte 2
Byte 3
Byte 6
Byte 7



SPD ADDRESS: 51H

DDR3-204P-294-GP





ULT

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

Title **LPDDR3/DDR3L REFERENCE**

Size Document Number **LSZ-2** Rev **1**

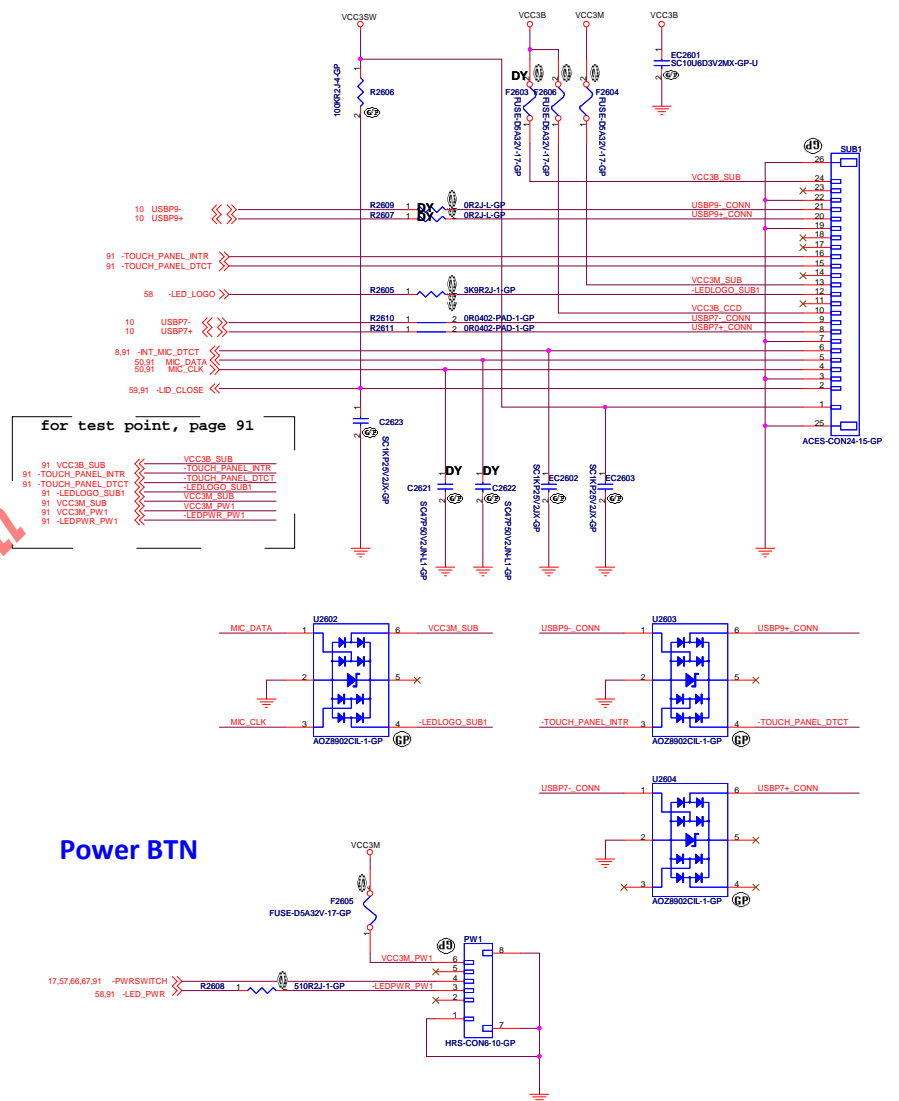
Date: Thursday, November 26, 2015 Sheet 24 of 109

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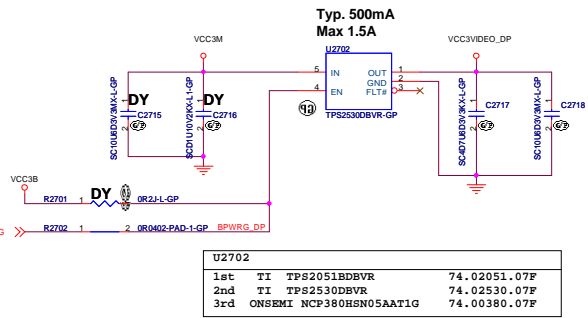
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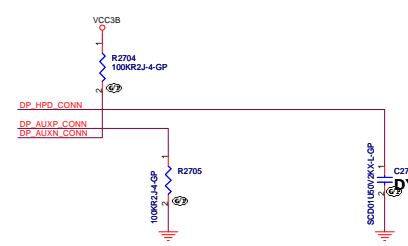
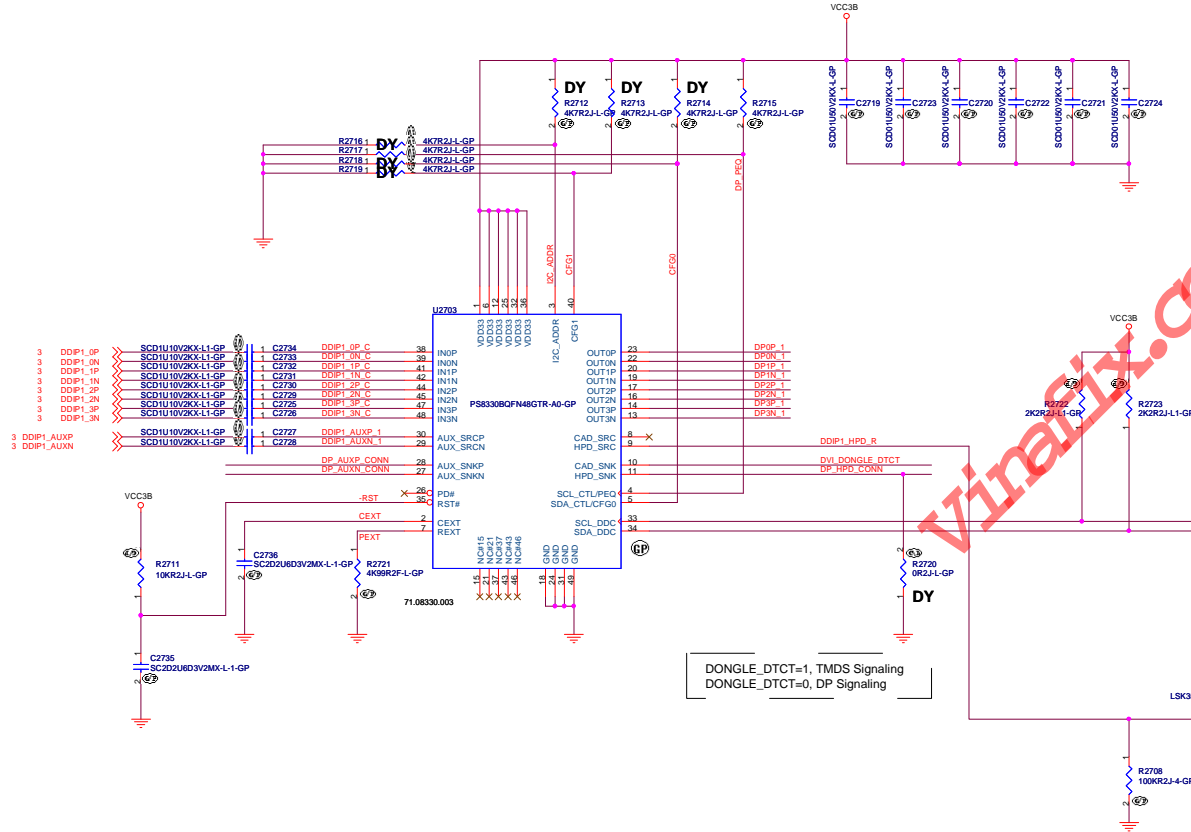
<div>緯創資通</div> <div>Wistron Corporation</div> <div>21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</div>	
Title <div>LPDDR3/DDR3L MD CH-A, Slot 1</div>	
Size <div>A</div>	<div>Document Number</div> <div>LSZ-2</div>
Rev <div>1</div>	
Date: Thursday, November 26, 2015	Sheet 25 of 109



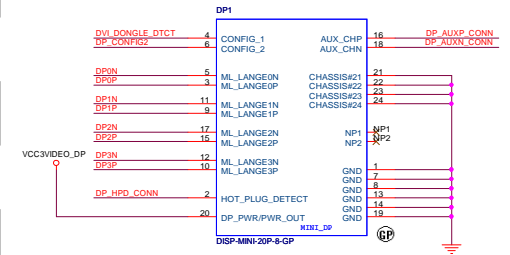
TP_EN	
HIGH	Enable Touch Panel
LOW	Disable Touch Panel



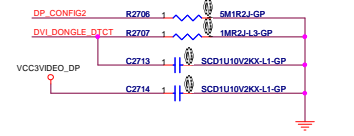
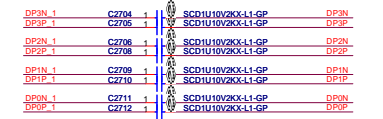
Display Port Reapter(DPR)



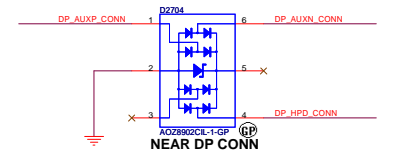
DP CONN



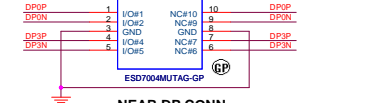
FOR SYSTEM DP NEAR DP CONN



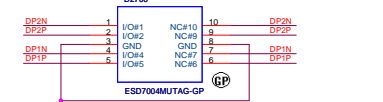
ESD DIODE



NEAR DP CONN



NEAR DP CONN

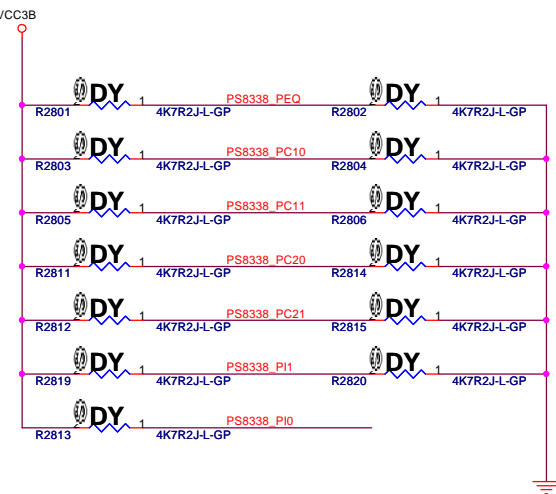


NEAR DP CONN

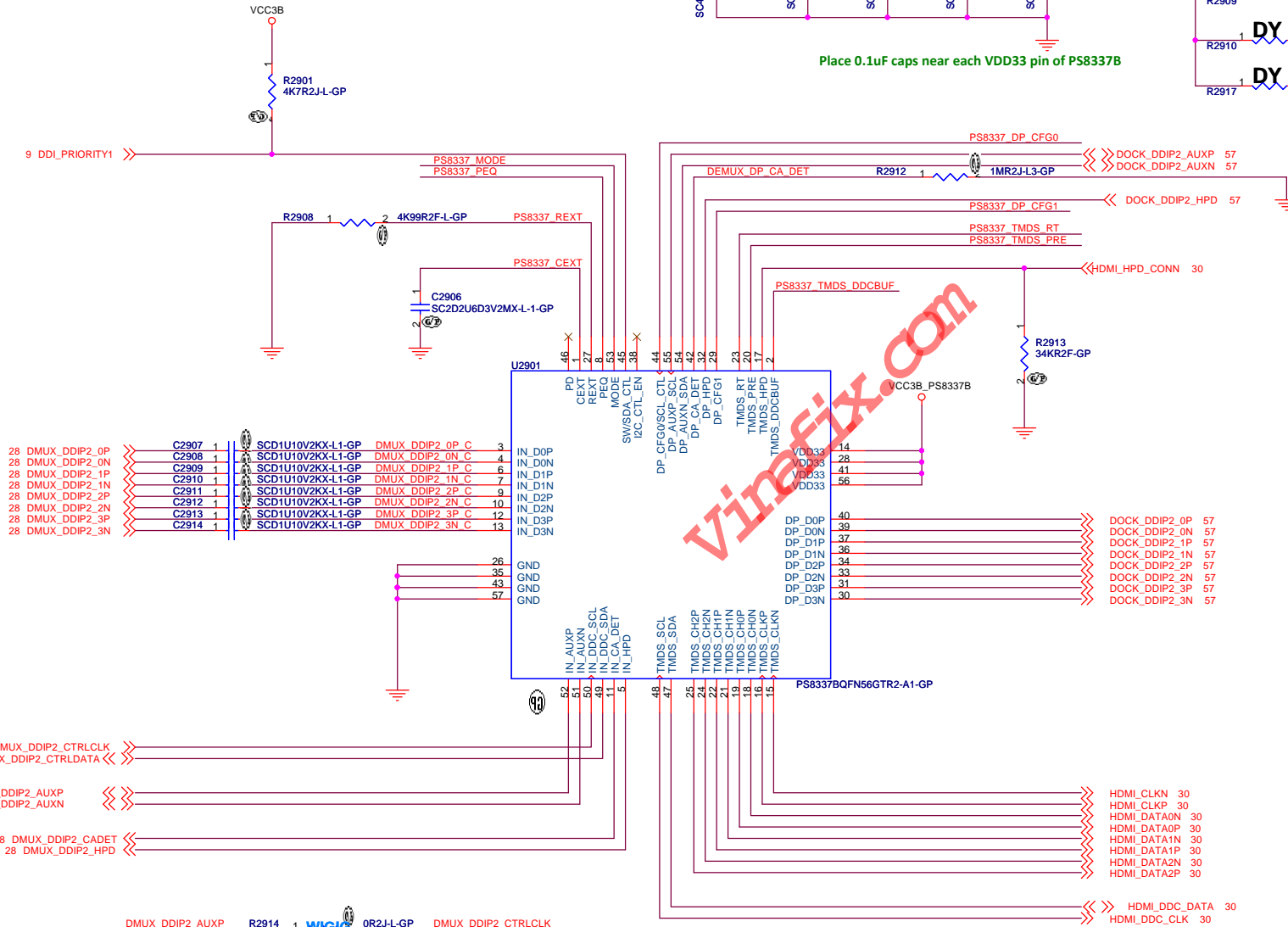
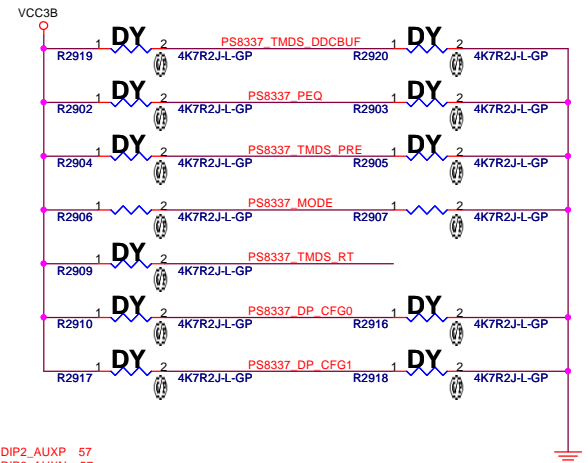
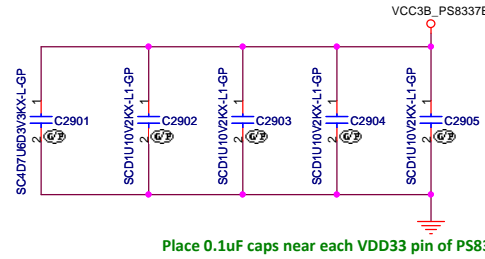


SW (DDI_PRIORITY2)

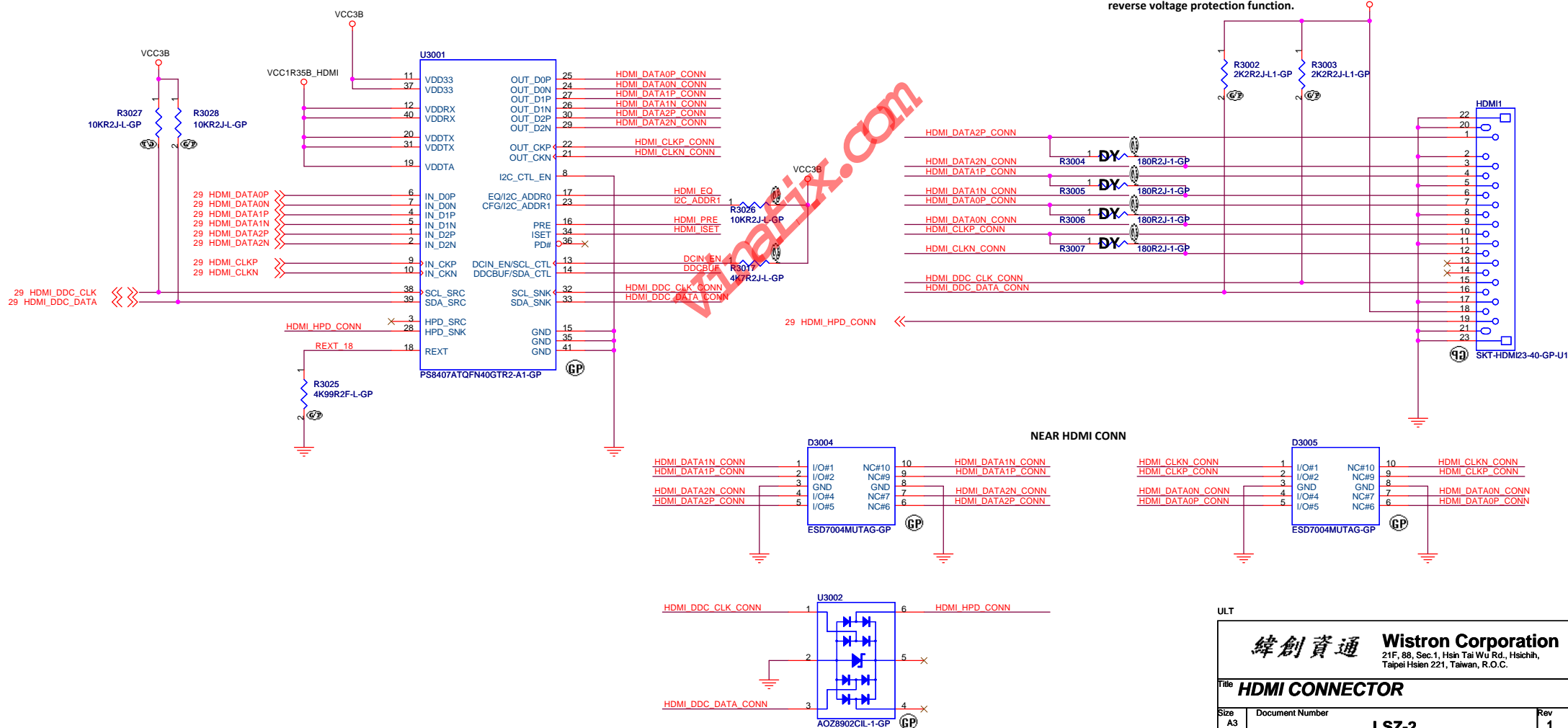
TPAD14-OP-GP TP2801



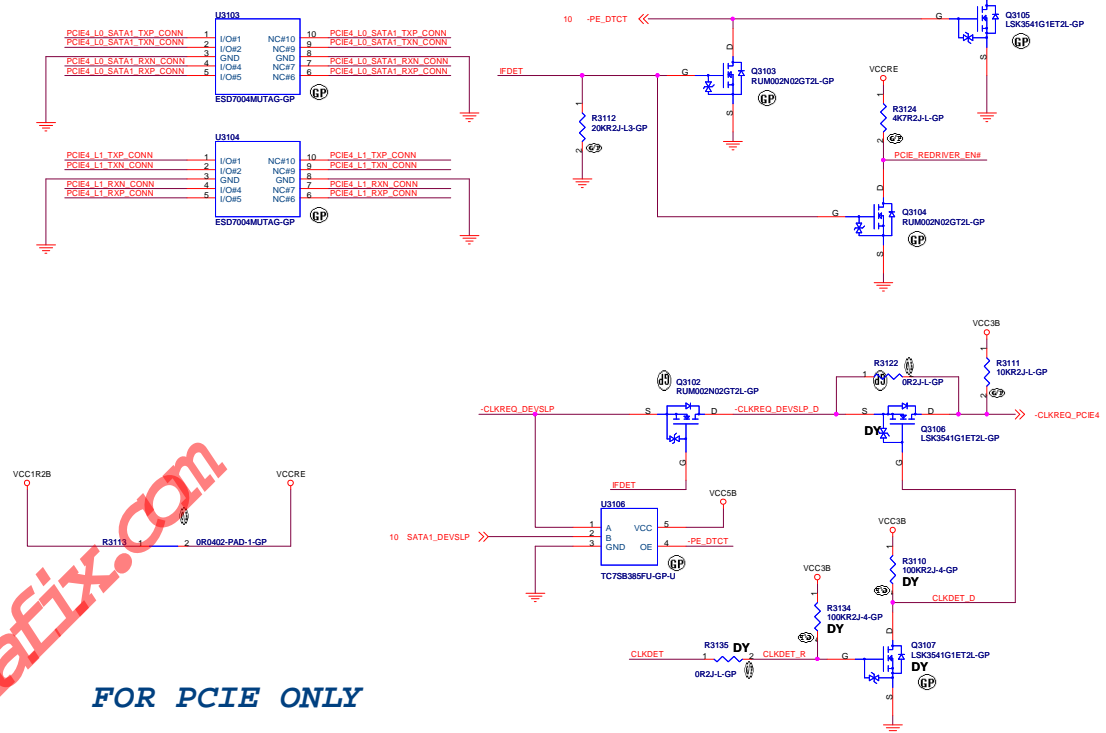
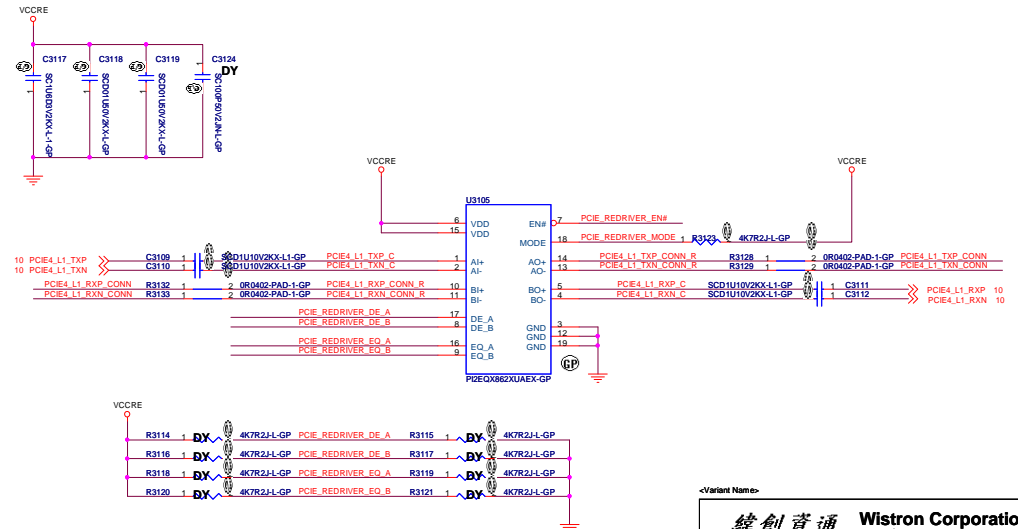
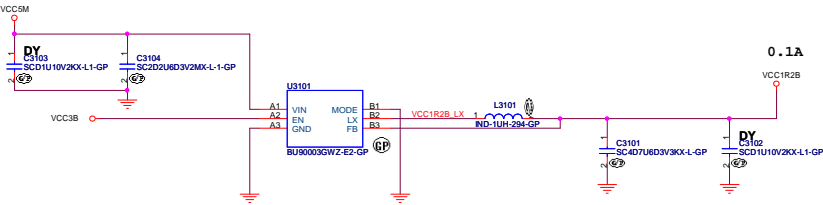
SW (DDI_PRIORITY1)
<p>L DP Port has higher priority when both ports are plugged</p> <p>H TMDS Port has higher priority when both ports are plugged</p>



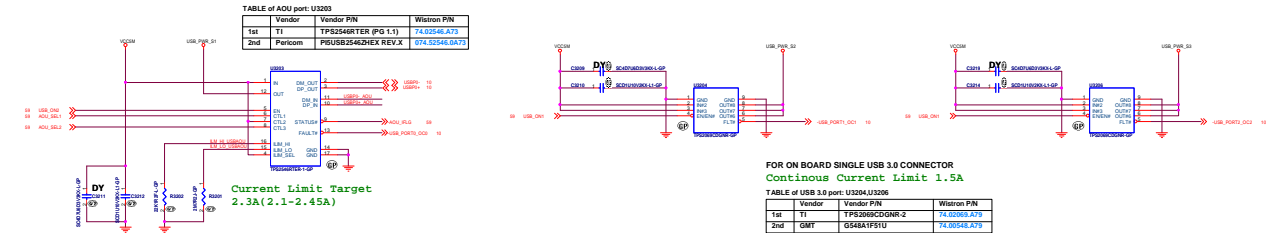
Current Limit Target : 600mA
HDMI Spec : 50mA - 500mA



HDD



USB POWER

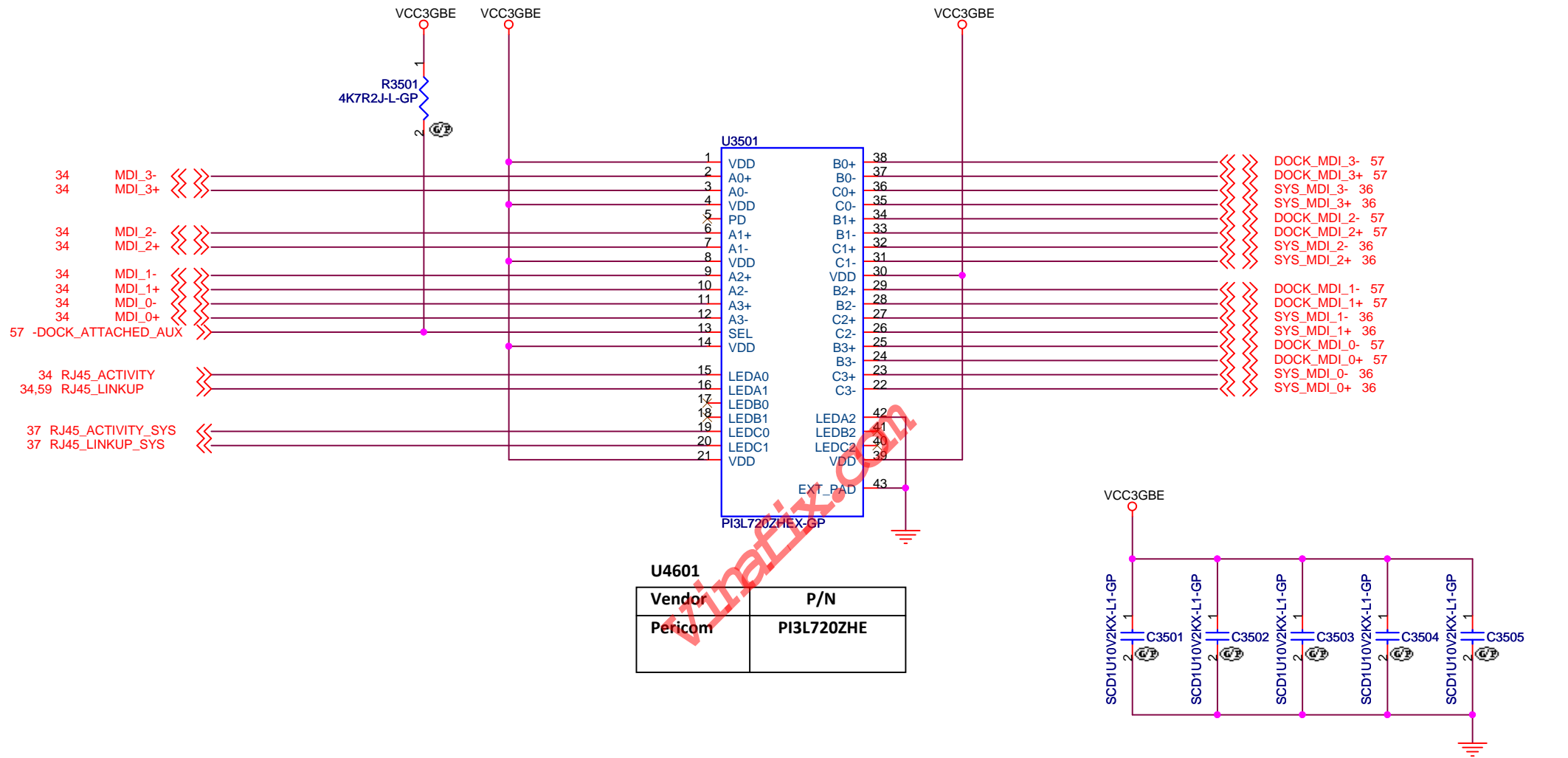


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<div>緯創資通</div>		<div>Wistron Corporation</div>	
		<div>21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</div>	
Title			
<div>Reserved HDMI(HEAC)</div>			
Size A	Document Number		Rev
	LSZ-2		1
Date:	Thursday, November 26, 2015		Sheet 33 of 109

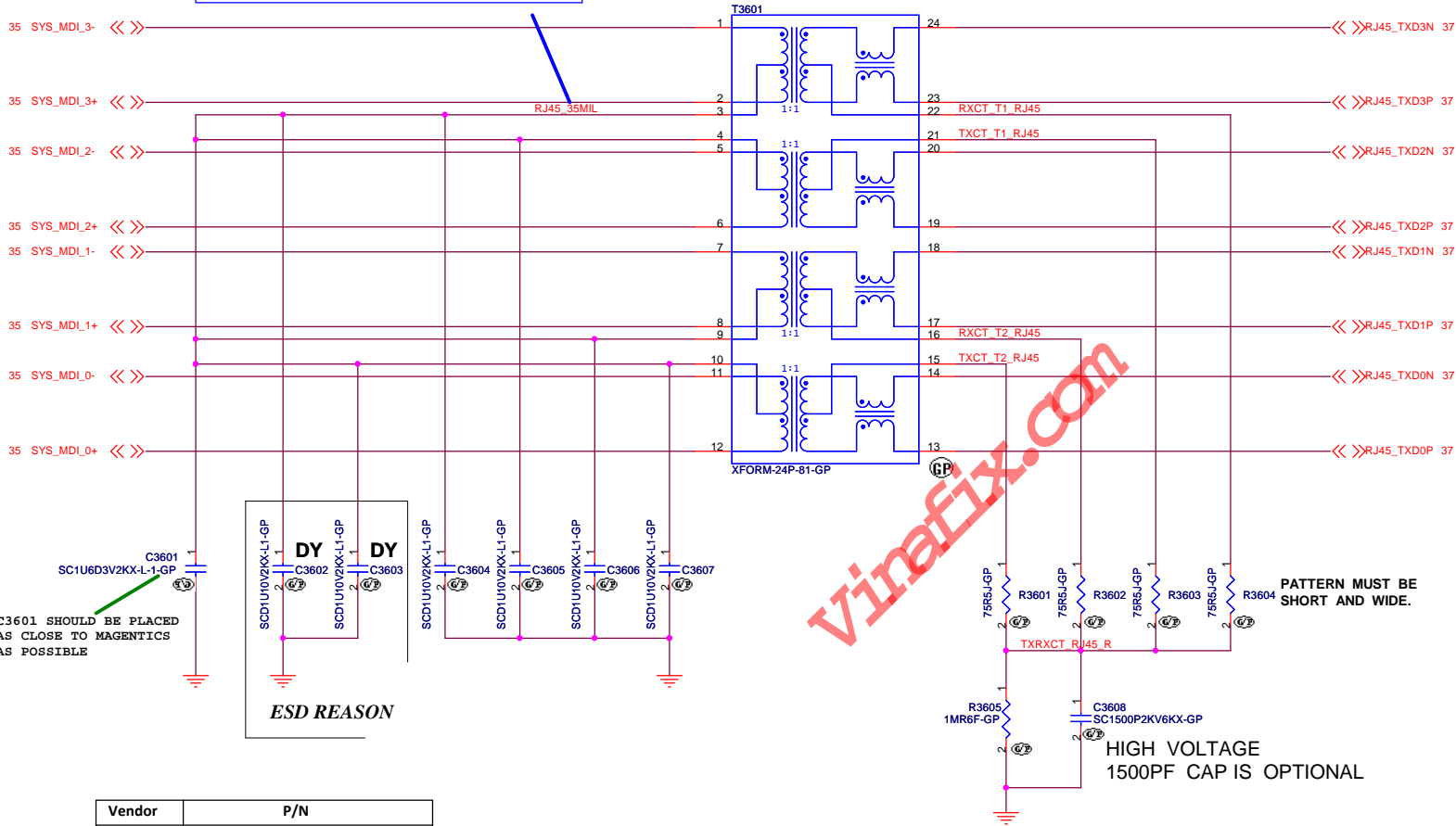


U4601	
Vendor	P/N
Pericom	PI3L720ZHE

<Variant Name>

<div>緯創資通</div>		<div>Wistron Corporation</div>	
		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-2		Rev 1
Date:	Thursday, November 26, 2015	Sheet 35 of	109

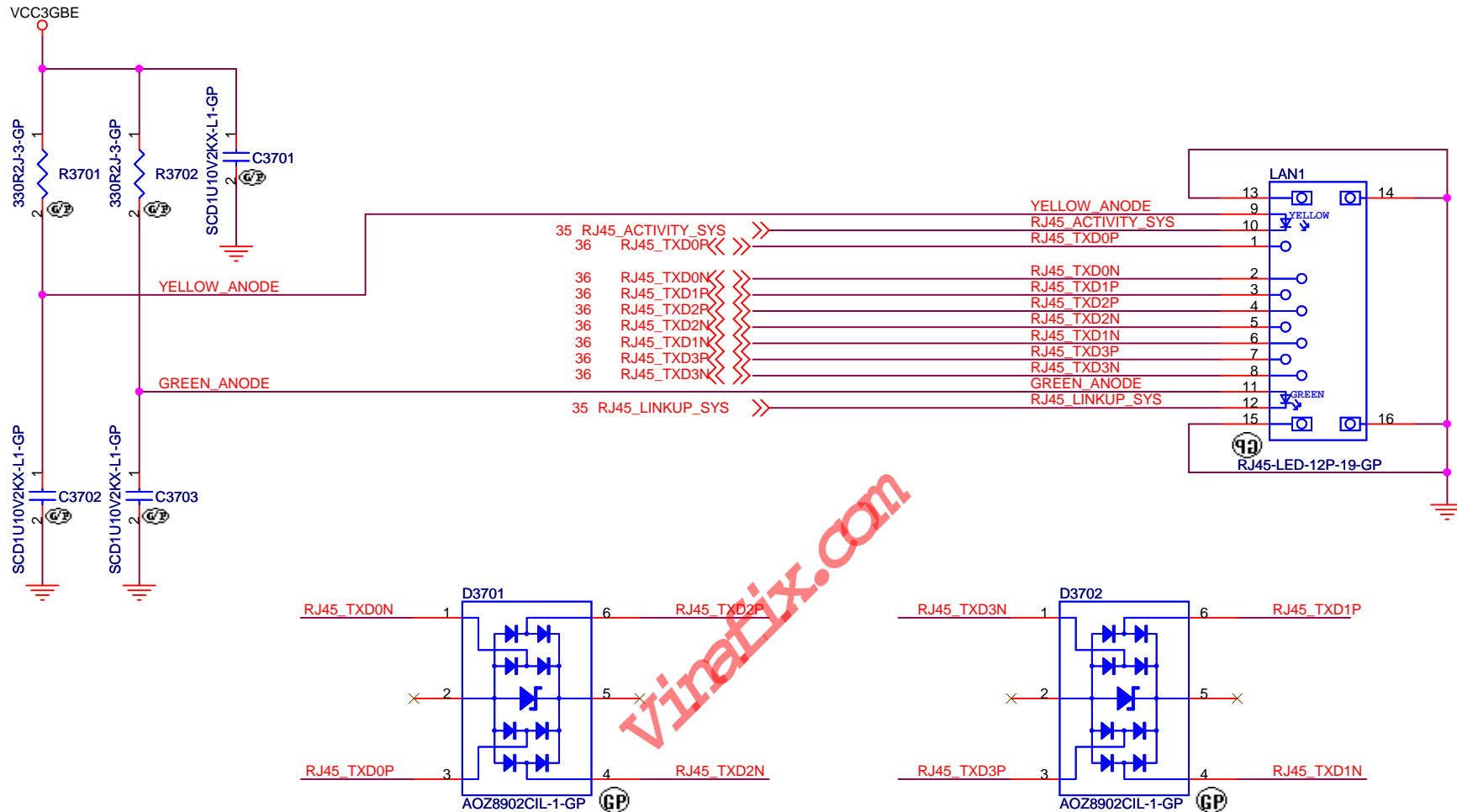
THE WIDTH OF THESE TRACE SHOULD BE WIDER THAN 35MIL TO PREVENT VOLTAGE DROP.



ESD REASON

Vendor	P/N	
Bothhand	NA69LF	068.0NA69.3001
TAIMAG	IH-189-A	68.IH189.30A

<Variant Name>



<Variant Name>

緯創資通

Wistron Corporation

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

Title

RJ45 CONNECTOR

Size

Custom

Document Number

LSZ-2

Rev

1

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		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title BLANK			
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Title BLANK			
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<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>	
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		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title BLANK			
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WISTRON

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緯創資通		Wistron Corporation	
		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title BLANK			
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Date: Thursday, November 26, 2015		Sheet 42	of 109

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緯創資通		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-2		Rev 1
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緯創資通		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-2		Rev 1
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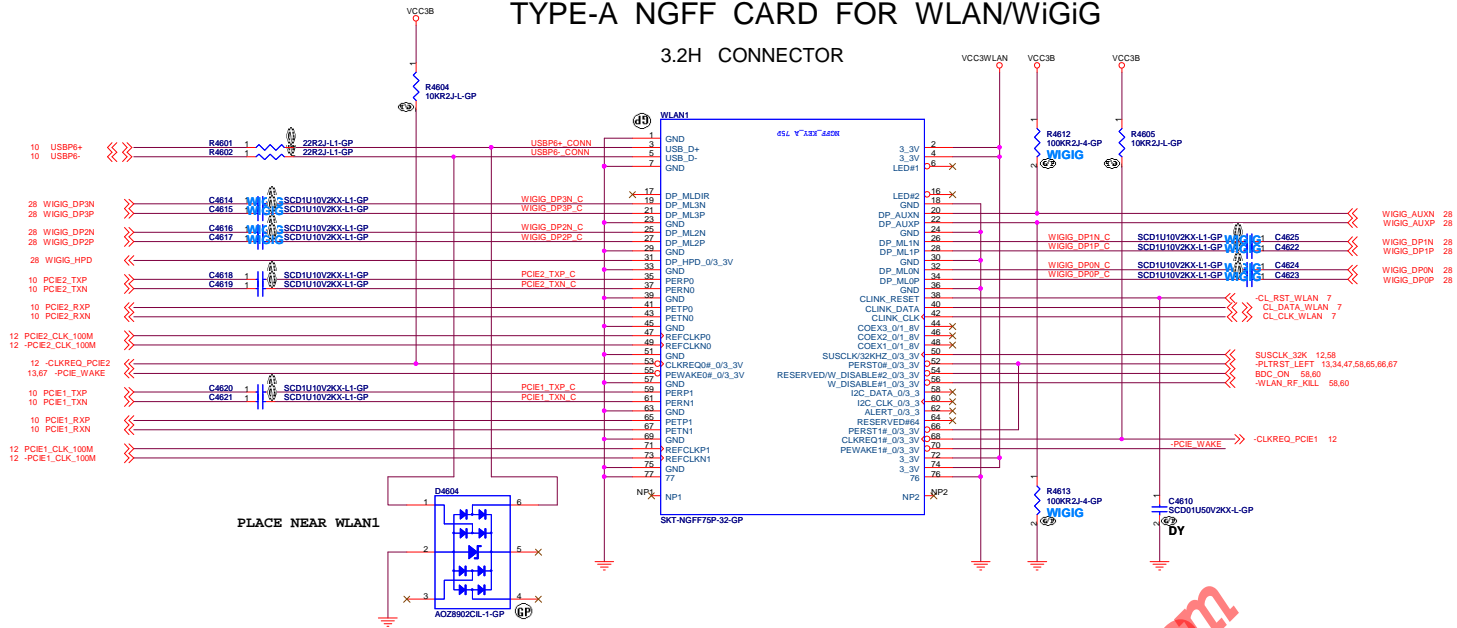
vinafix.com

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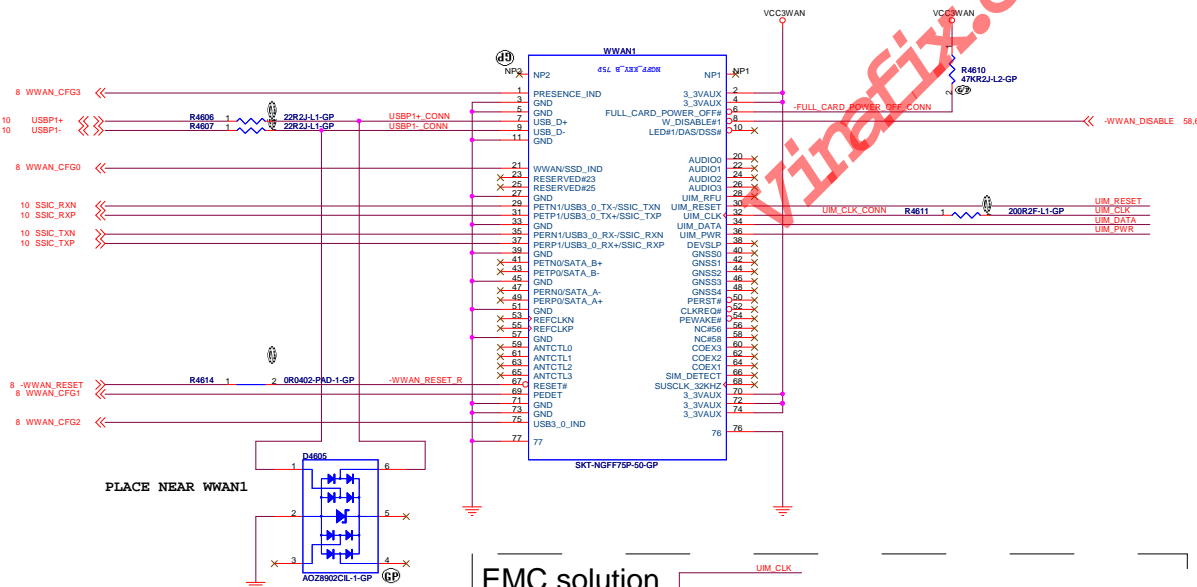
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		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title BLANK			
Size A	Document Number LSZ-2		Rev 1
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TYPE-A NGFF CARD FOR WLAN/WiGIG

3.2H CONNECTOR



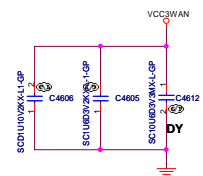
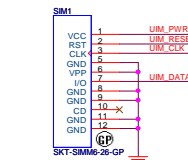
TYPE-B NGFF CARD FOR WWAN



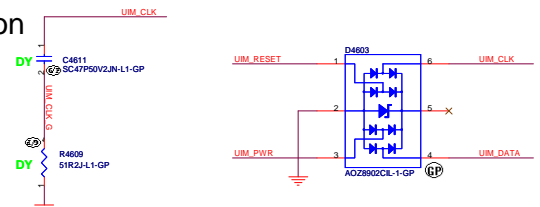
for test point, page 91

91 UIM_RESET << UIM_RESET
91 UIM_CLK << UIM_CLK
91 UIM_DATA << UIM_DATA
91 UIM_PWR << UIM_PWR

SIM CONN

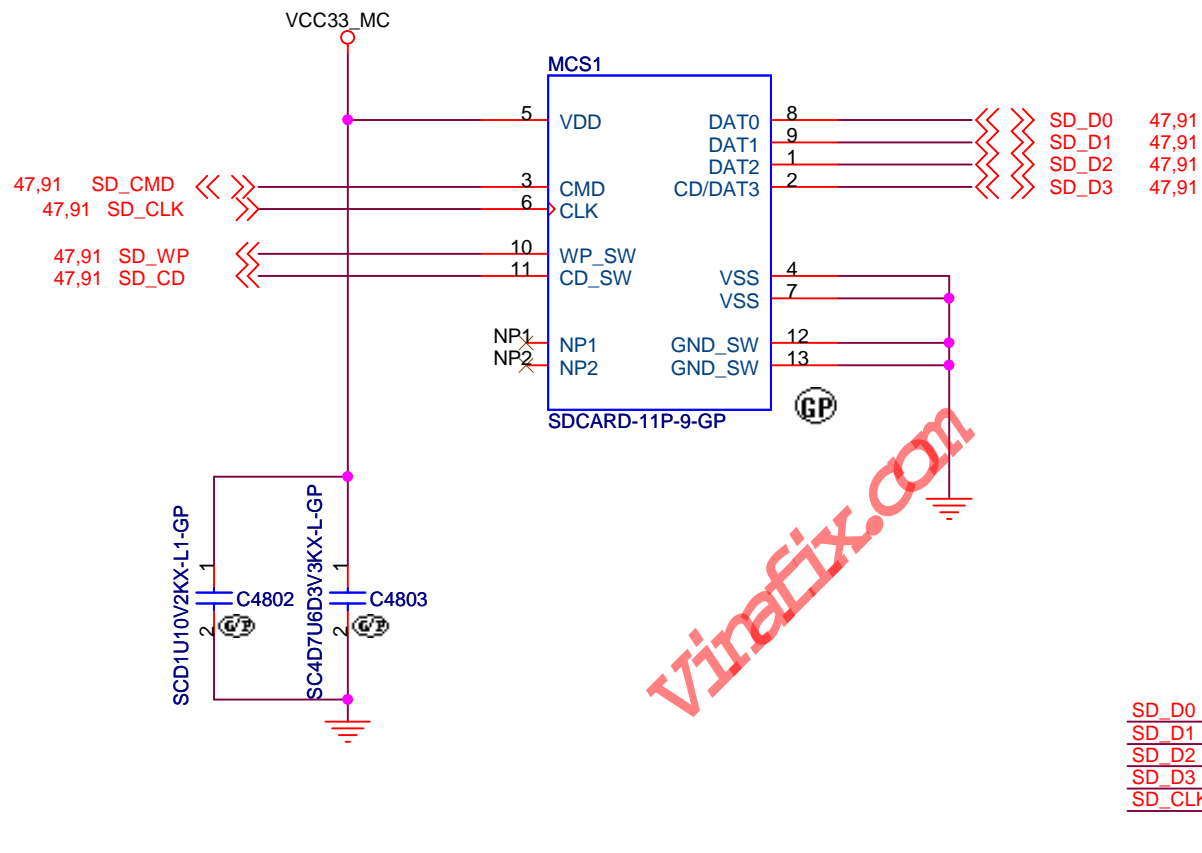


EMC solution



ULT

Title			
MEDIA CARD CONTROLLER			
Size A4	Document Number LSZ-2		Rev 1
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<Variant Name>

緯創資通

Wistron Corporation

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

Title

MEDIA CARD I/F

Size

Custom

Document Number

LSZ-2

Rev

1

Date: Thursday, November 26, 2015

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Finger Print

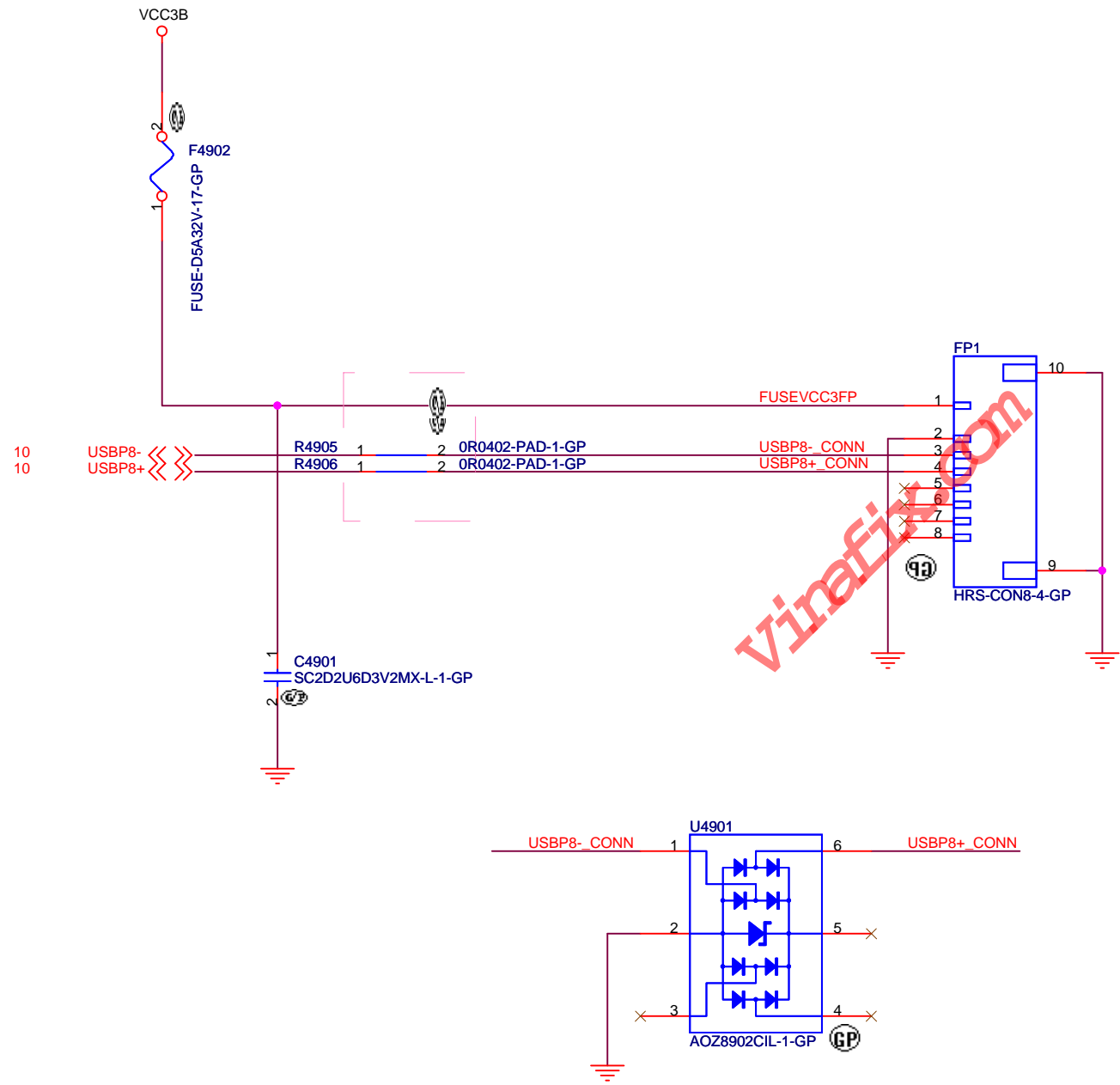
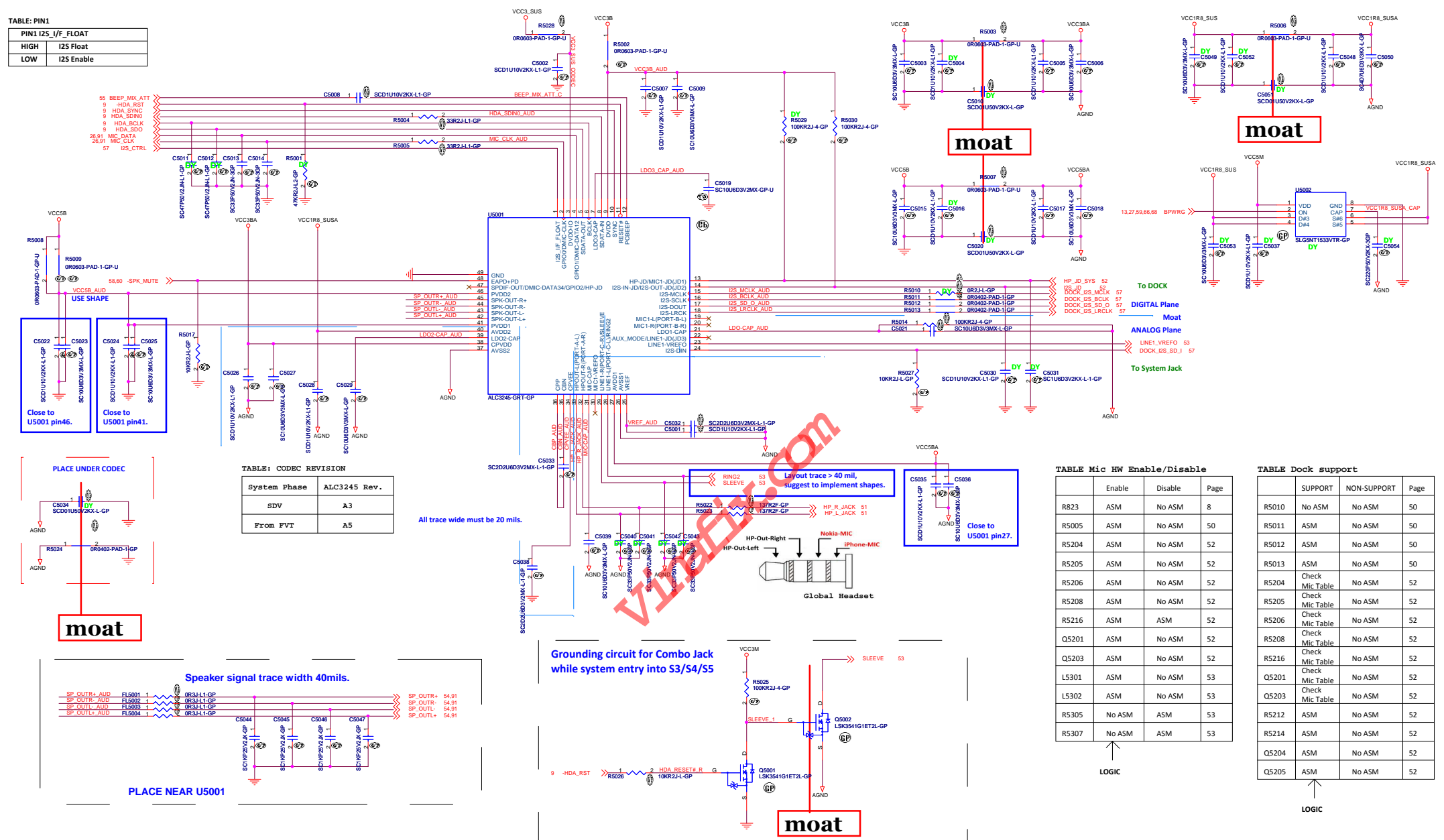


TABLE: PIN1

PIN1 I2S_I/F_FLOAT	
HIGH	I2S Float
LOW	I2S Enable



ULT

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21F, 88, Sec.1, Hsin Tai Wu Rd., Hsinchu, Taiwan, R.O.C.

File

Audio Codec ALC3245

Size

Document Number

LSZ-2

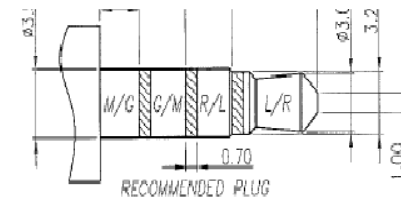
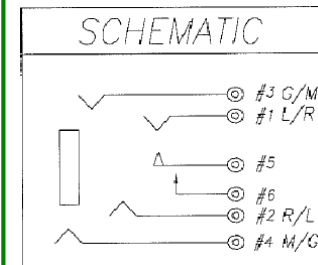
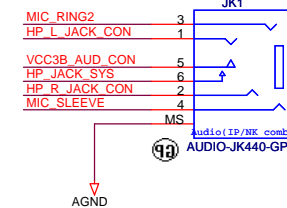
Rev

1

Date: Thursday, November 26, 2015

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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 ALC3245

Size

Document Number

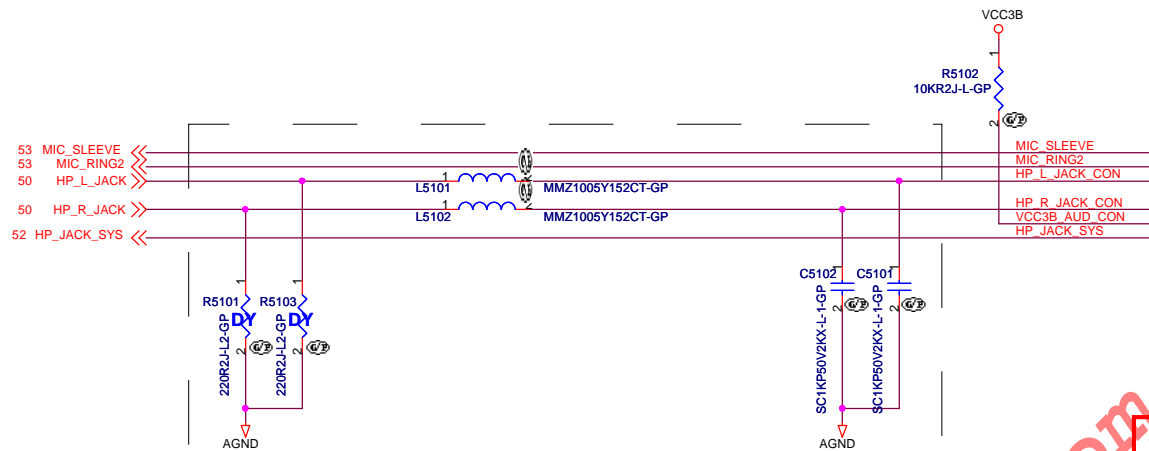
LSZ-2

Rev

1

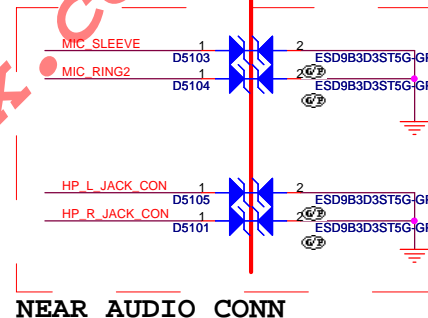
Date: Thursday, November 26, 2015

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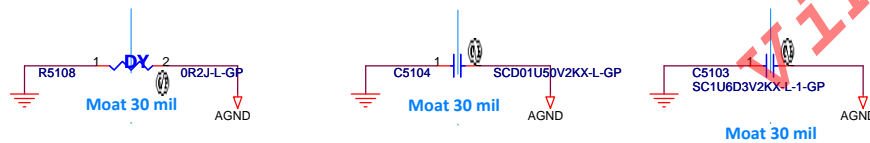


NEAR AUDIO CONN

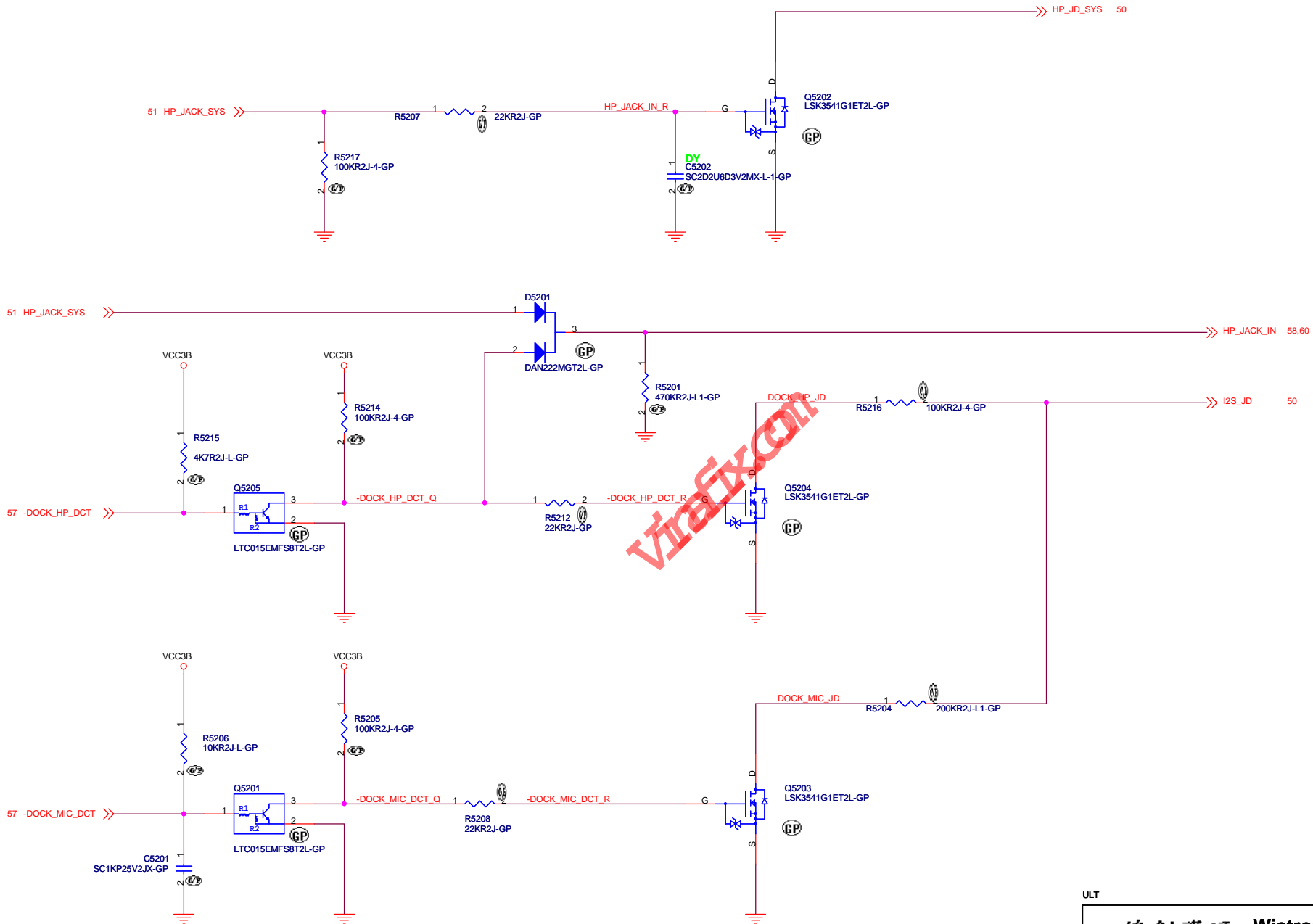
moat



NEAR AUDIO CONN



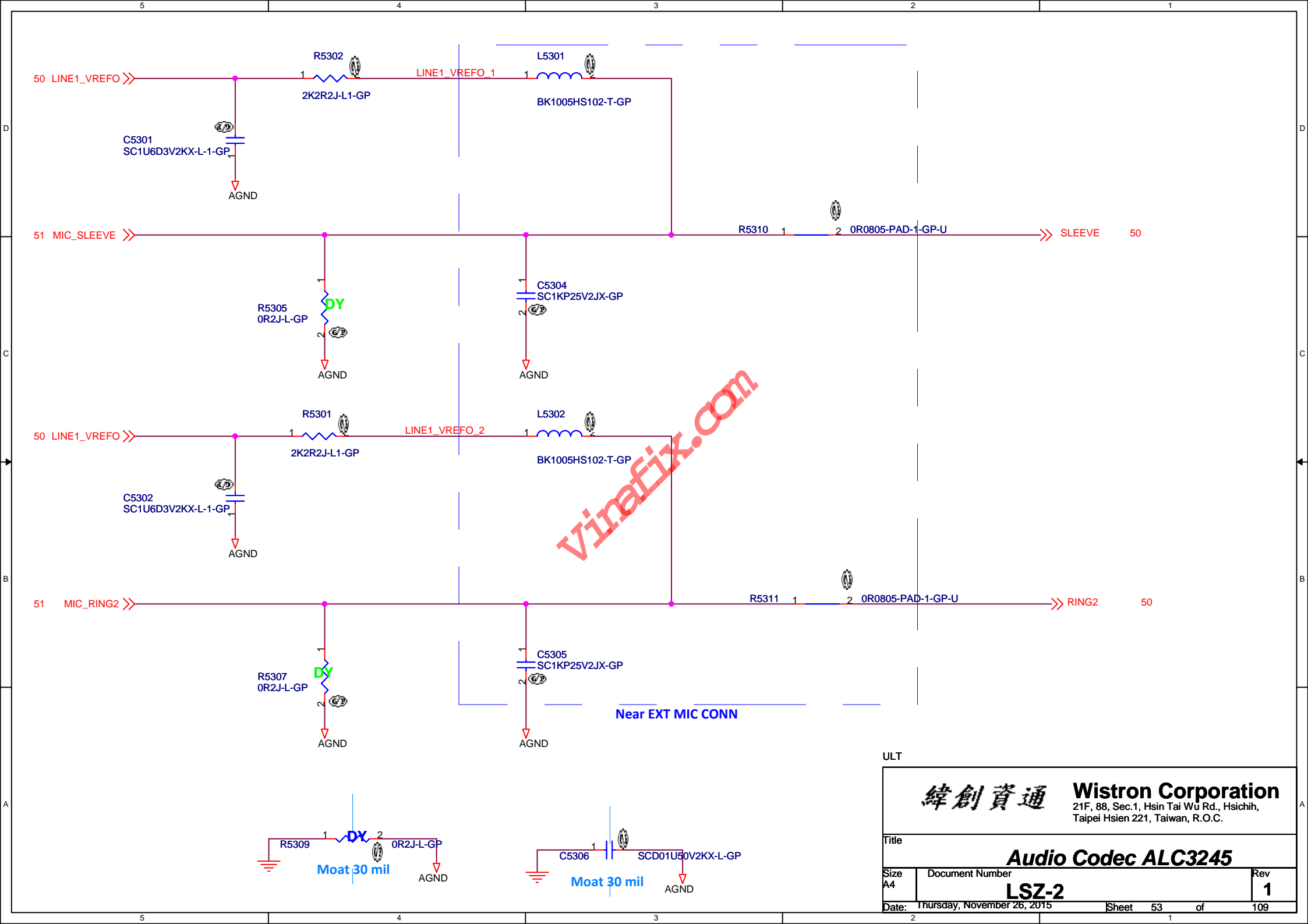
Place near to U5001 pin 13



ULT

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Title		Audio Codec ALC3245	
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Custom			
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Taipei Hsien 221, Taiwan, R.O.C.

Title

Audio Codec ALC3245

Size

Document Number

Rev

LSZ-2

1

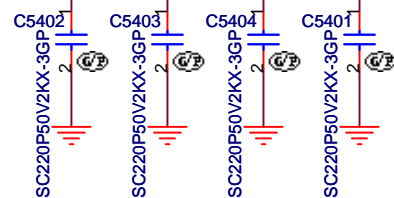
Date: Thursday, November 26, 2015

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Connector

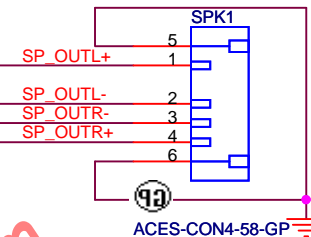
Trace width for SPK-L+ / SPK-L- / SPK-R+ / SPK-R-
Speaker 4 ohm : 40 mil
Speaker 8 ohm : 20 mil

50,91 SP_OUTL+
50,91 SP_OUTL-
50,91 SP_OUTR-
50,91 SP_OUTR+



Place near speaker connector

Internal Speaker



<<Note>>

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

ULT

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Title

Audio Codec ALC3245

Size
A4

Document Number

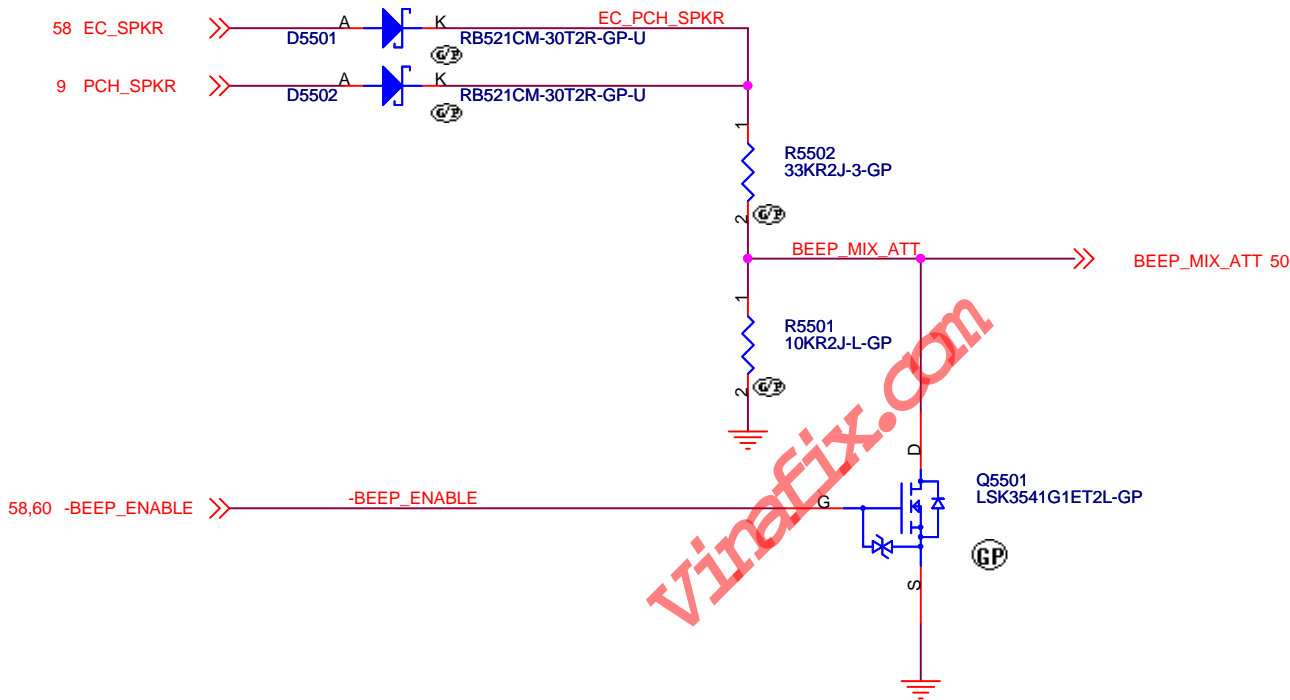
LSZ-2

Rev
1

Date: Thursday, November 26, 2015

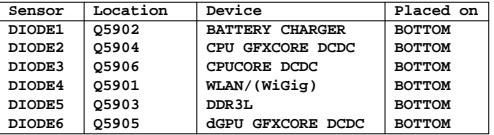
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Audio BEEP



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Title			
Audio Codec ALC3245			
Size A4	Document Number LSZ-2		Rev 1
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Trace FIFO Debug Port		
	Enable	Disable
R5818	Z2_5%	0_5%
R5819	Z2_5%	0_5%
R420(?)	NO_ASM	ASM

TABLE

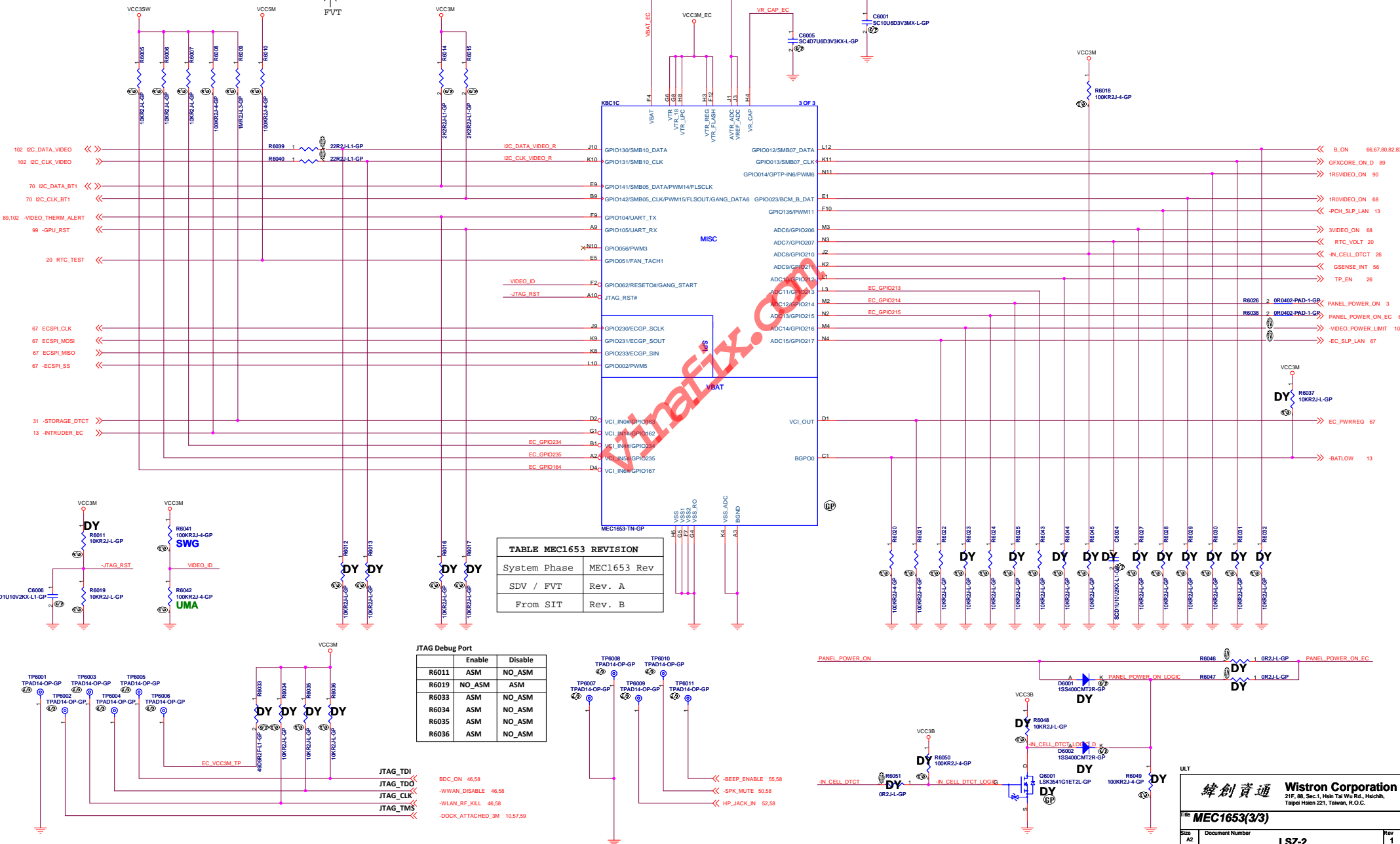
VIDEO_ID	R6042	R6041
SWG	NO_ASM	ASM
UMA	ASM	NO_ASM

LOGIC

	Original	EC solution	Logic solution
R6046	ASM	DY	DY
R6025	ASM	DY	ASM
R6026	DY	ASM	DY
R6024	ASM	ASM	ASM
R6038	DY	ASM	DY
R6018	ASM	ASM	DY
D6001	DY	DY	ASM
D6002	DY	DY	ASM
Q6001	DY	DY	ASM
R6047	DY	DY	ASM

	Original	EC solution	Logic solution
R6048	DY	DY	ASM
R6049	DY	DY	ASM
R6050	DY	DY	ASM
R6051	DY	DY	ASM

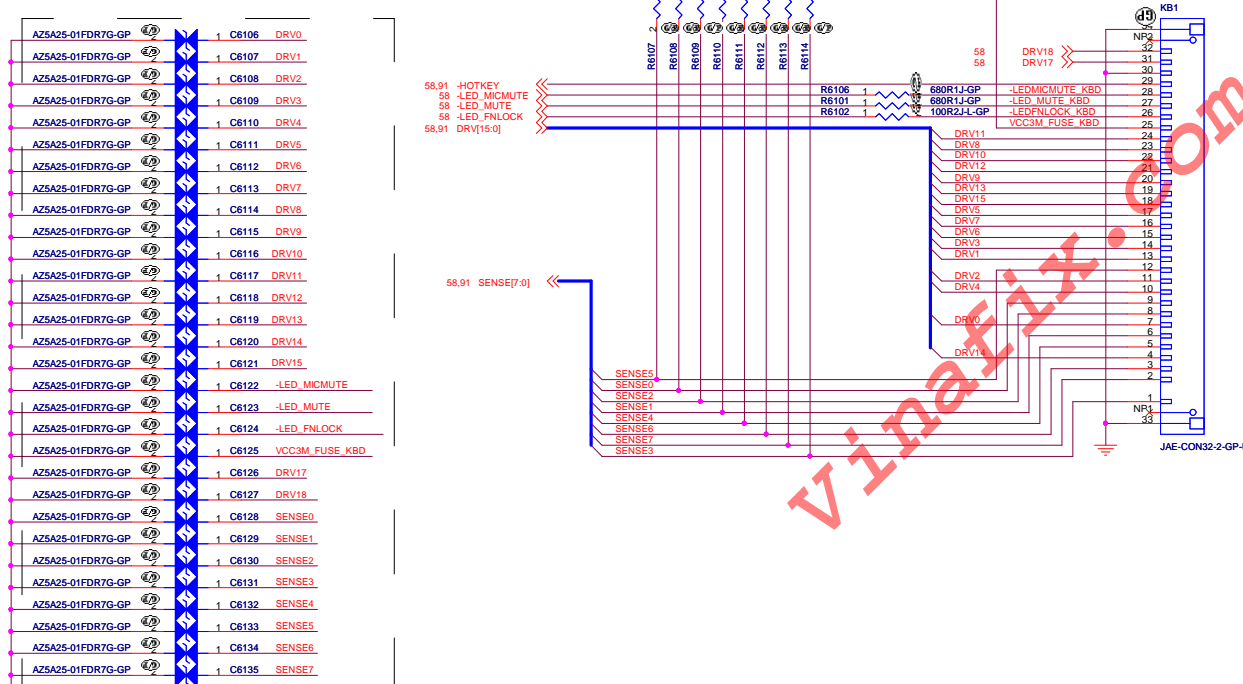
FVT



KBD (32PIN)

for test point, page 91

91 VCC3M_FUSE_KBD <<< VCC3M_FUSE_KBD
91 -LEDMICMUTE_KBD <<< -LEDMICMUTE_KBD
91 -LED_MUTE_KBD <<< -LED_MUTE_KBD
91 -LEDFNLOCK_KBD <<< -LEDFNLOCK_KBD

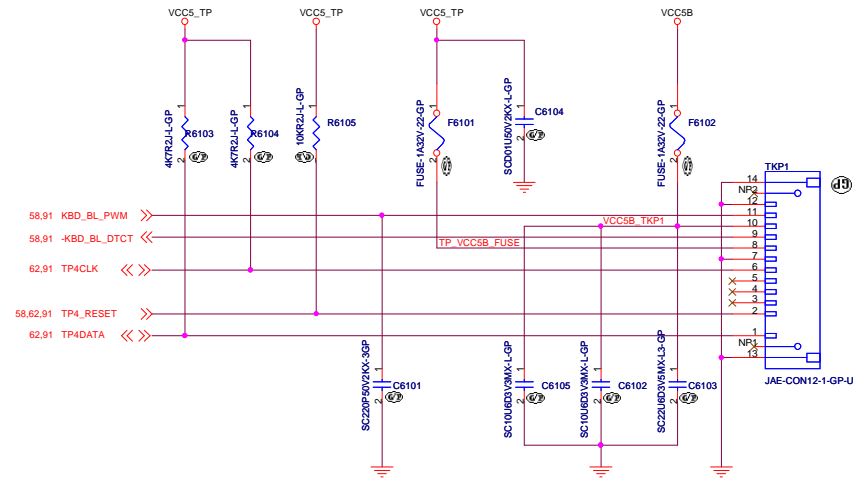


58.91 -HOTKEY <<<
58 -LED_MICMUTE <<<
58 -LED_MUTE <<<
58 -LED_FNLOCK <<<
58.91 DRV1[5:0] <<<

58.91 SENSE[7:0] <<<

for test point, page 91

91 VCC5B_TKP1 <<< VCC5B_TKP1
91 TP_VCC5B_FUSE <<< TP_VCC5B_FUSE



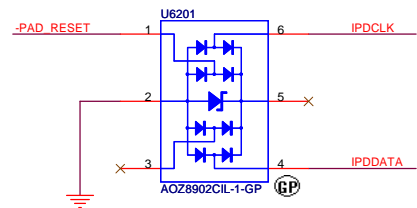
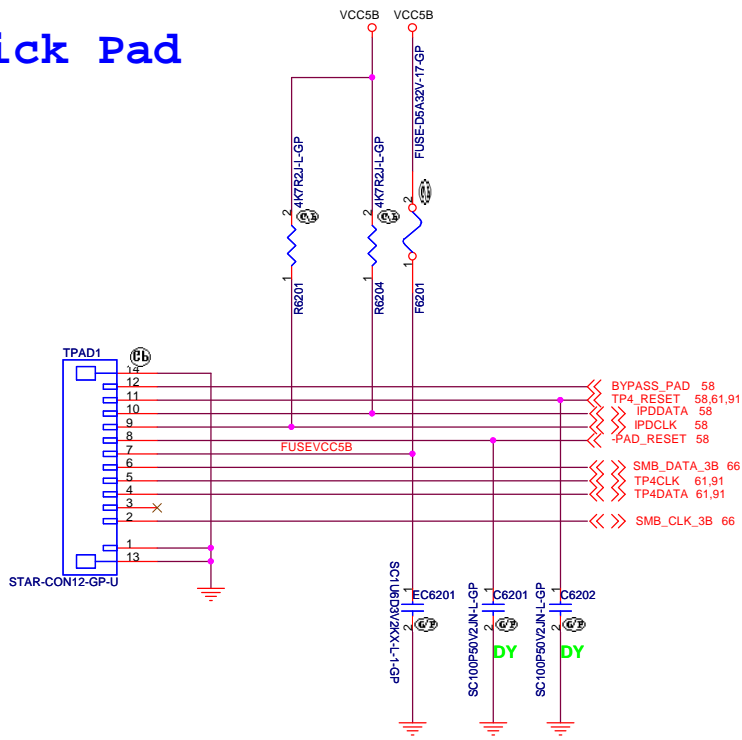
58.91 KBD_BL_PWM <<<
58.91 -KBD_BL_DTCT <<<
62.91 TP4CLK <<<
58.62.91 TP4_RESET <<<
62.91 TP4DATA <<<

Change 220pF to AZ5A25 (075.00525.0077) for KBC ESD damage issue

ULT

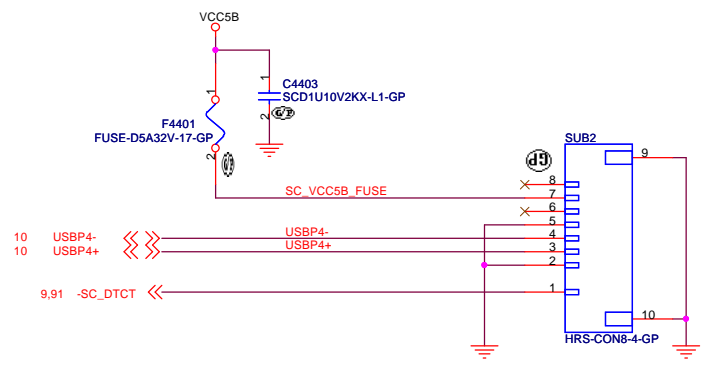
緯創資通 Wistron Corporation	
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title KEYBOARD CONNECTOR	
Size Custom	Document Number LSZ-2
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Click Pad



Clickpad

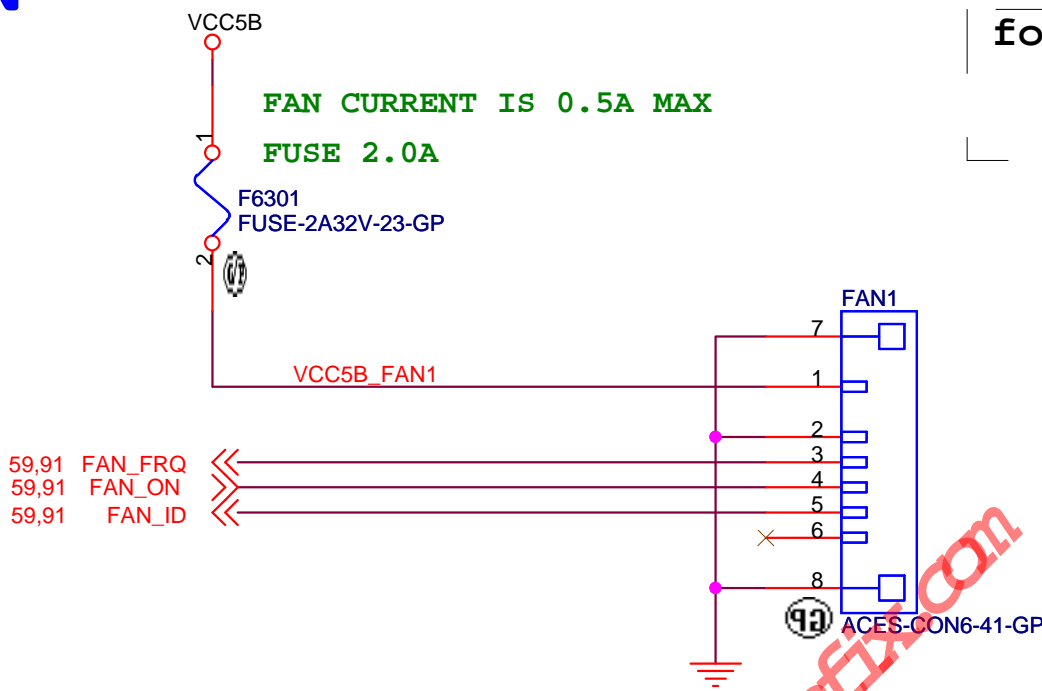
Smart Card



for test point, page 91



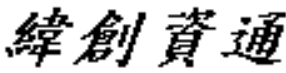
FAN



for test point, page 91

91 VCC5B_FAN1 << VCC5B_FAN1

<Variant Name>

		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-2		Rev 1
Date:	Thursday, November 26, 2015		Sheet 63 of 109

5	4	3	2	1
D				D
C				C
B				B
A				A
5	4	3	2	1

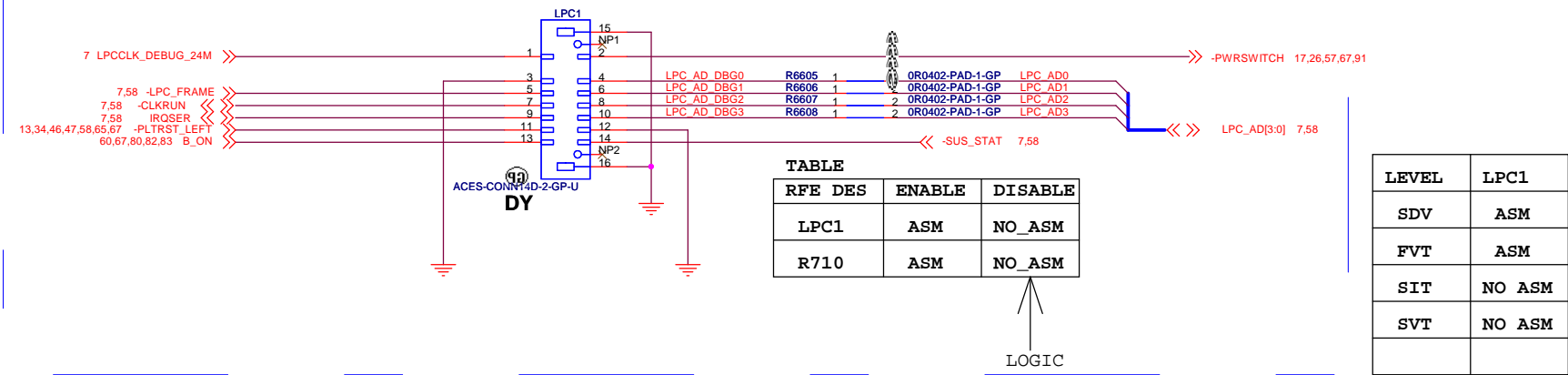
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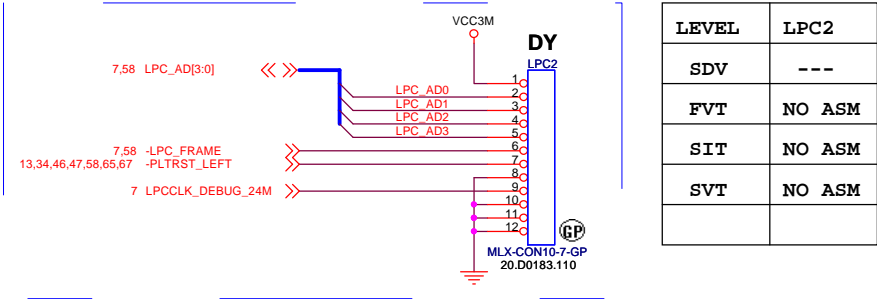
ULT

<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>	
Title BLANK			
Size A	Document Number LSZ-2		Rev 1
Date:	Thursday, November 26, 2015	Sheet 64 of	109

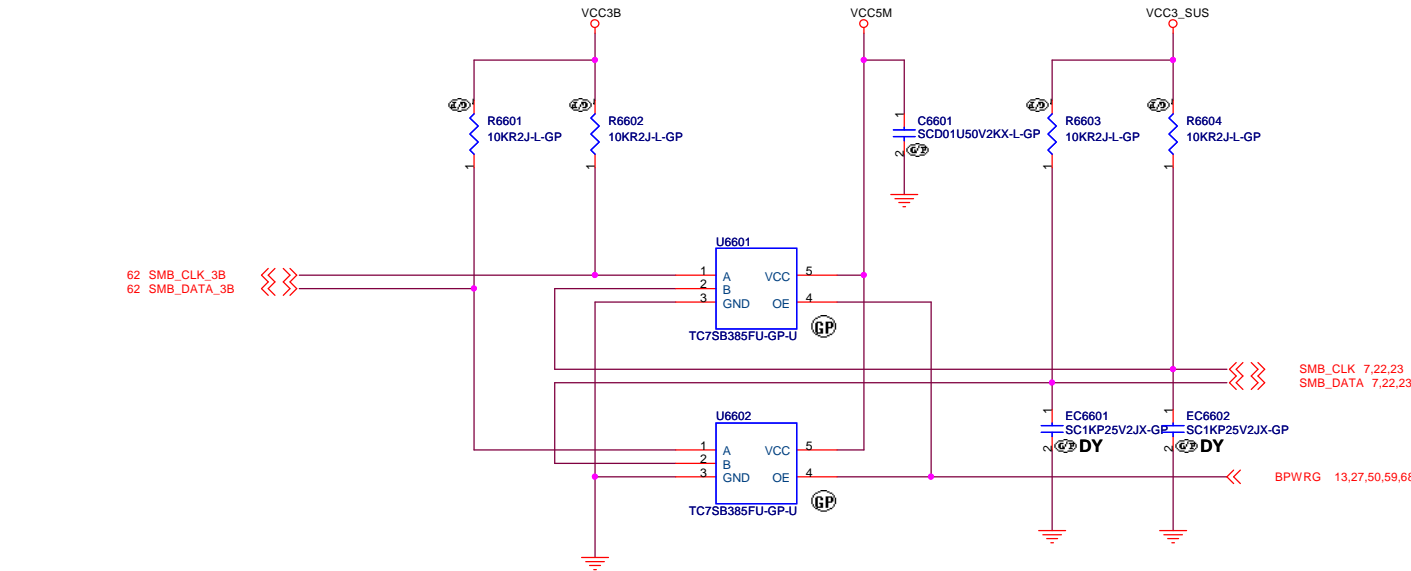
Lenovo Debug Tool I/F

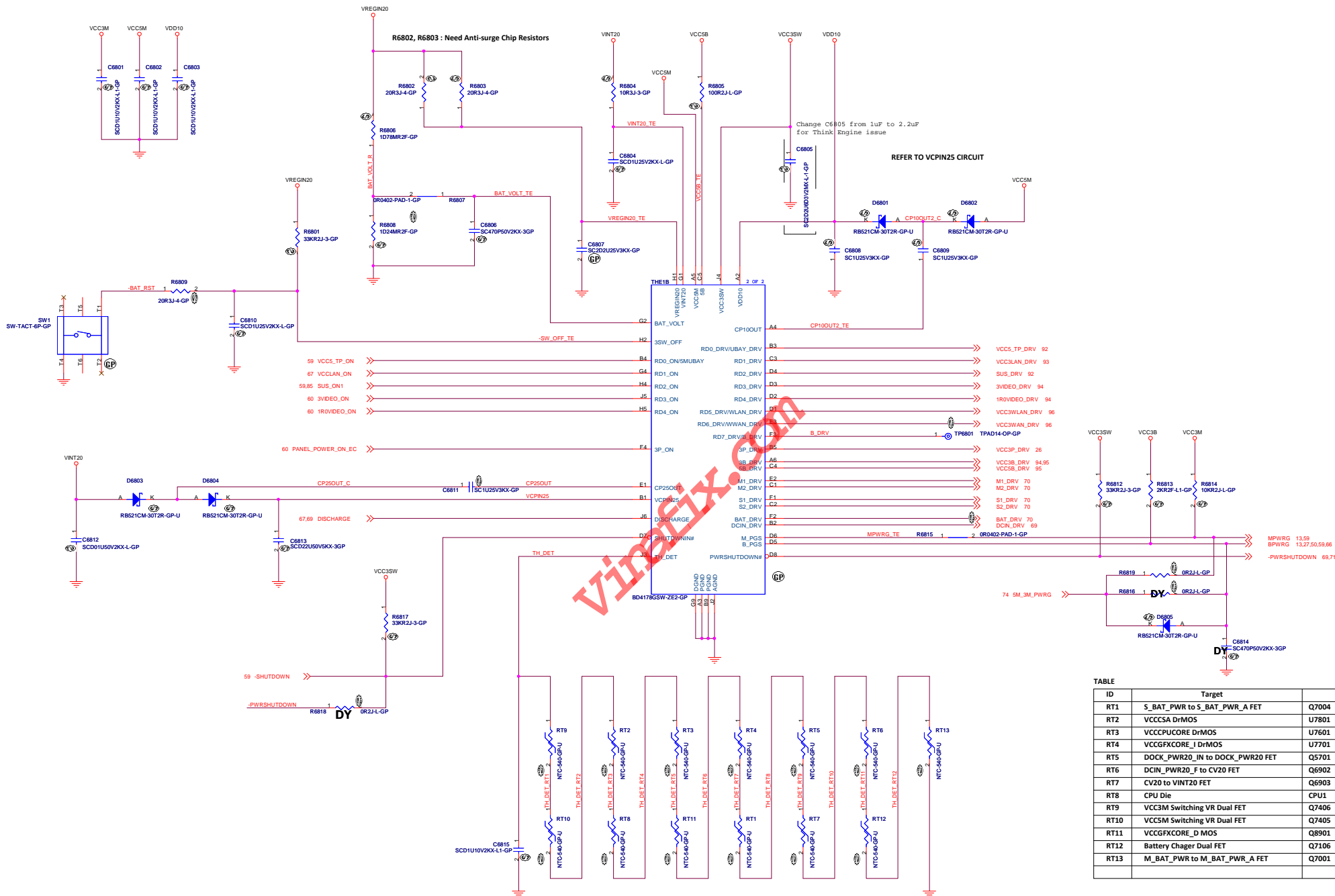


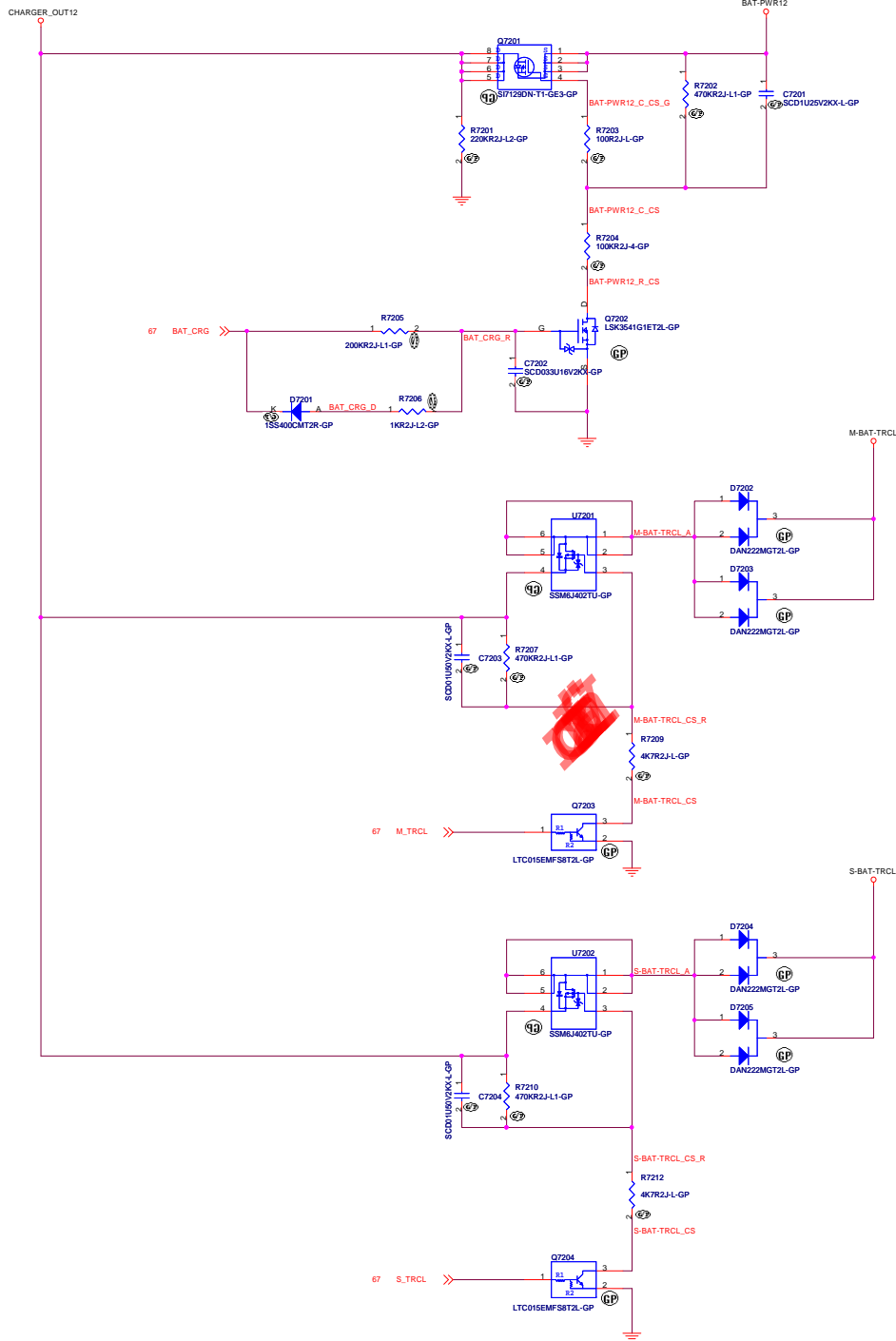
LPC for Debug Card Connector



SMBUS SWITCH







<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 **CHARGER SELECT**

Size Document Number

Custom

Rev

Date: Thursday, November 26, 2015

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<Variant Name>

<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>		
Title		
BATTERY MONITOR		
Size	Document Number	Rev
A4		1
Date: Thursday, November 26, 2015		Sheet 73 of 109

keep more than 2.0mm height for
if acoustic noise suppression MLCC use

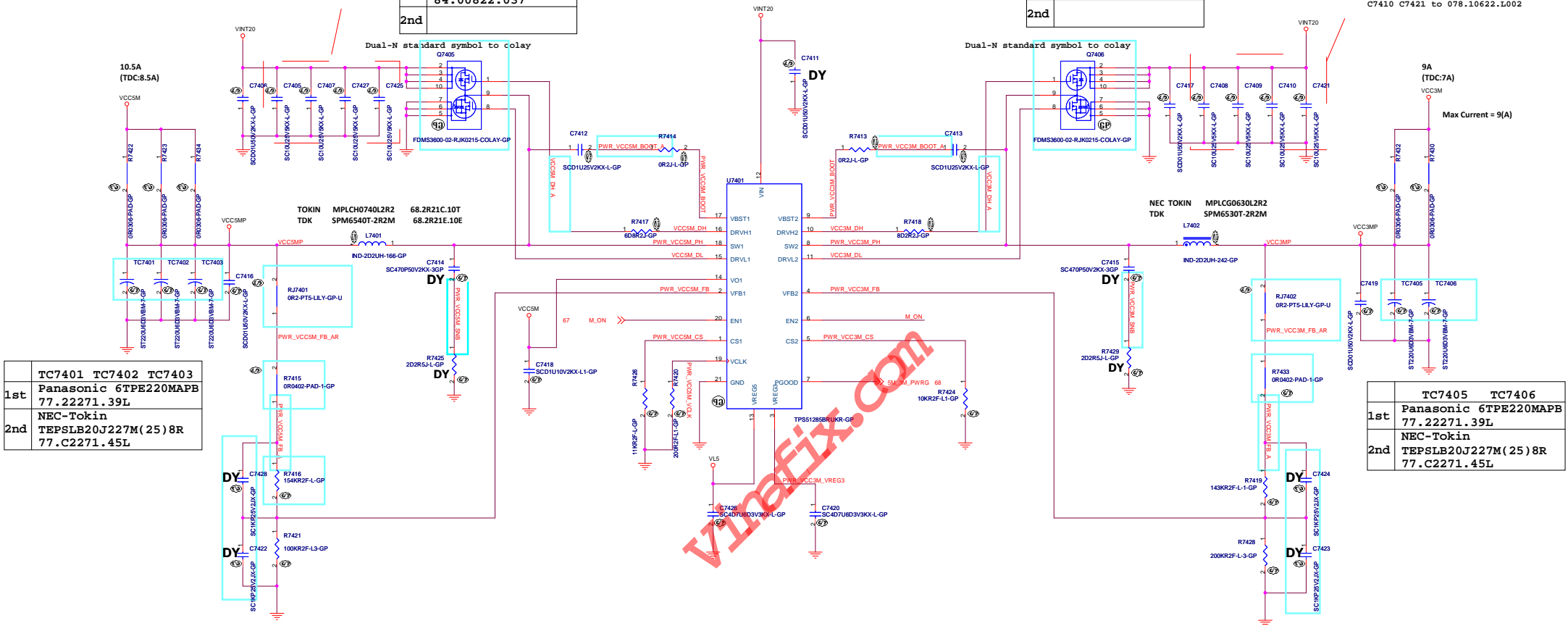
For low noise caps, used BOM change
C7405 C7407 C7425 C7427 to 078.10622.L002

	Q7405
1st	ROHM HP8K22T 84.00822.037
2nd	

keep more than 2.0mm height for
if acoustic noise suppression MLCC use

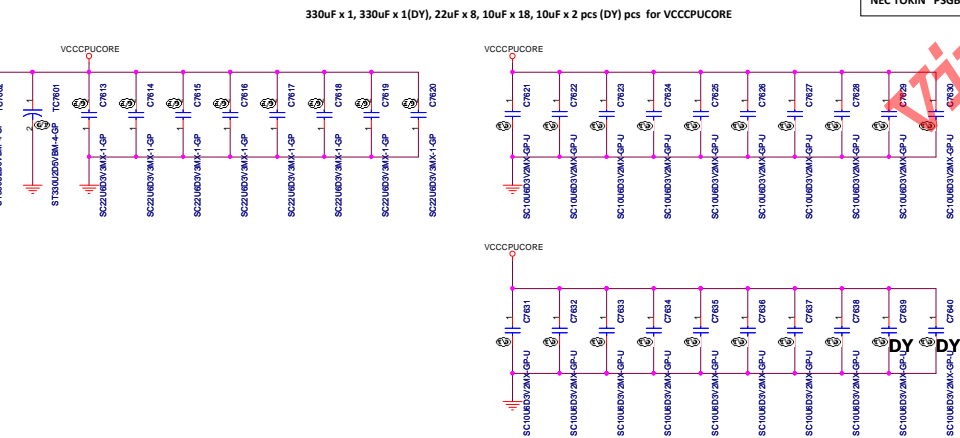
For low noise caps, used BOM change
C7408 C7409 to 78.10622.LBL
C7410 C7421 to 078.10622.L002

	Q7406
1st	ROHM HP8K22T 84.00822.037
2nd	



	TC7401 TC7402 TC7403
1st	Panasonic 6TPE220MAPB 77.22271.39L
2nd	NEC-Tokin TEPSLB20J227M(25)8R 77.C2271.45L

	TC7405 TC7406
1st	Panasonic 6TPE220MAPB 77.22271.39L
2nd	NEC-Tokin TEPSLB20J227M(25)8R 77.C2271.45L



keep more than 2.0mm height for
if acoustic noise suppression MLCC use

For low noise caps, used BOM change
C7702 C7703 C7704 to 78.10622.LBL
C7705 C7706 C7707 to 078.10622.L002

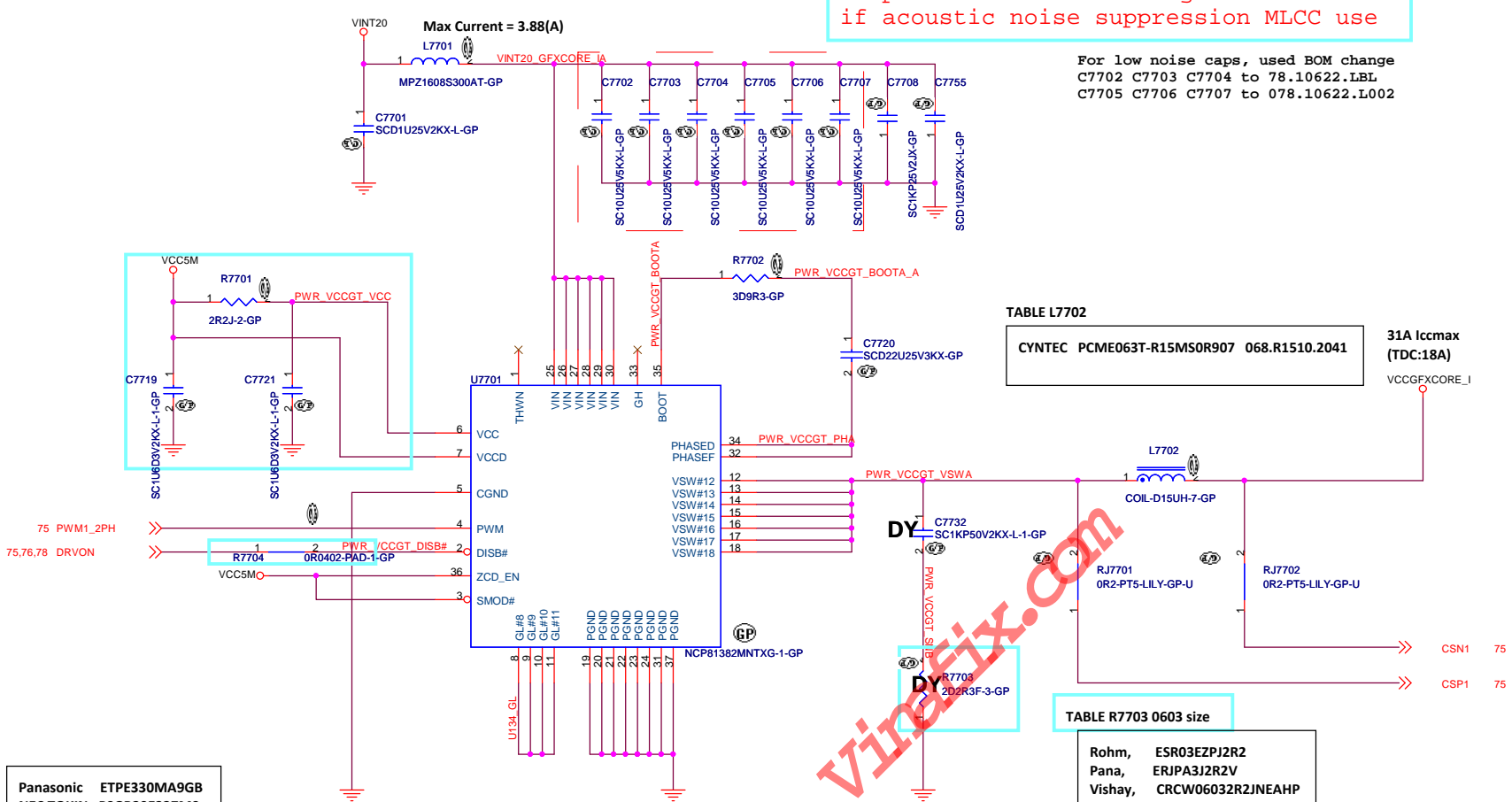


TABLE L7702

CYNTEC	PCME063T-R15MS0R907	068.R1510.2041
--------	---------------------	----------------

31A Iccmax
(TDC:18A)
VCCGFXCORE_I

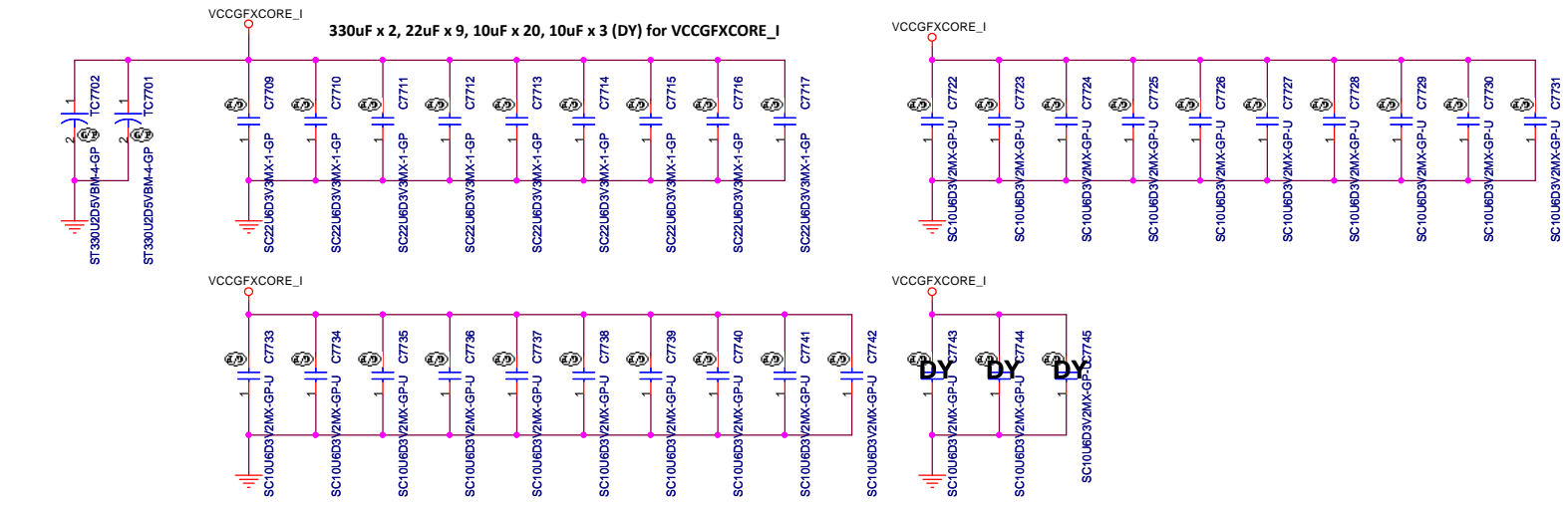
TABLE R7703 0603 size

Rohm,	ESR03EZPJ2R2
Pana,	ERJPA3J2R2V
Vishay,	CRCW06032R2JNEAHP
YDS,	RN73S2CL-2R20-F

Panasonic ETPE330MA9GB
NEC TOKIN PSGB20E337M9

BOM change to 074.81382.0BE3

TABLE for TC7701, TC7702



keep more than 2.0mm height for
if acoustic noise suppression MLCC use

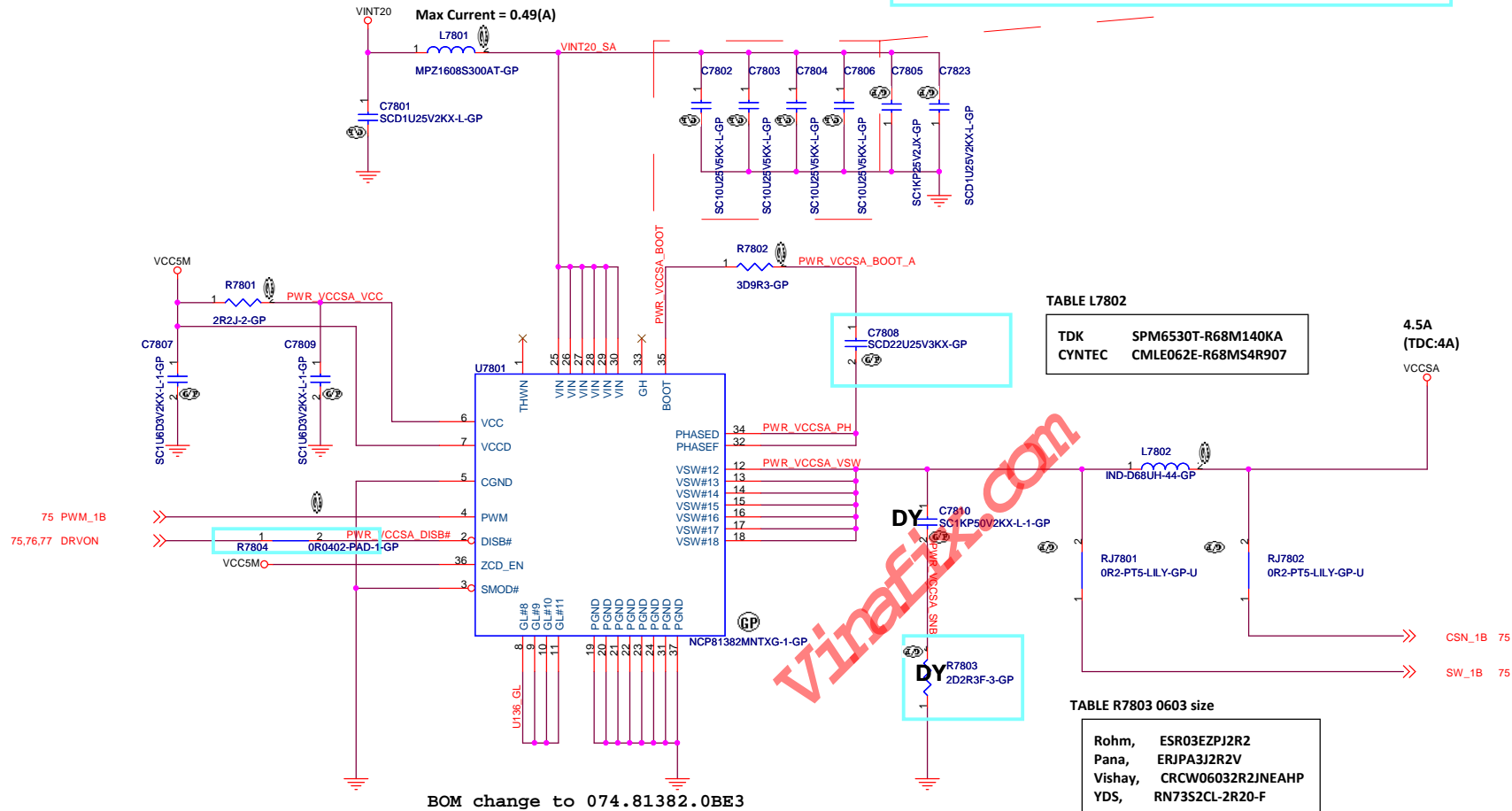


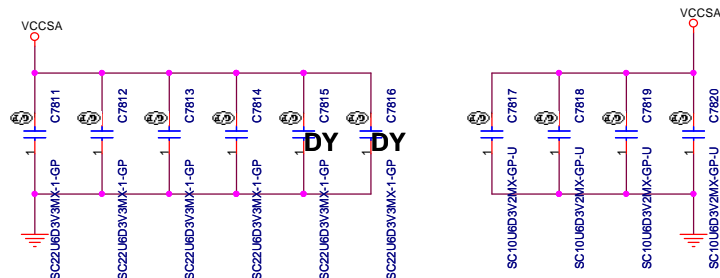
TABLE L7802

TDK	SPM6530T-R68M140KA
CYNTEC	CMLE062E-R68MS4R907

TABLE R7803 0603 size

Rohm,	ESR03EZPJ2R2
Pana,	ERJPA3J2R2V
Vishay,	CRCW06032R2JNEAHP
YDS,	RN7352CL-2R20-F

22uF x 4, 22uF x 2 (DY), 10uF x 4 for VCCSA

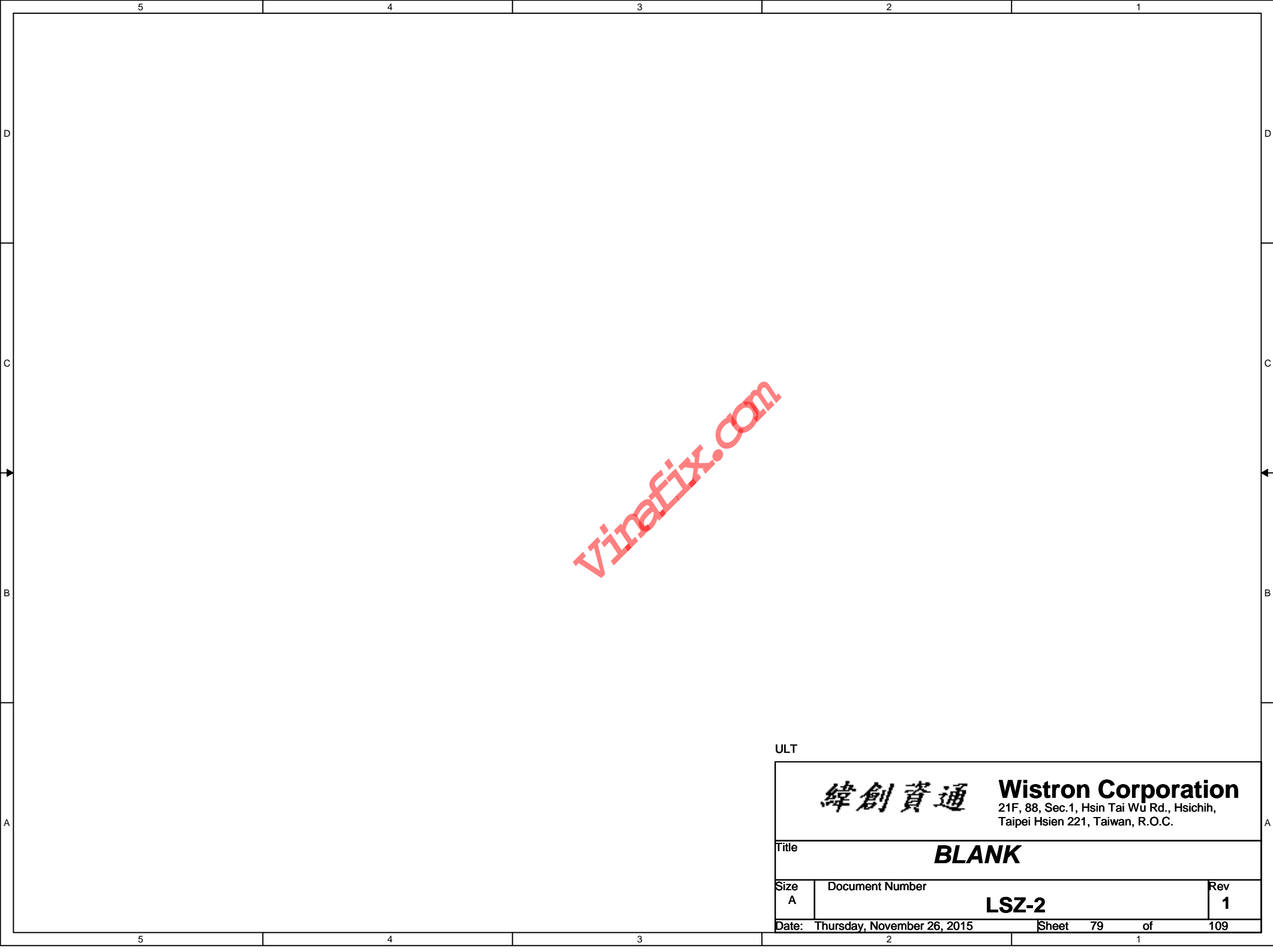


ULT

緯創資通 Wistron Corporation
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Title **DC/DC VCCSA(NCP81382)**

Size A3	Document Number LSZ-2	Rev 1
Date: Thursday, November 26, 2015	Sheet 78 of 109	



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<div>緯創資通</div>		<div>Wistron Corporation</div>	
		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
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Size	Document Number		Rev
A	LSZ-2		1
Date:	Thursday, November 26, 2015	Sheet 79 of	109

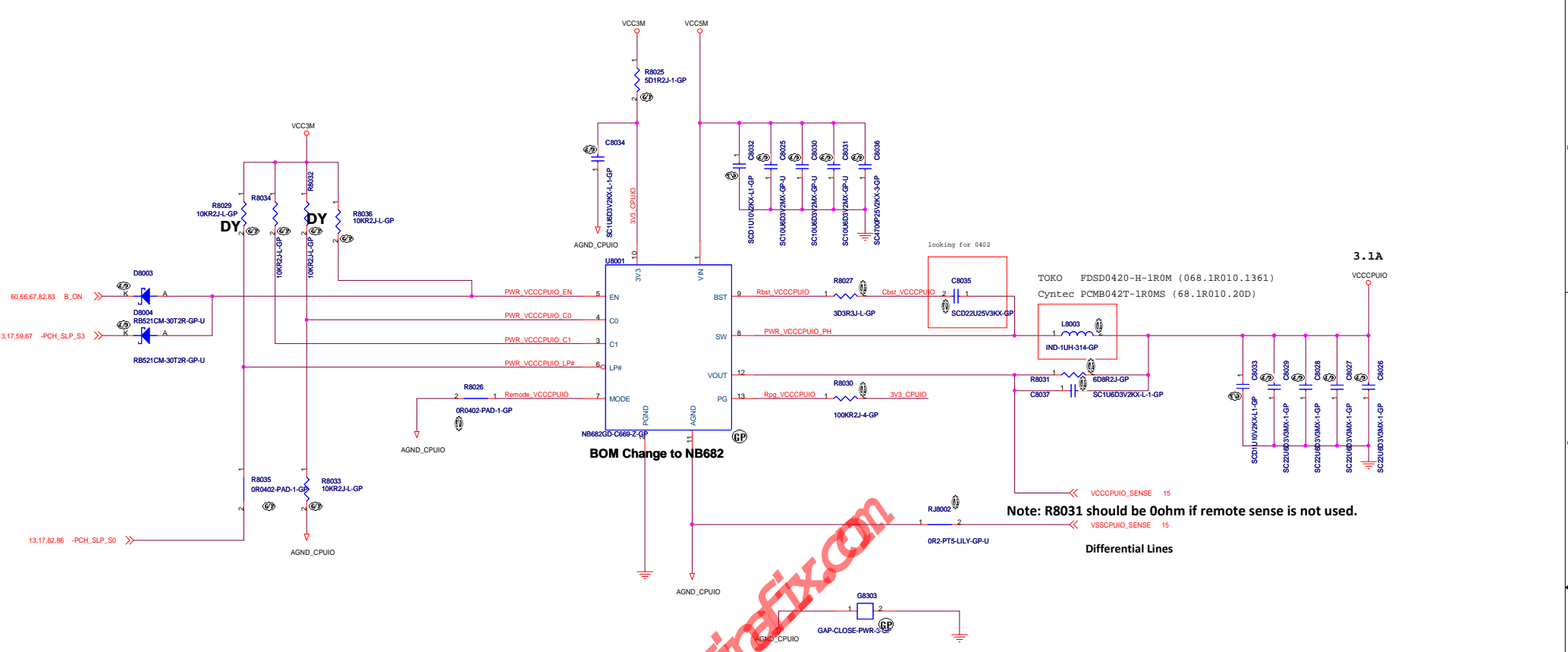
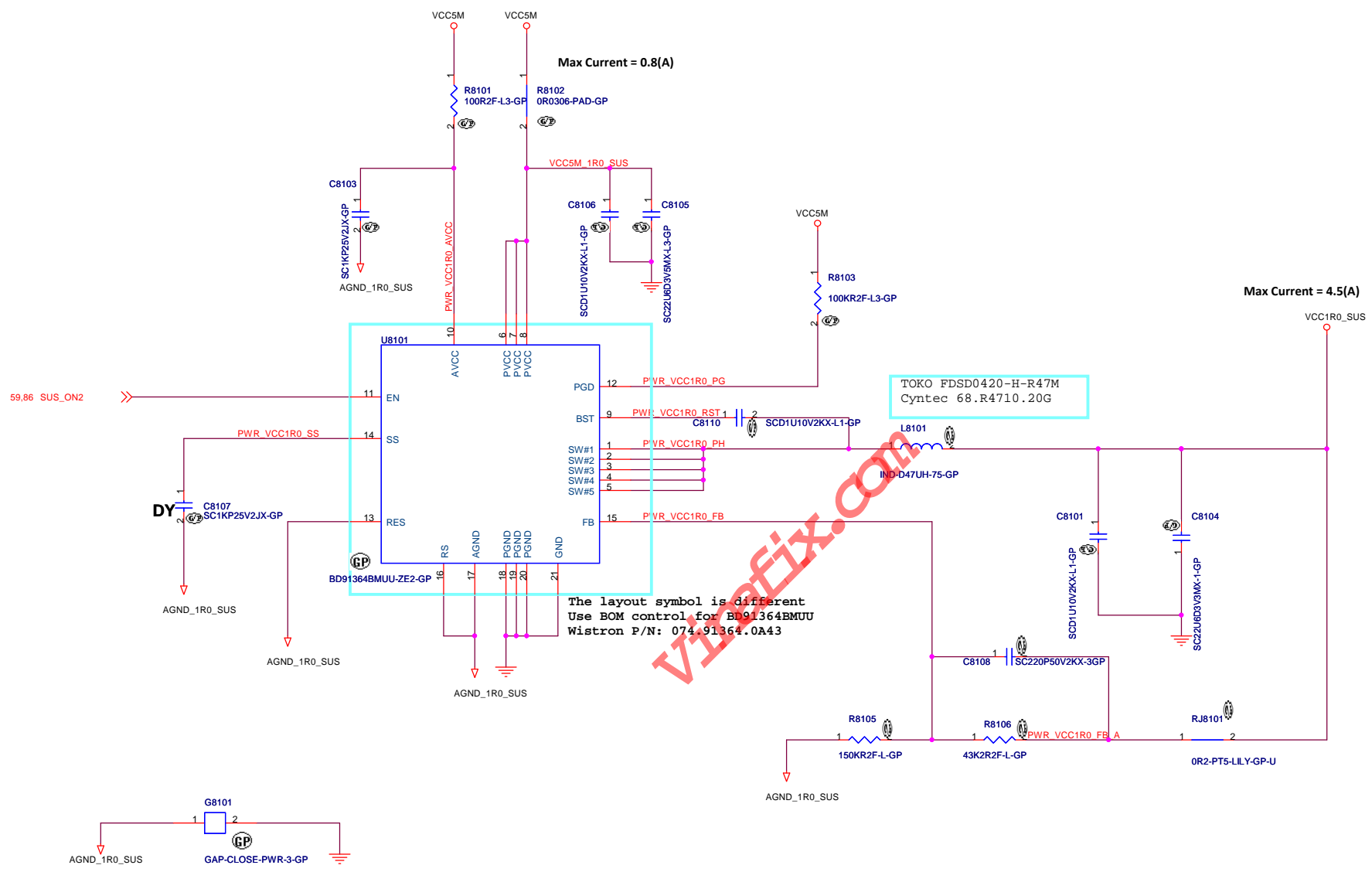


TABLE : NB682 MODE M1 (0 to GND)

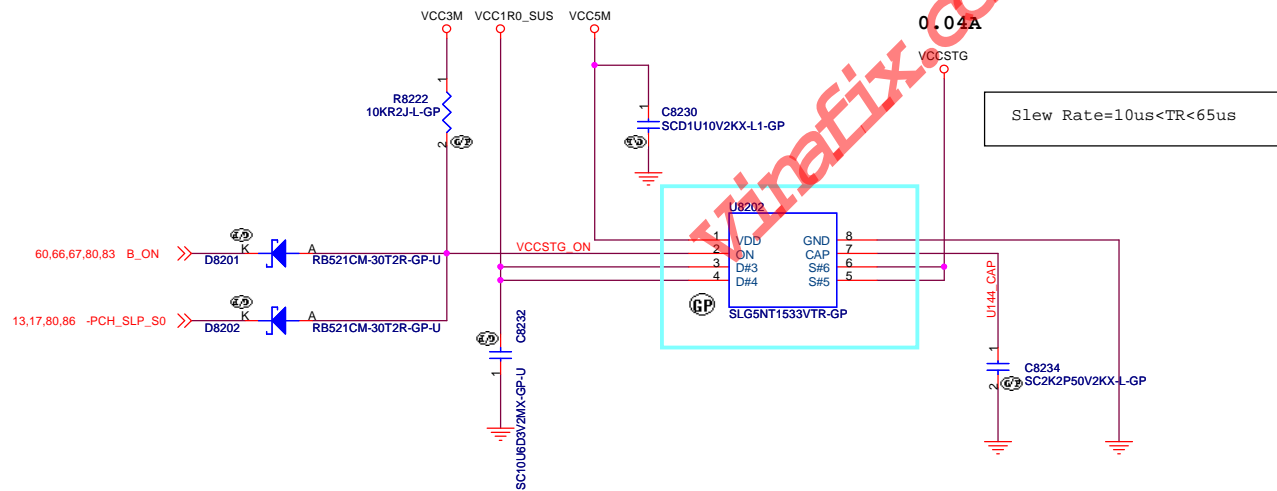
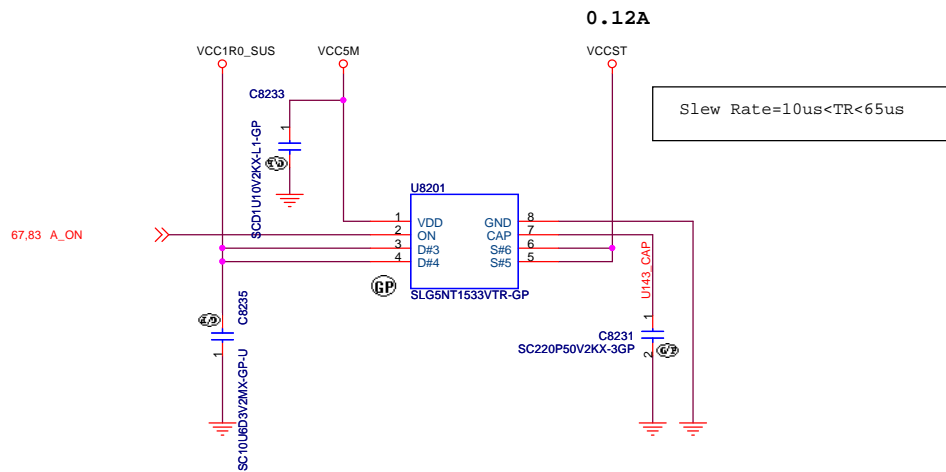
LP#	C1	C0	VOUT
0	X	X	0.000V
1	0	0	0.850V
1	0	1	0.875V
1	1	0	0.950V
1	1	1	0.975V

← SLP_S0#

← LOGIC



The layout symbol is different
Use BOM control for BD91364BMU
Wistron P/N: 074-91364.0A43



ULT

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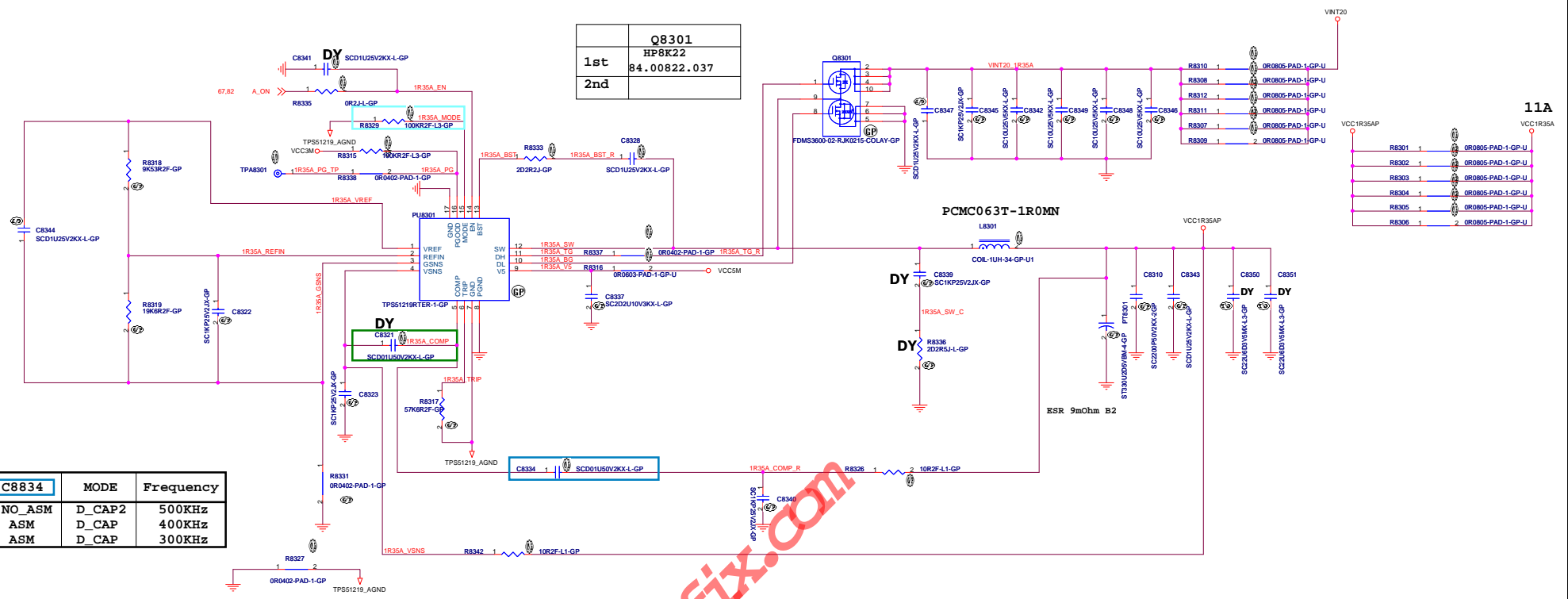
Title **LOAD SW VCCST & VCCSTG**

Size A3 Document Number **LSZ-2** Rev **1**

Date: Thursday, November 26, 2015 Sheet 82 of 109

5 4 3 2 1
All the input MLCCs on 20V must be placed symmetrically on top and bottom

	Q8301
1st	HP8K22
2nd	84.00822.037



R8329	C8321	C8834	MODE	Frequency
1Kohm	ASM	NO_ASM	D_CAP2	500KHz
200Kohm	NO_ASM	ASM	D_CAP	400KHz
100Kohm	NO_ASM	ASM	D_CAP	300KHz

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1.2A

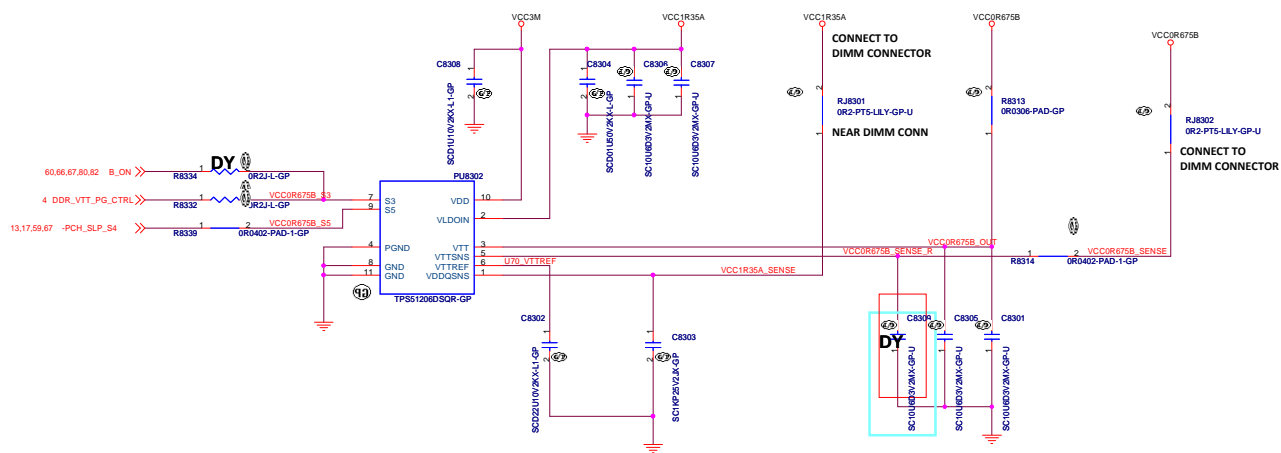
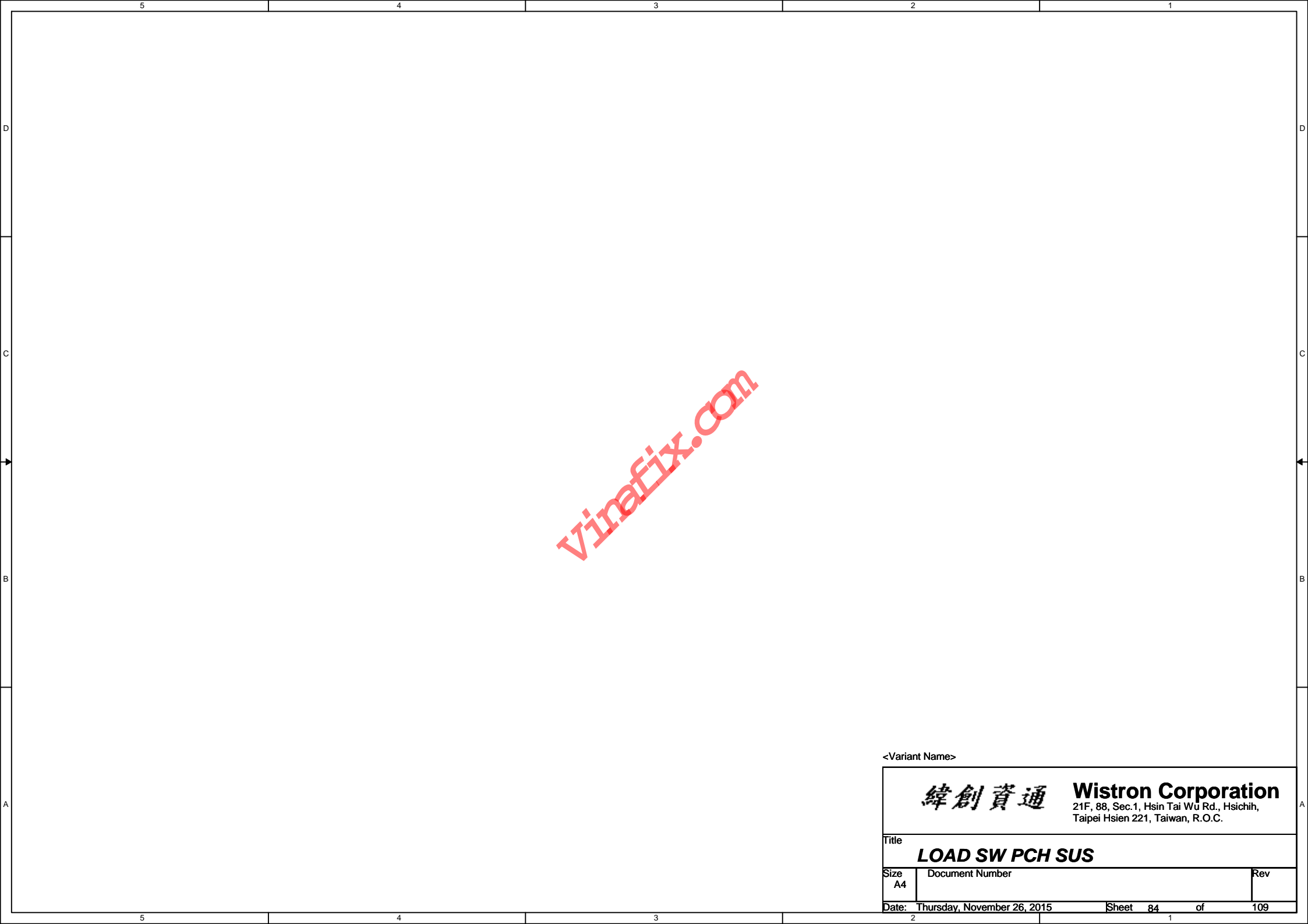


TABLE: TP551206

S3	S5	VTT	VTTREF
High	High	ON	ON
Low	High	OFF(High-Z)	ON
Low	Low	OFF(Discharge)	OFF(Discharge)



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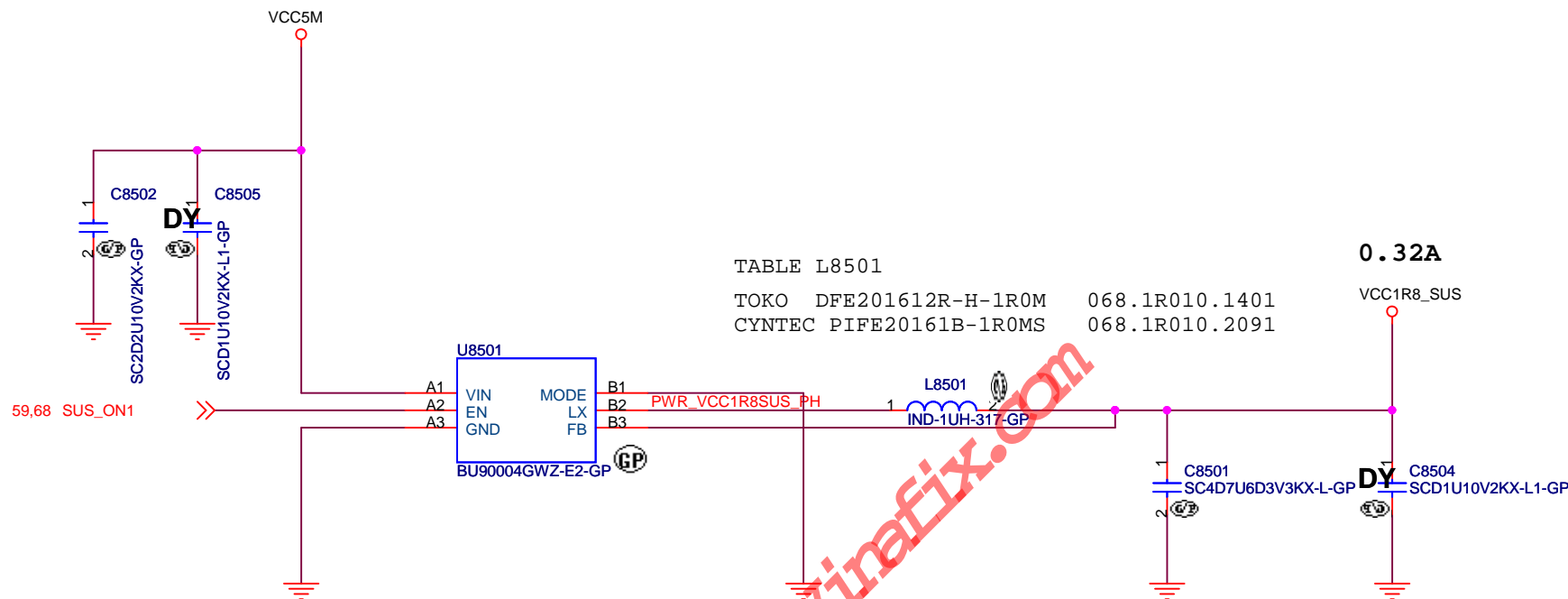
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緯創資通

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

Title
LOAD SW PCH SUS

Size A4	Document Number	Rev
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Wistron Corporation
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Taipei Hsien 221, Taiwan, R.O.C.

Title **DC/DC VCC1R8_SUS**

Size
A4

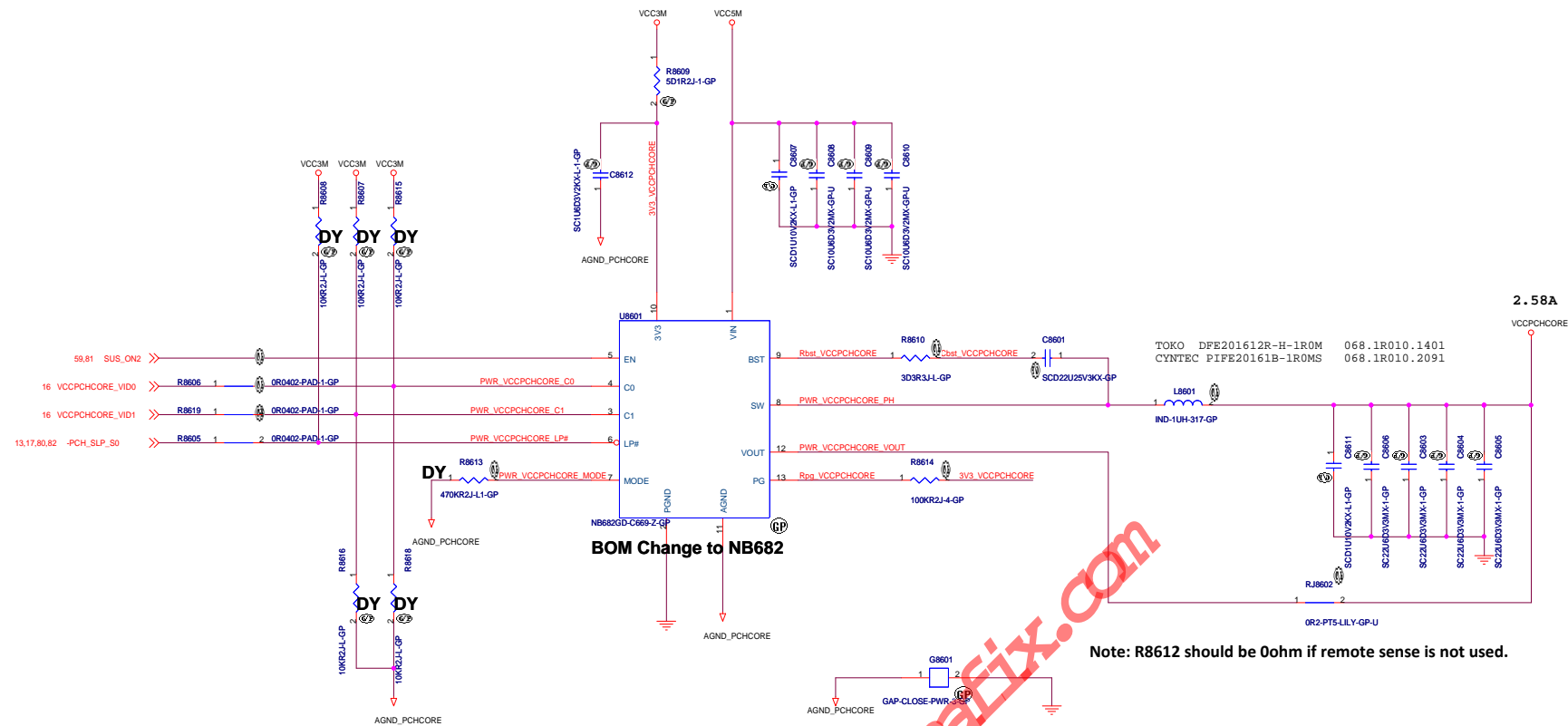
Document Number

LSZ-2

Rev
1

Date: Thursday, November 26, 2015

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BOM Change to NB682

Note: R8612 should be 0ohm if remote sense is not used.


TABLE : NB682 MODE M2 (Float) - ES

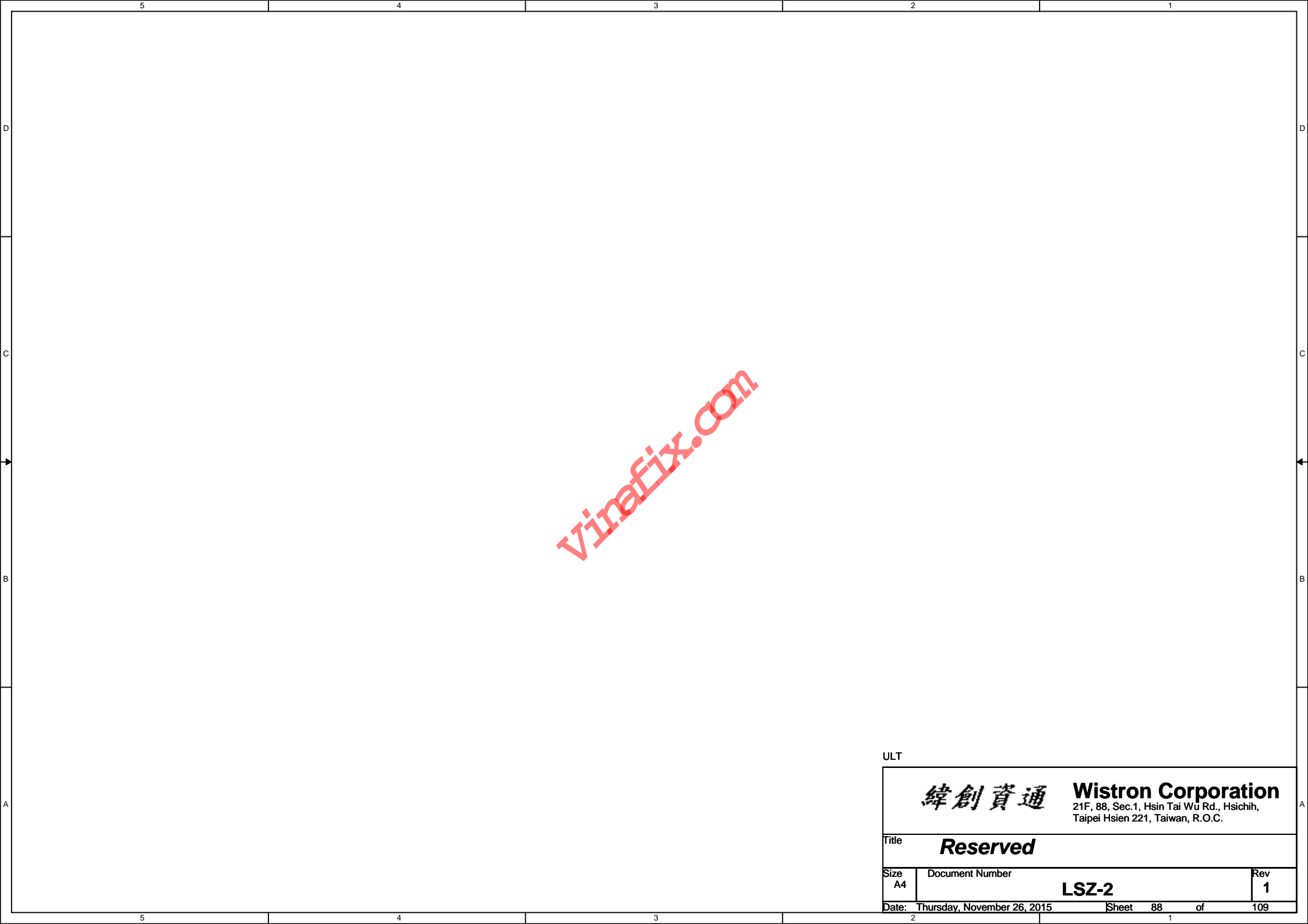
LP#	C1	C0	VOUT
0	X	X	0.700V
1	0	0	0.850V
1	0	1	0.900V
1	1	0	0.950V
1	1	1	1.000V

← SLP_S0#
← DEFAULT

5	4	3	2	1
D				D
C				C
B				B
A				A
5	4	3	2	1

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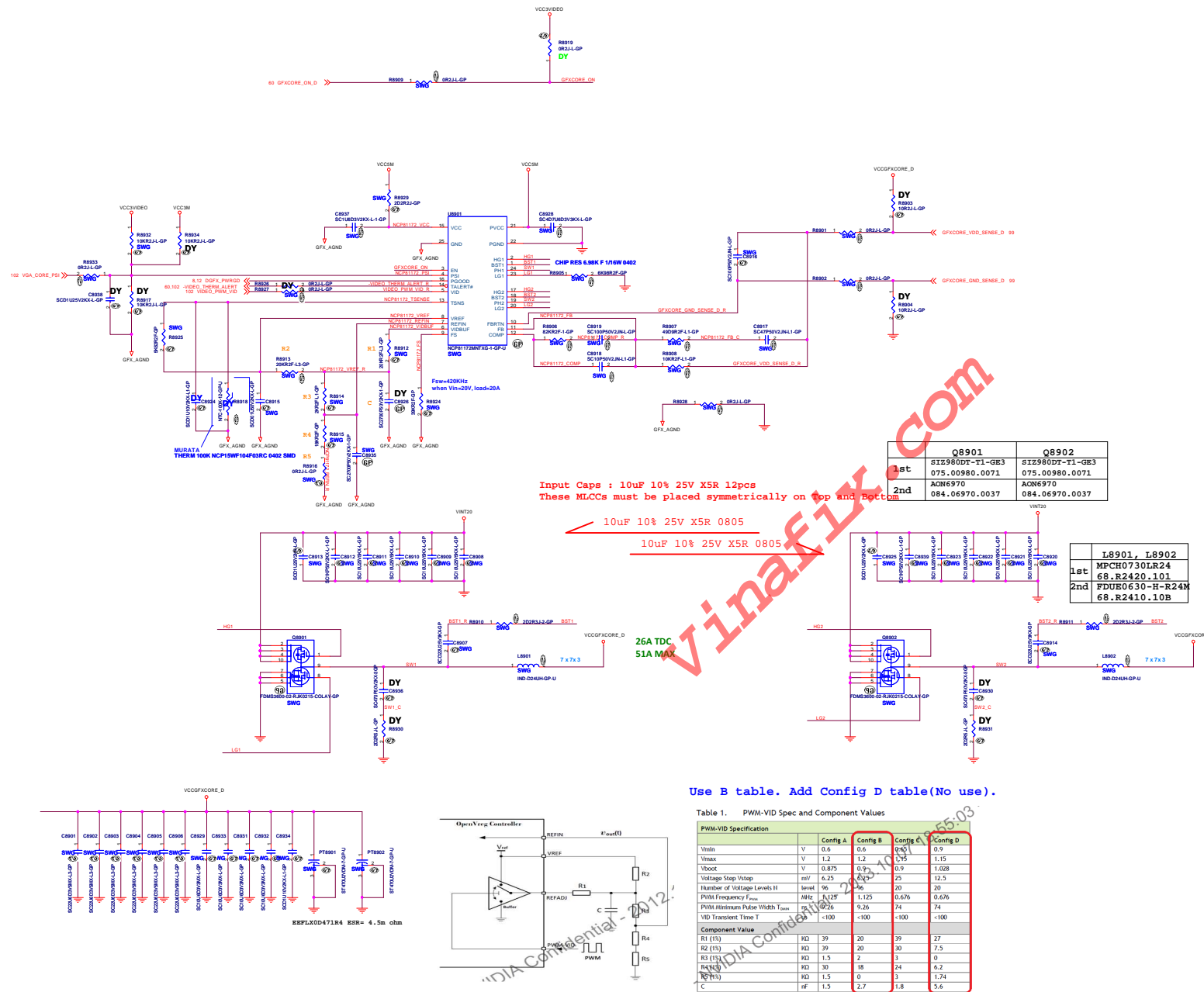
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Title			
Reserved(DC/DC)			
Size A	Document Number LSZ-2		Rev 1
Date:	Thursday, November 26, 2015	Sheet 87 of	109

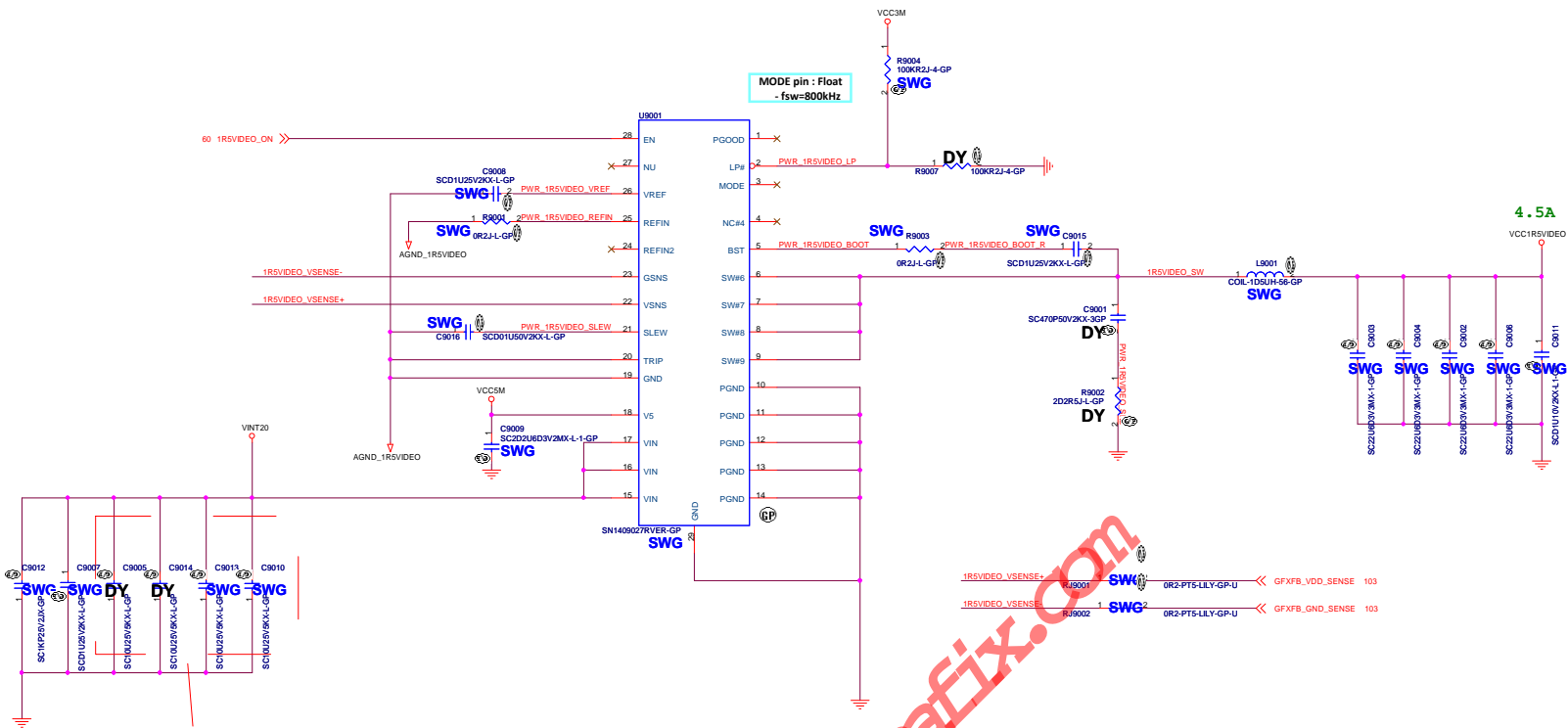


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Title <div>Reserved</div>		
Size <div>A4</div>	Document Number <div>LSZ-2</div>	Rev <div>1</div>
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keep more than 2.0mm height for
if acoustic noise suppression MLCC use

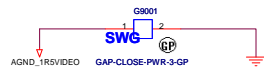
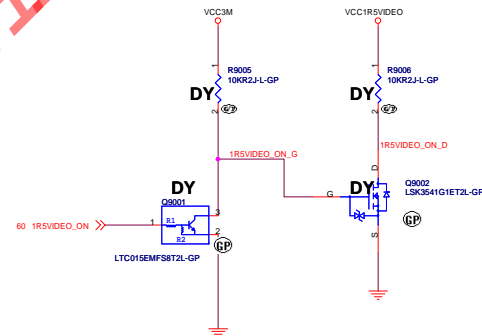


TABLE : SN1409027

REFIN	REFIN2	VOUT
GND	GND	1.05V
Float	GND	1.20V
GND	Float	1.50V
Float	Float	1.35V

← LOGIC

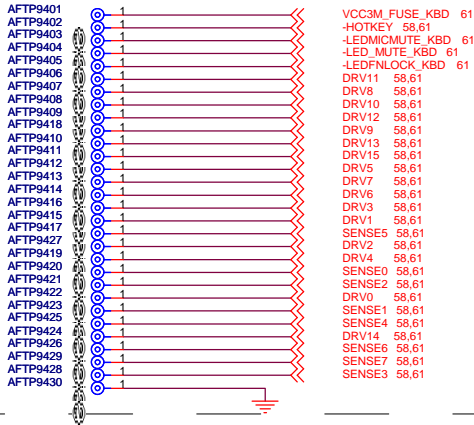


<Variant Name>

緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin-Tai Wu Rd., Hsinchu,
Taipex Hsien 301, Taiwan, R.O.C.

Title		
DC/DC 1R5VIDEO		
Size	Document Number	Rev
AZ		
Date: Thursday, November 26, 2015 Sheet 90 of 109		

Near KB1(Keyboard connector)



Near SPK1(Speaker)



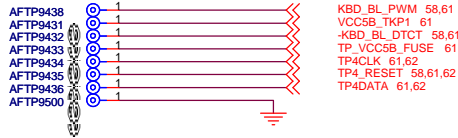
Near SIM1(SIM Card)



Near DP1(Display port)



Near TKP1(Track point connector)



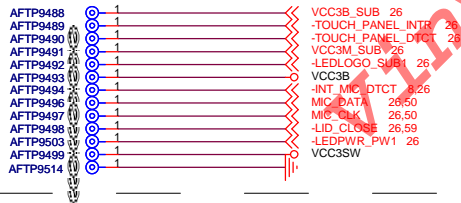
Near FAN1(FAN Connector)



Near RTC1(RTC Battery)



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



Near SUB2 (SMART CARD)



Near HDMI1



Near DC1(Adapter in)



Near BAT1(Battery in)



Near BAT2(Battery in)



Near LCD1(eDP connector)



For Power Switch



Bottom side



Near USB3(USB 3.0 conn)



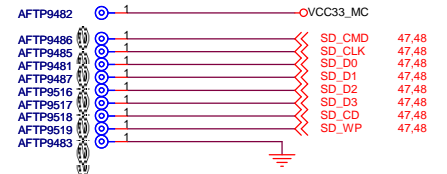
Near USB2(USB 3.0 conn)



Near USB1(USB 3.0 conn)



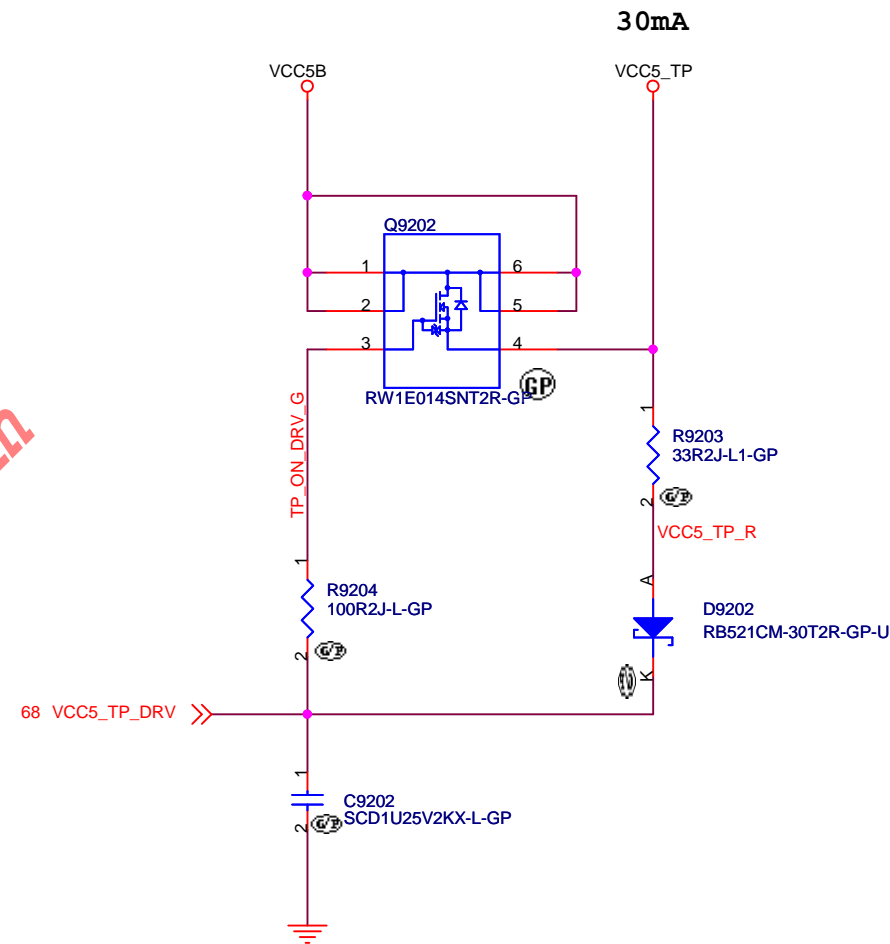
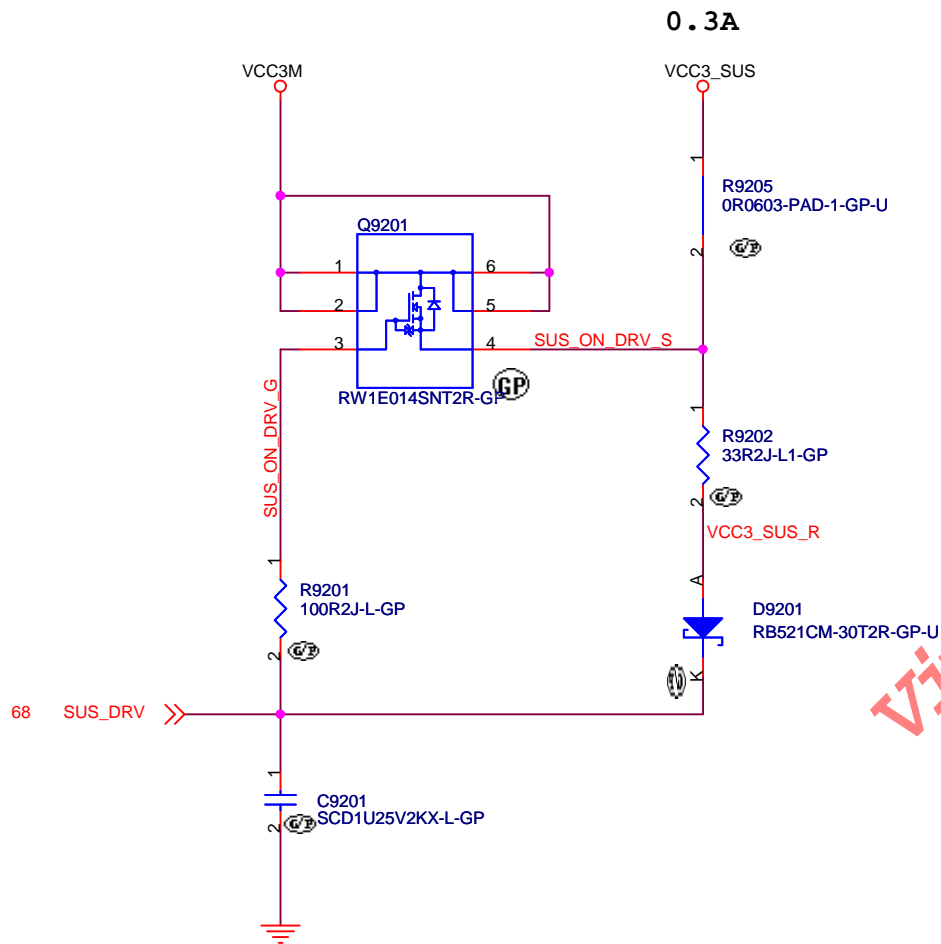
Near MCS1 (MediaCard Slot)



Near PW1(Power Button)



ULT



<Variant Name>

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

Title

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Size
A4

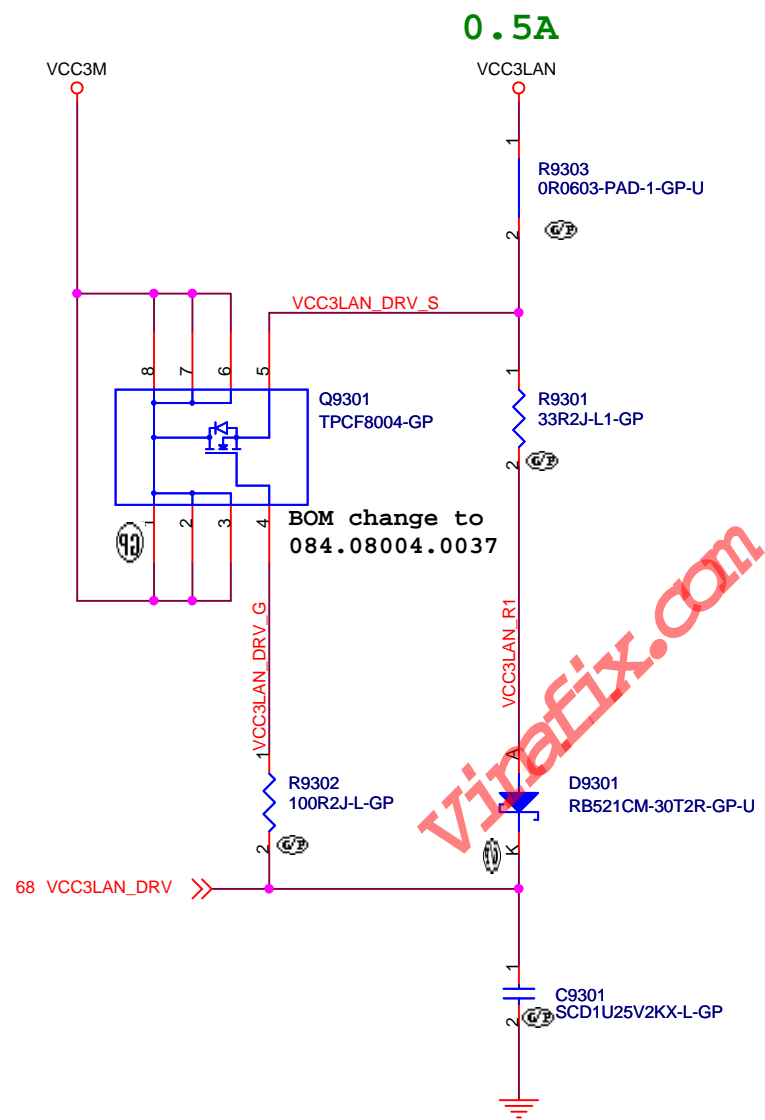
Document Number

Rev

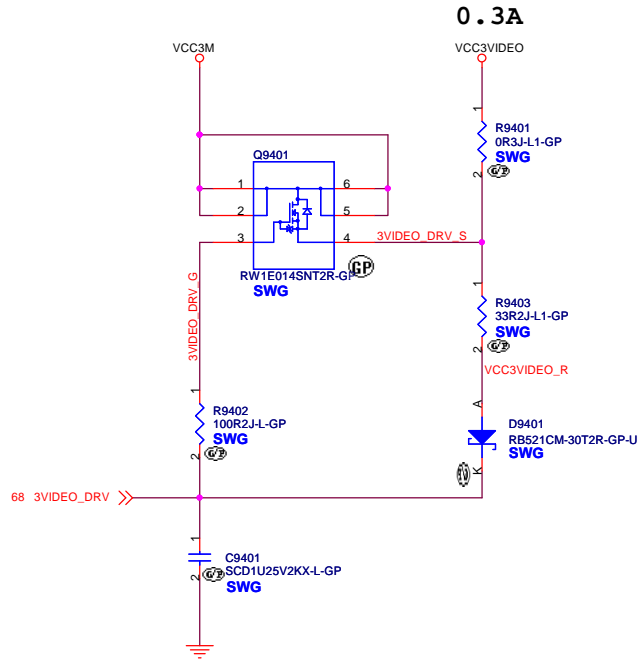
Date: Thursday, November 26, 2015

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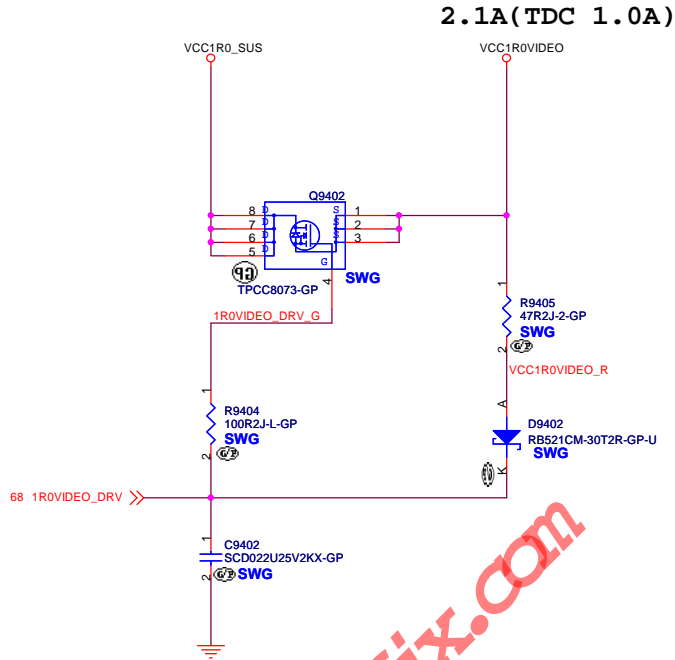
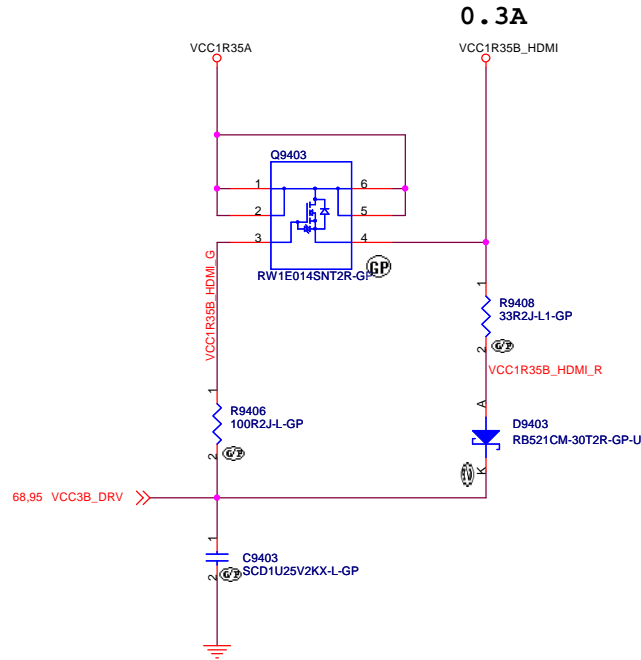
LOAD SWITCH LAN

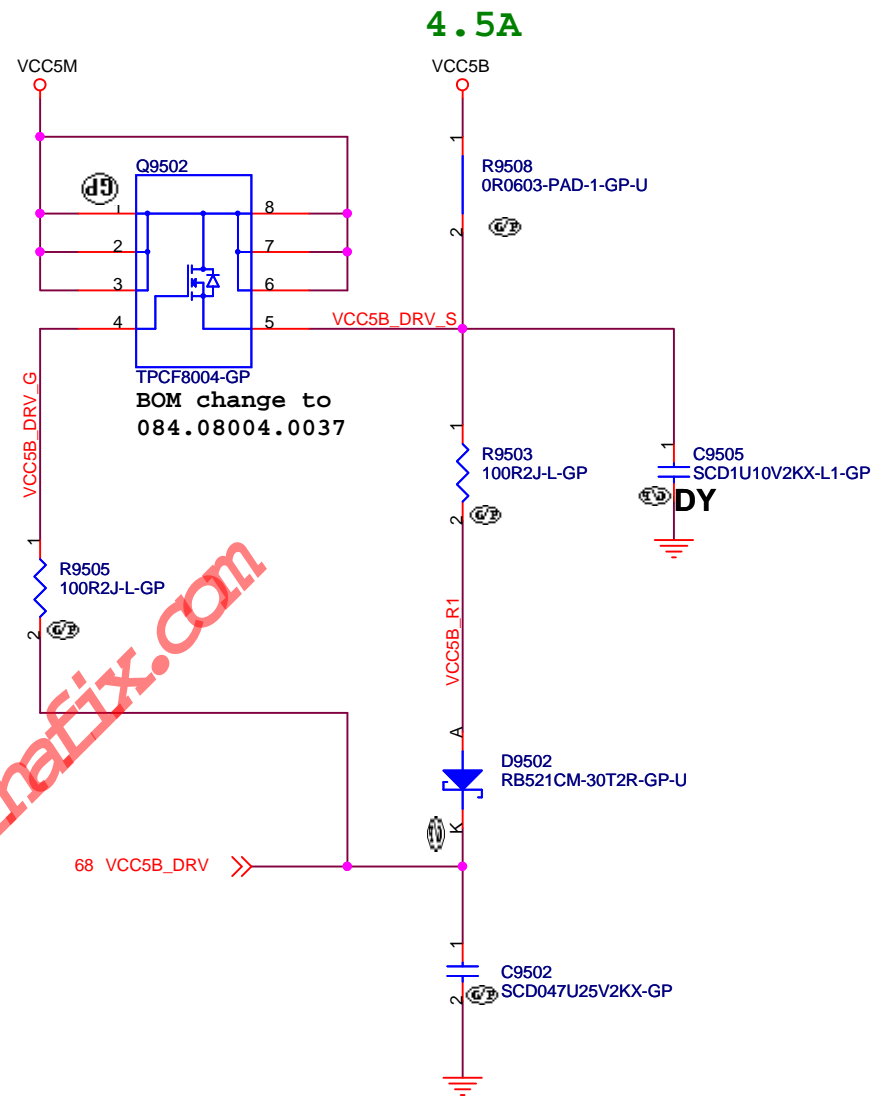
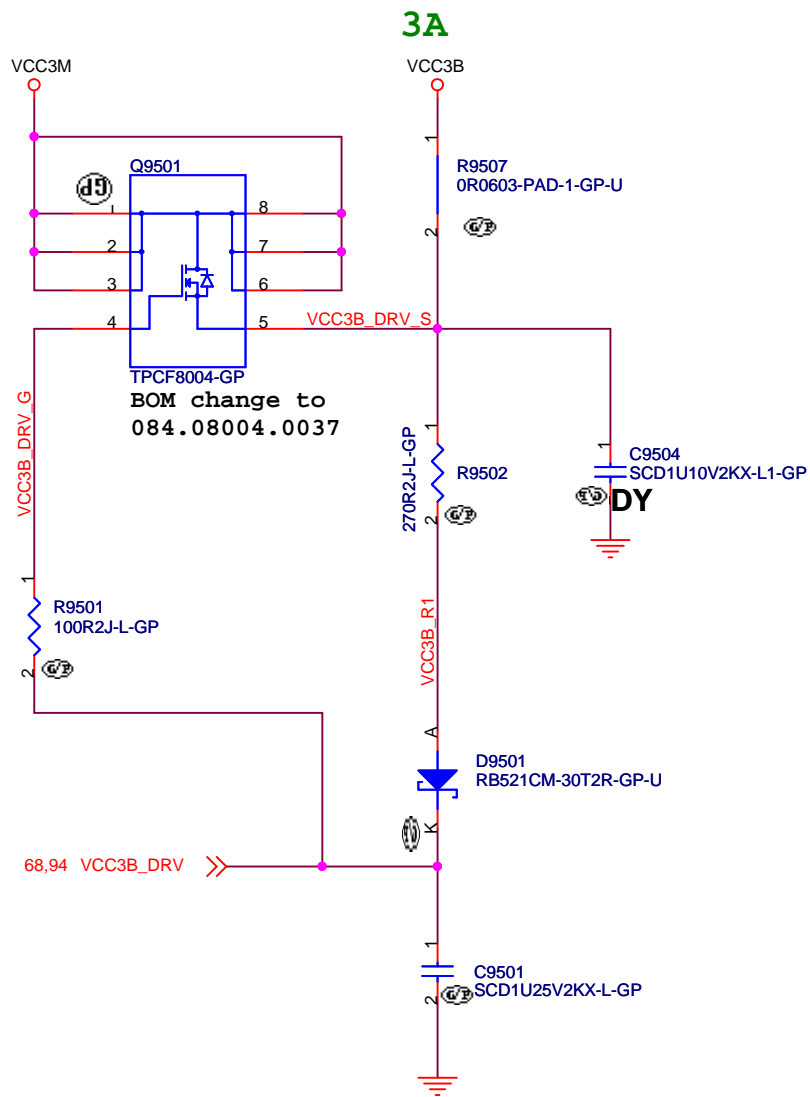


LOAD SWITCH VIDEO



LOAD SWITCH HDMI





<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

LOAD SW VCCB

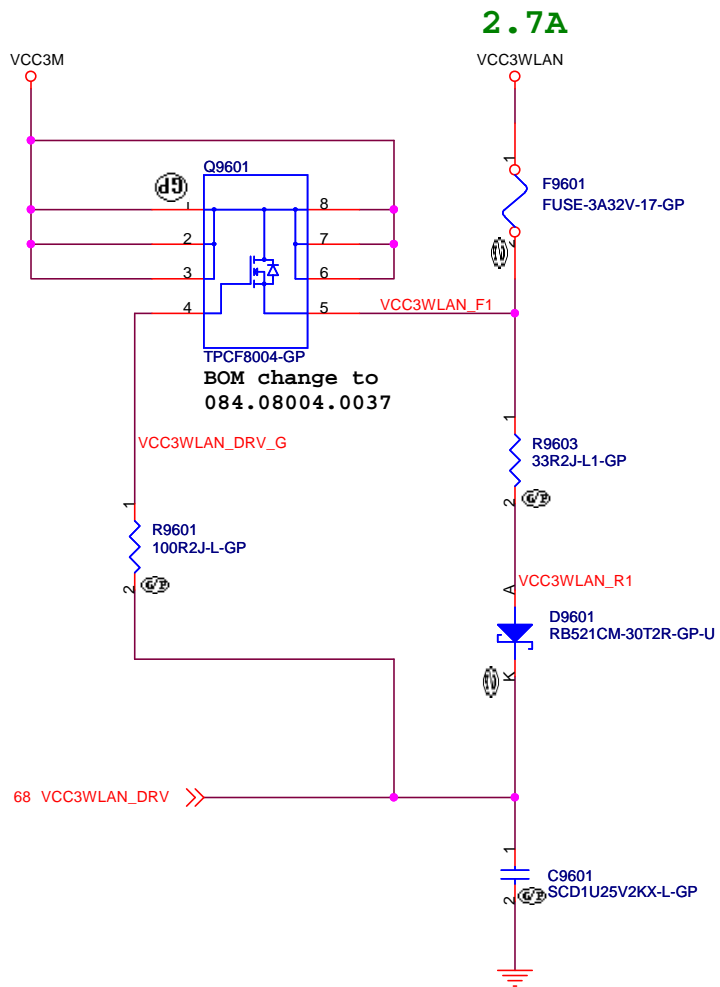
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Document Number

Rev

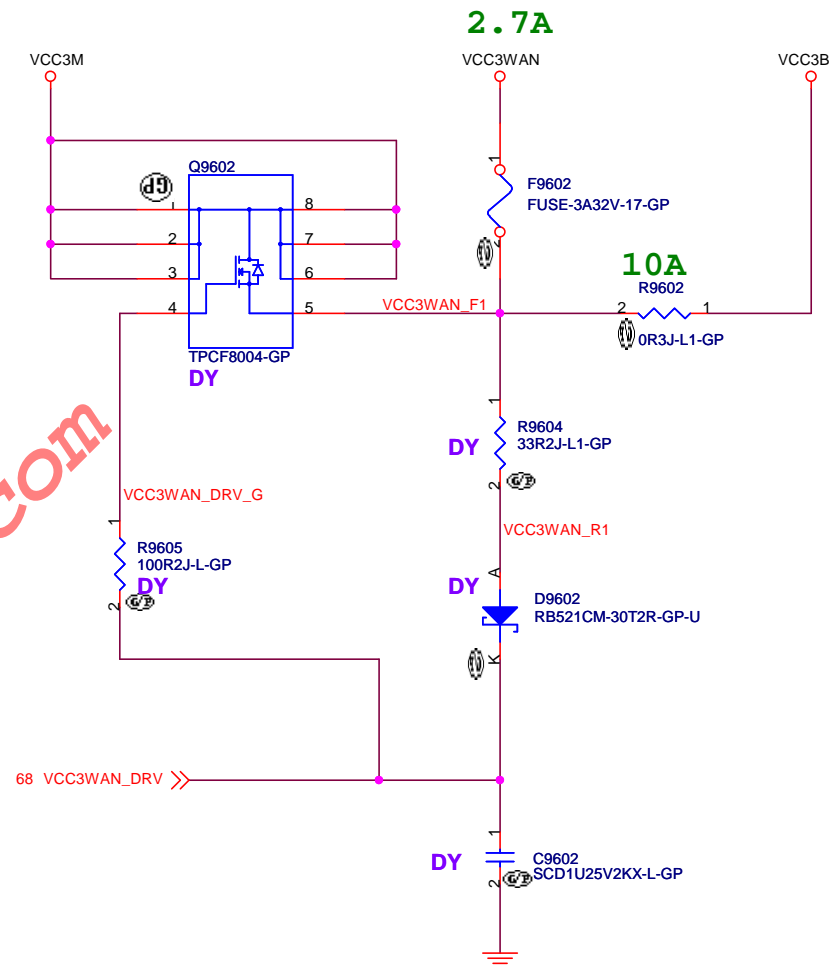
Date: Thursday, November 26, 2015

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AOAC	YES	NO
R9602	DY	ASM
R9604	ASM	DY
R9605	ASM	DY
Q9602	ASM	DY
D9602	ASM	DY
C9602	ASM	DY

LOGIC



<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

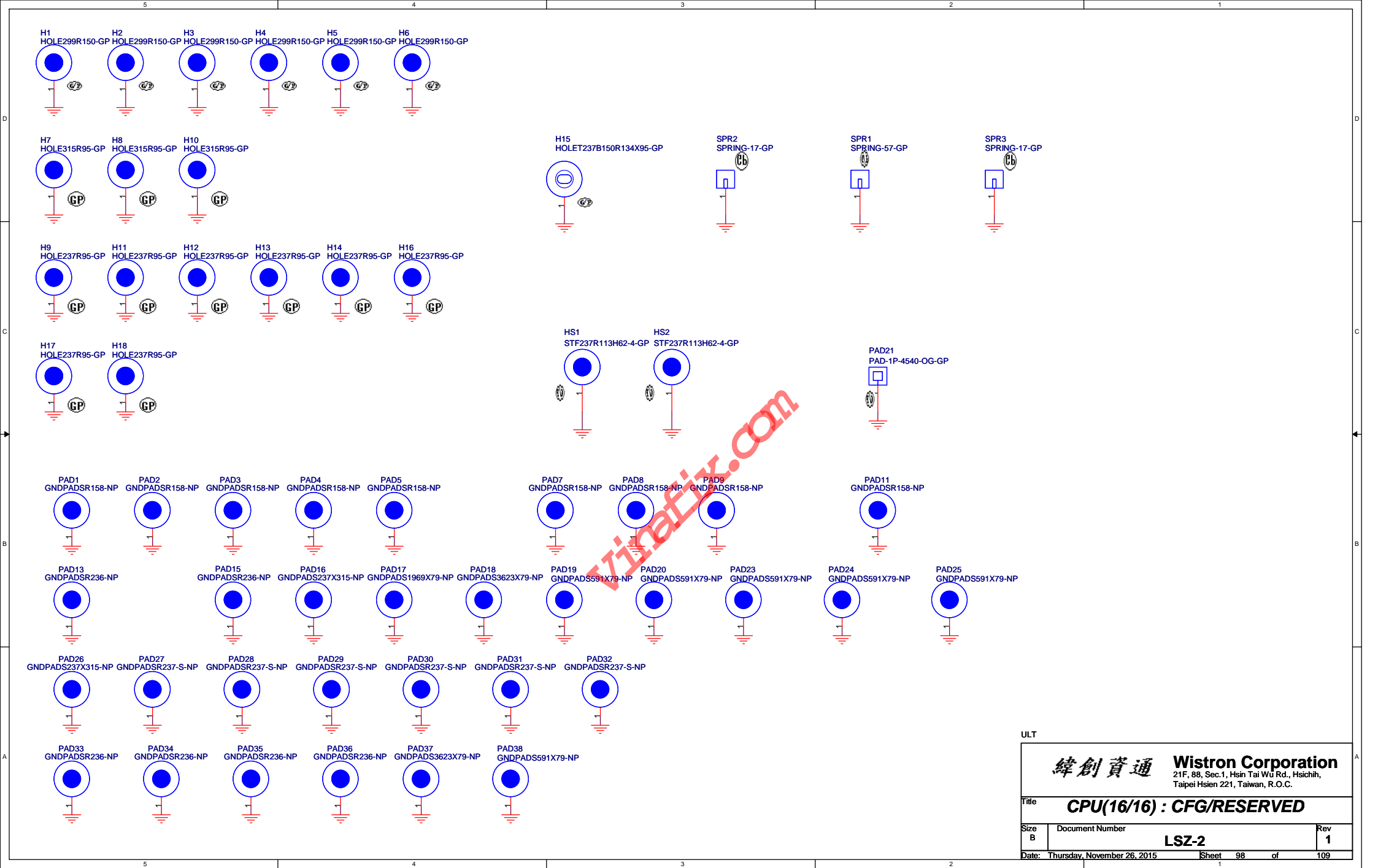
LOAD SW WWAN&WLAN

Size Document Number

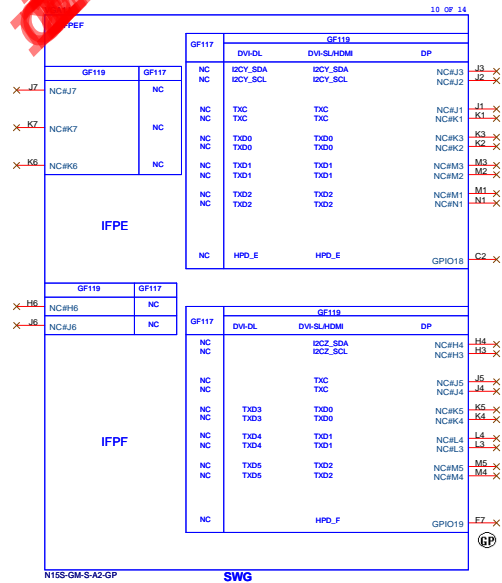
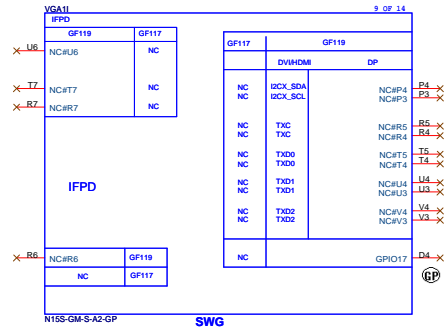
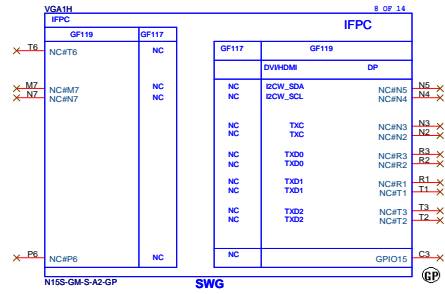
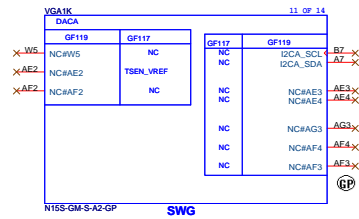
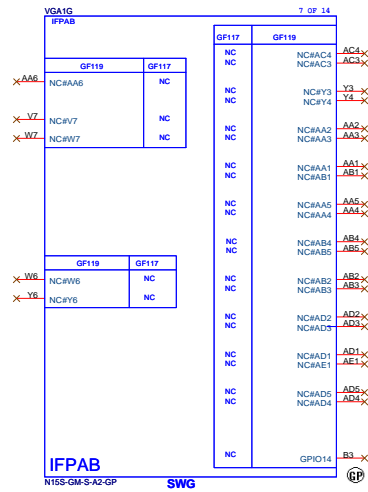
Date: Thursday, November 26, 2015

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Rev



ULT			
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Title CPU(16/16) : CFG/RESERVED			
Size B	Document Number LSZ-2	Rev 1	
Date: Thursday, November 26, 2015		Sheet 98	of 109

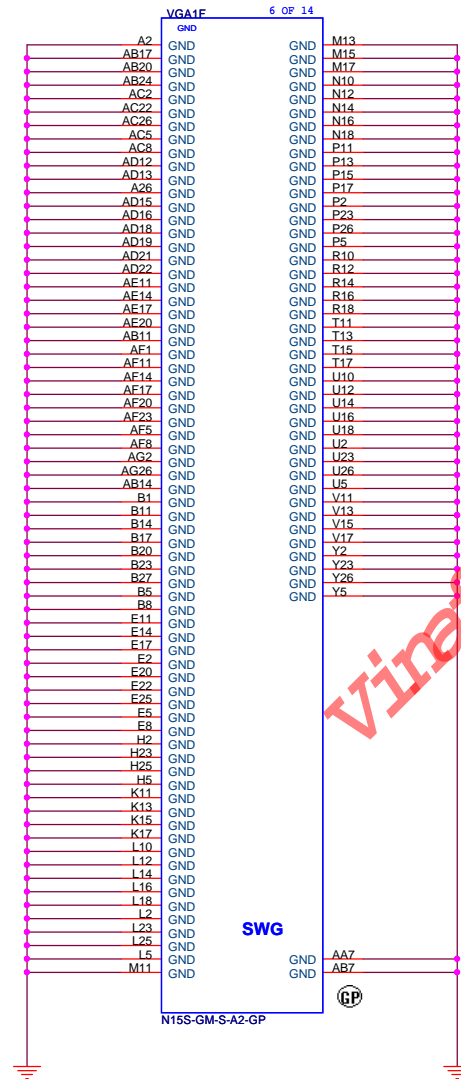


ULT

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

Title		N14M-GS(2/6) :DIGITALOUT/F	
Size	Document Number	Rev	1
Custom	LSZ-2		
Date: Thursday, November 28, 2015		Sheet	100 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			
N14M-GS(6/6) : GND			
Size	Document Number		Rev
A3	LSZ-2		1
Date:	Thursday, November 26, 2015	Sheet 104 of	109

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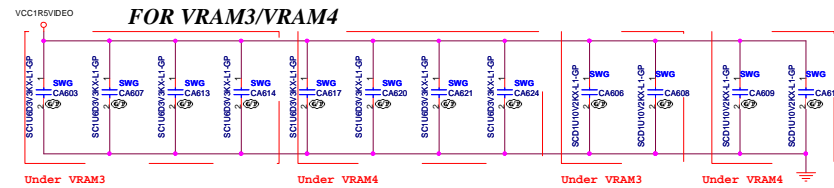
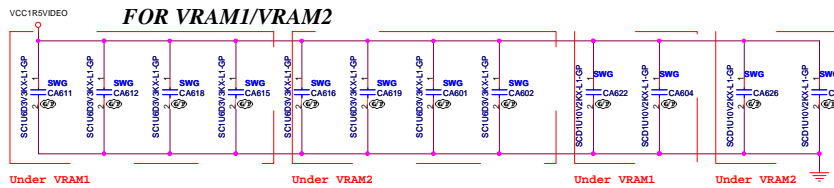
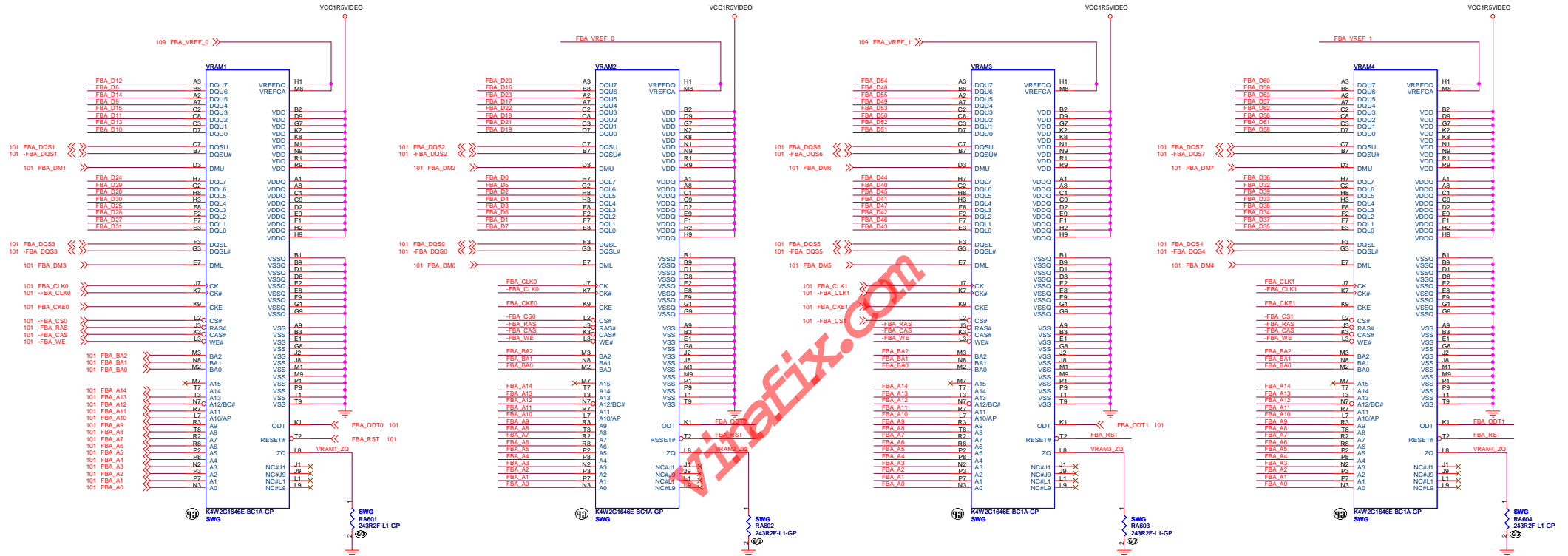
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		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title CPU(16/16) : CFG/RESERVED			
Size A	Document Number LSZ-2		Rev 1
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FB CMD mapping Mode D-N14x

TABLE
DDR3 VIDEO MEMORY

	For N165-GT/N165-GTR For N15M-Q3	
	Hynix 4GBITS (256Mx16)	SAMSUNG 4GBITS (256Mx16)
VRAM1 VRAM2 VRAM3 VRAM4	H5TC4G63CFR-N0C	K4W4G1646E-BC1A
BOM Structure	VH2G@	VS2G@



BLANK

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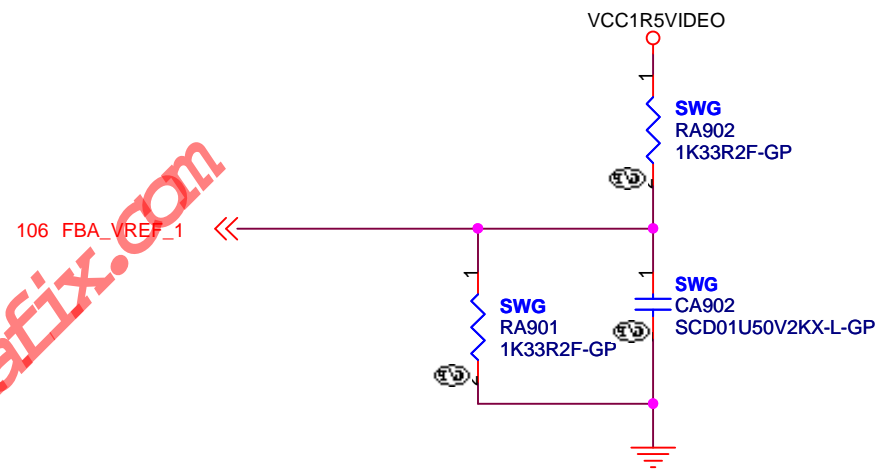
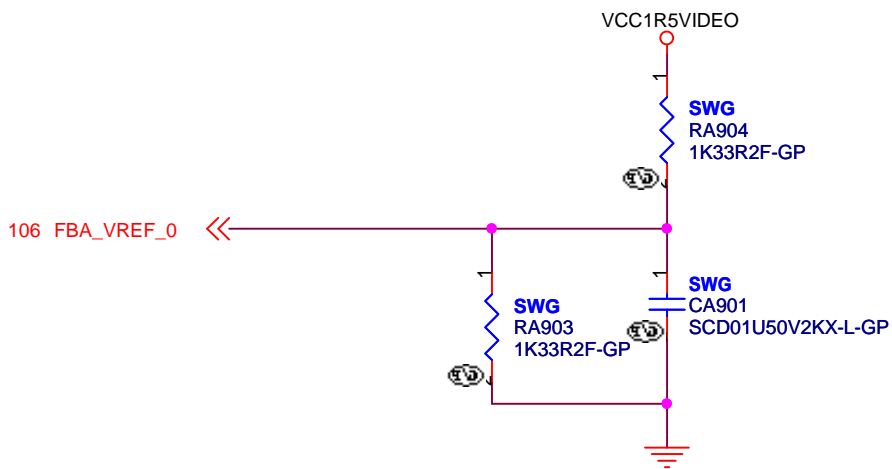
<div>緯創資通</div>		<div>Wistron Corporation</div>	
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<div>Title</div> <div>VRAM CHANNEL-B</div>			
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