

# Dasher-2 Block Diagram

LDB-2 91.4RA01.001

Mar. 09, 2012

## PCB Layer Stackup

L1:Component  
L2:GND  
L3:Signal 1  
L4:VCC  
L5:Signal 2  
L6:Signal 3  
L7:GND  
L8:Component

## Battery Charger/Selector

BQ24760 74  
INPUTS OUTPUTS  
DOCK\_PWR20 CHARGER\_OUT12

System DC/DC  
TPS51220ARSN 78  
VINT20 VCC5M  
VCC3M

CPU DC/DC  
VT1318M/VT1324S 79  
VCC5M\_OUT VCCCPUCORE

GMCH GFX CORE  
VT1324S 80  
VCC5M\_OUT VCCGFXCORE

VCC1R5A  
VT357FCX 85  
VCC5M\_OUT VCC1R5A

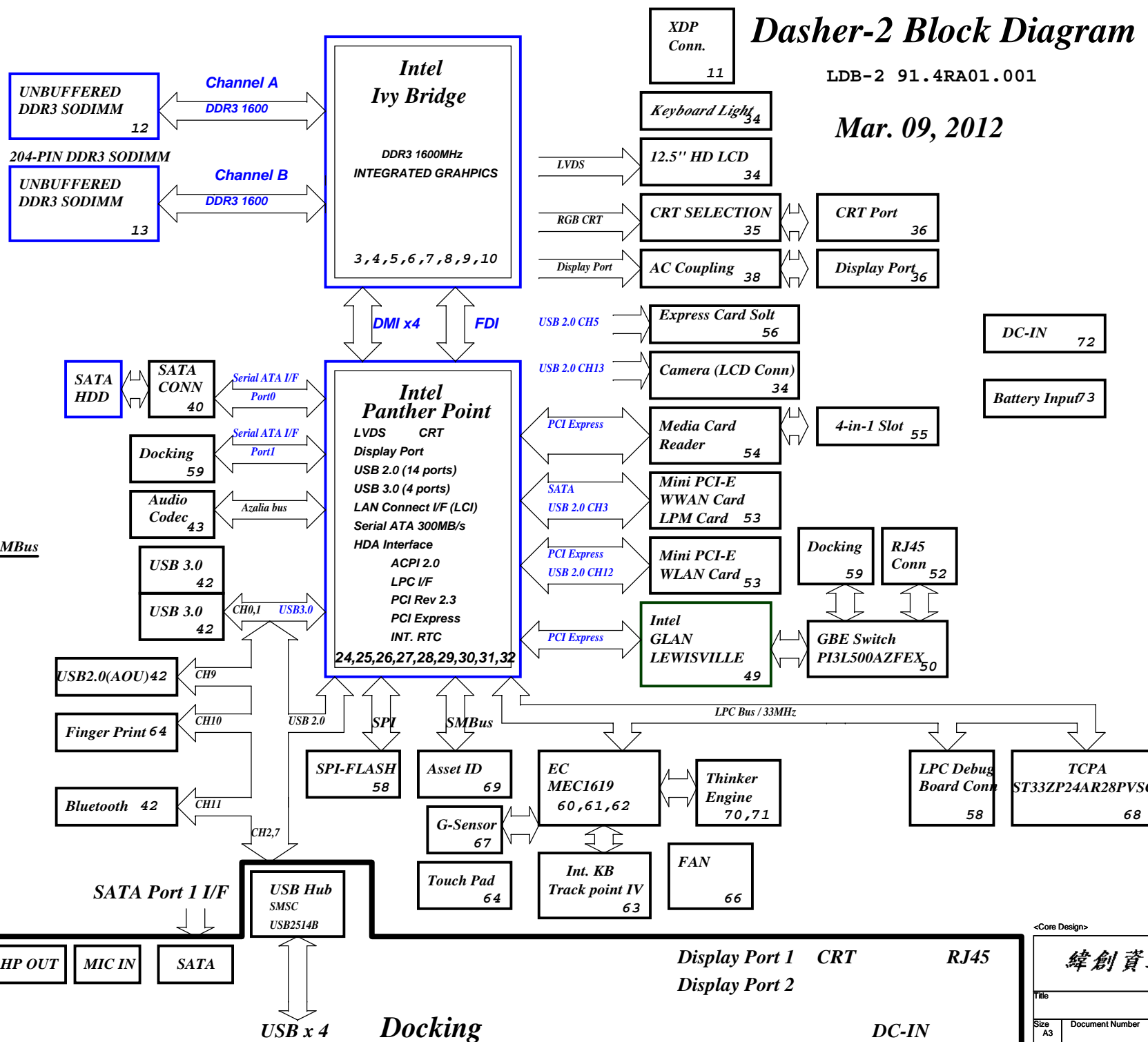
VCC0R75B  
TPS51200DRCR 86  
VCC1R5A VCC0R75B

VCC1R8B  
BD9139 89  
VCC5M\_OUT VCC1R8B

VCC1R05AMT  
VT356FCX 84  
VCC5M\_OUT VCC1R05LAN

VCC1R05B\_VTT  
VT356 83  
VCC5M\_OUT VCC1R05B\_VTT

VCCSA  
VT370 90  
VCC5M\_OUT VCCSA



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Block Diagram			
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## RESISTOR

Symbol name	Value	Tolerance (J: 5%, F: 1%, D: 0.5%, B: 0.1 %)	Rating 0402=> 1/16W, 25V 0603 => 1/16W, 75V 0805 => 1/10W, 100V	Size 2=>0402, 3=>0603, 5=>0805, 6=>1206, 0=>1210

The naming rule is value + R + size + tolerance  
 For the value, it can be read by the number before R. (R means resistor)  
 For the tolerance, it can be read from the last letter.  
 For the rating, we don't show on the symbol name.  
 For the size, R2=>0402, R3=>0603, R5=>0805,....

## CAPACITOR

Symbol name	Value	Tolerance (M: +/-20, K: +/-10, Z: +80/-20)	Rating	Size 2=>0402, 3=>0603, 5=>0805, 6=>1206, 0=>1210

The naming rule is  
Capacitor type + value + rating + size + tolerance + material  
SCD1U10V2MX-1  
SC=> SMT Ceramic, TC=> POS cap or SP cap  
D1U => 0.1uF  
10V => the voltage rating is 10V  
2=> 0402, 3=>0603, 5=>0805  
M=>tolerance M, K, Z  
X=> X7R/X5R, Y=> Y5V  
-1 => symbol version, nonsense to EE characteristic

## PLANAR\_ID[3..0]

IBEXPEAK-M	39	38	48	49	Planar ID Version	Planar PCB Version
PLANAR_IDn	3	2	1	0		
	0	0	0	0	Dasher-2 initial	N/A
	0	0	0	1	Dasher-2 PreDV	SA
	0	0	1	0	Dasher-2 SDV	SA
	0	0	1	1	Dasher-2 FVT	SB
	0	1	0	0	Dasher-2 PreSIT	SC
	0	1	0	1	Dasher-2 SIT	SD
	0	1	1	0	Dasher-2 SVT	-1
	0	1	1	1		
	1	0	0	0		
	1	0	0	1		
	1	0	1	0		

## EC HISTORY

[illegible]

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Title
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## Reference

Size	A3
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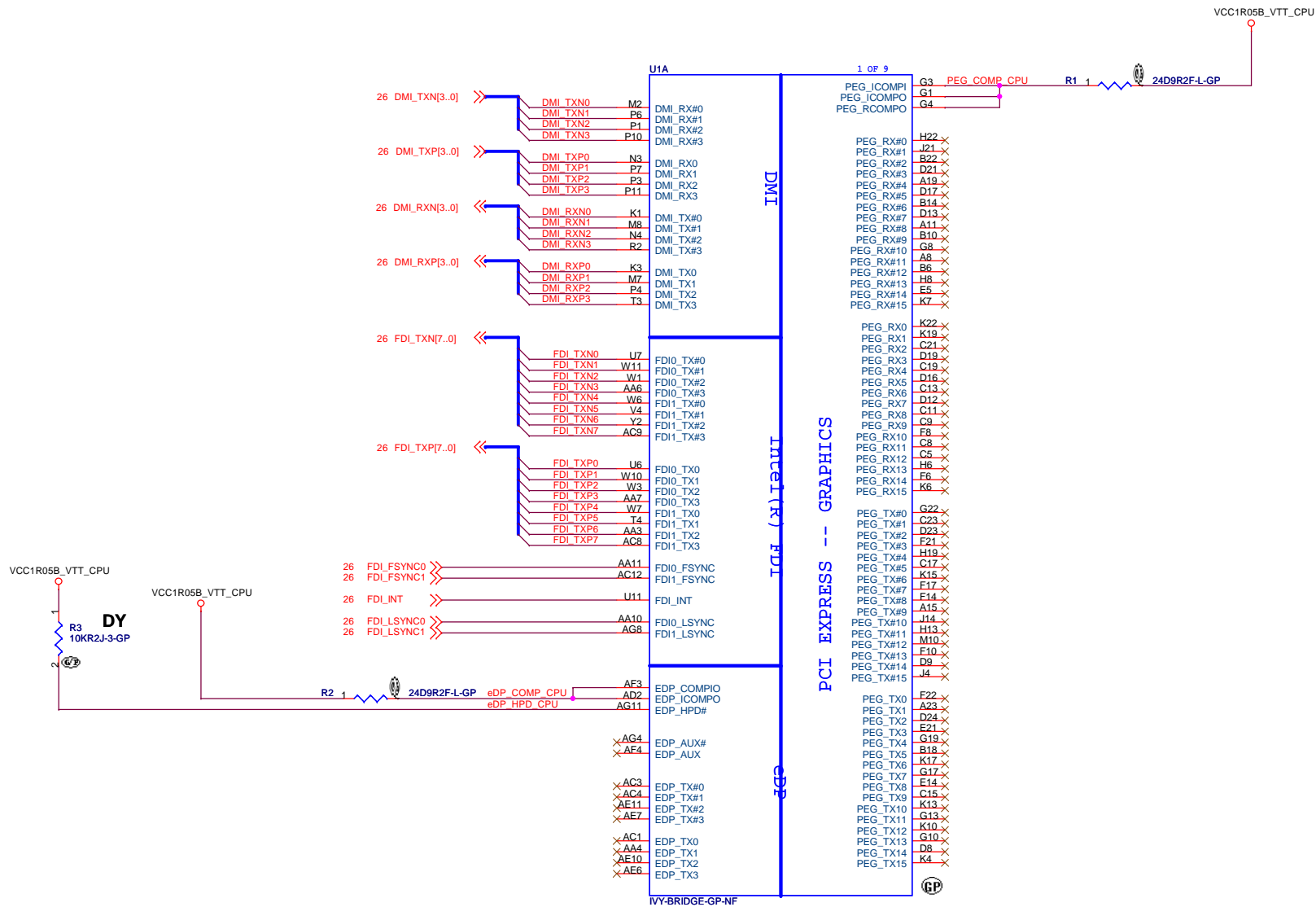
Document Number
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## Dasher-2

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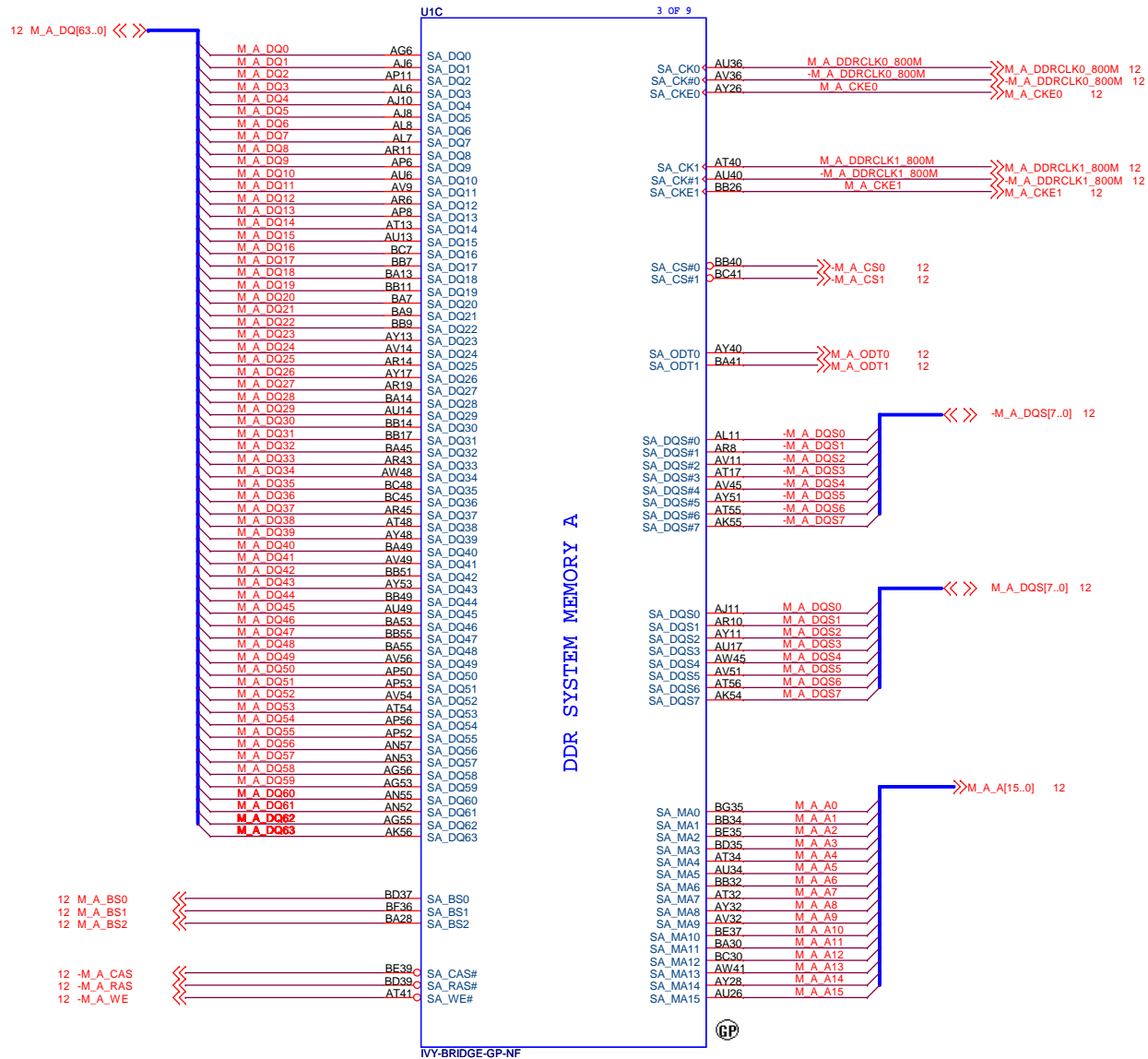
Sandy Bridge	High
Ivy Bridge	Low

Title **GPU(2/8)-CL K/MISC/ITAG**

Size	Document Number	Rev
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A3	<b>Dasher-2</b>	-1
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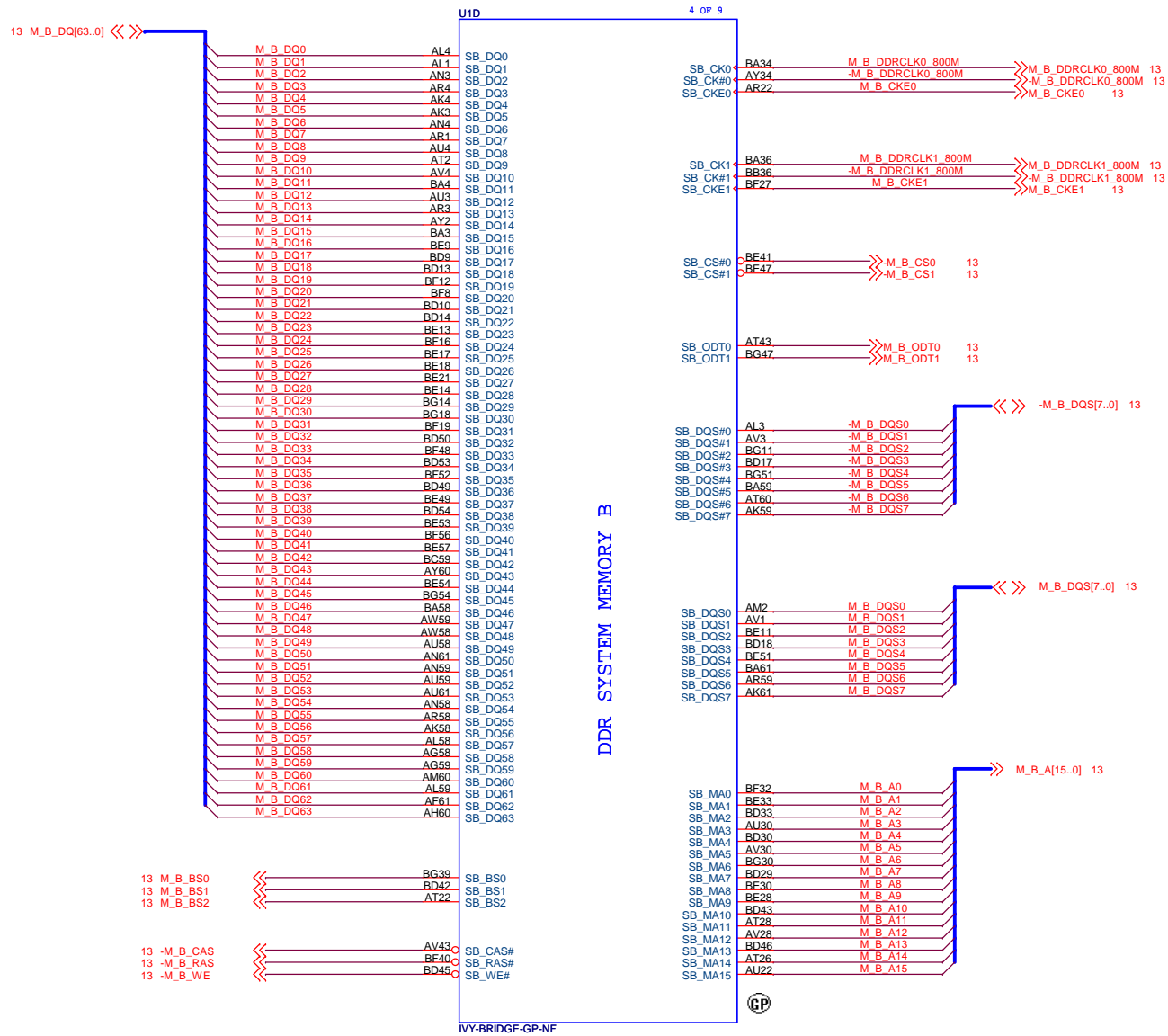
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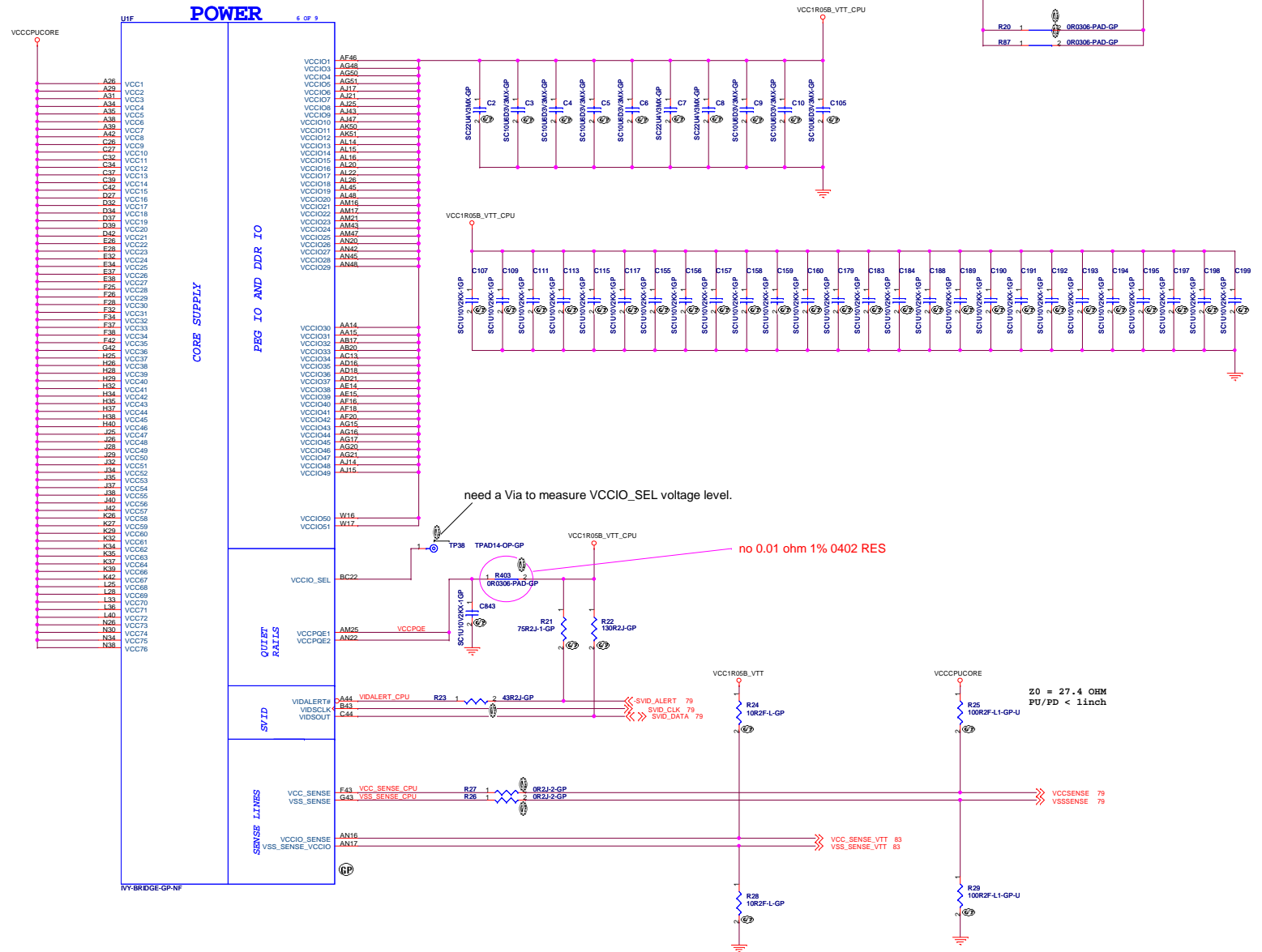
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Size	Document Number	Rev	
A3	Dasher-2	-1	
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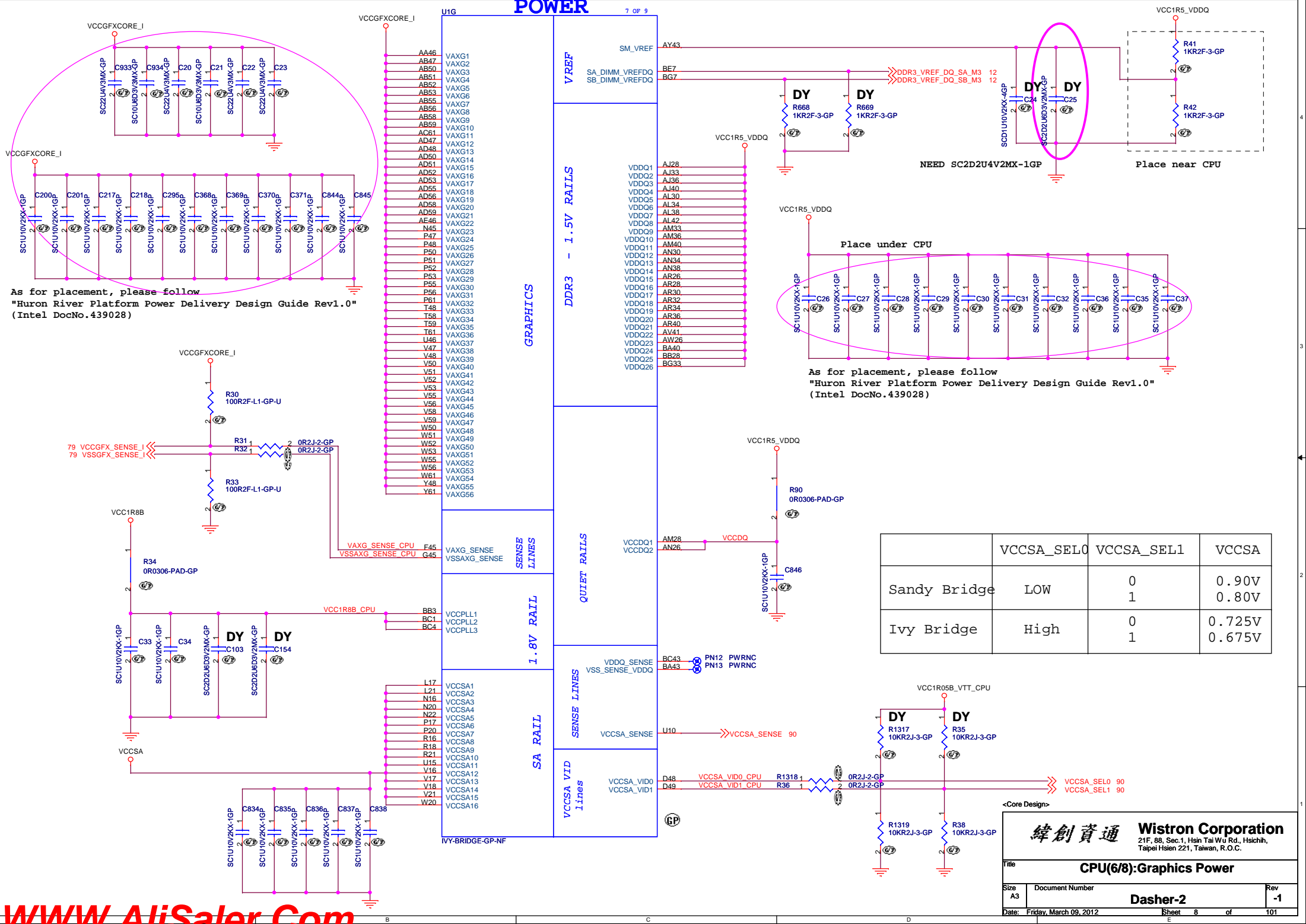
緯創資通 Wistron Corporation  
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Title			CPU(4/8):DDR3 Channel-B
Size	Document Number	Rev	
A3	Dasher-2	-1	
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File CPU(5/8):Processor Power	
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As for placement, please follow  
"Huron River Platform Power Delivery Design Guide Rev1.0"  
(Intel DocNo.439028)

As for placement, please follow  
"Huron River Platform Power Delivery Design Guide Rev1.0"  
(Intel DocNo.439028)

	VCCSA_SEL0	VCCSA_SEL1	VCCSA
Sandy Bridge	LOW	0 1	0.90V 0.80V
Ivy Bridge	High	0 1	0.725V 0.675V

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Title

CPU(6/8):Graphics Power

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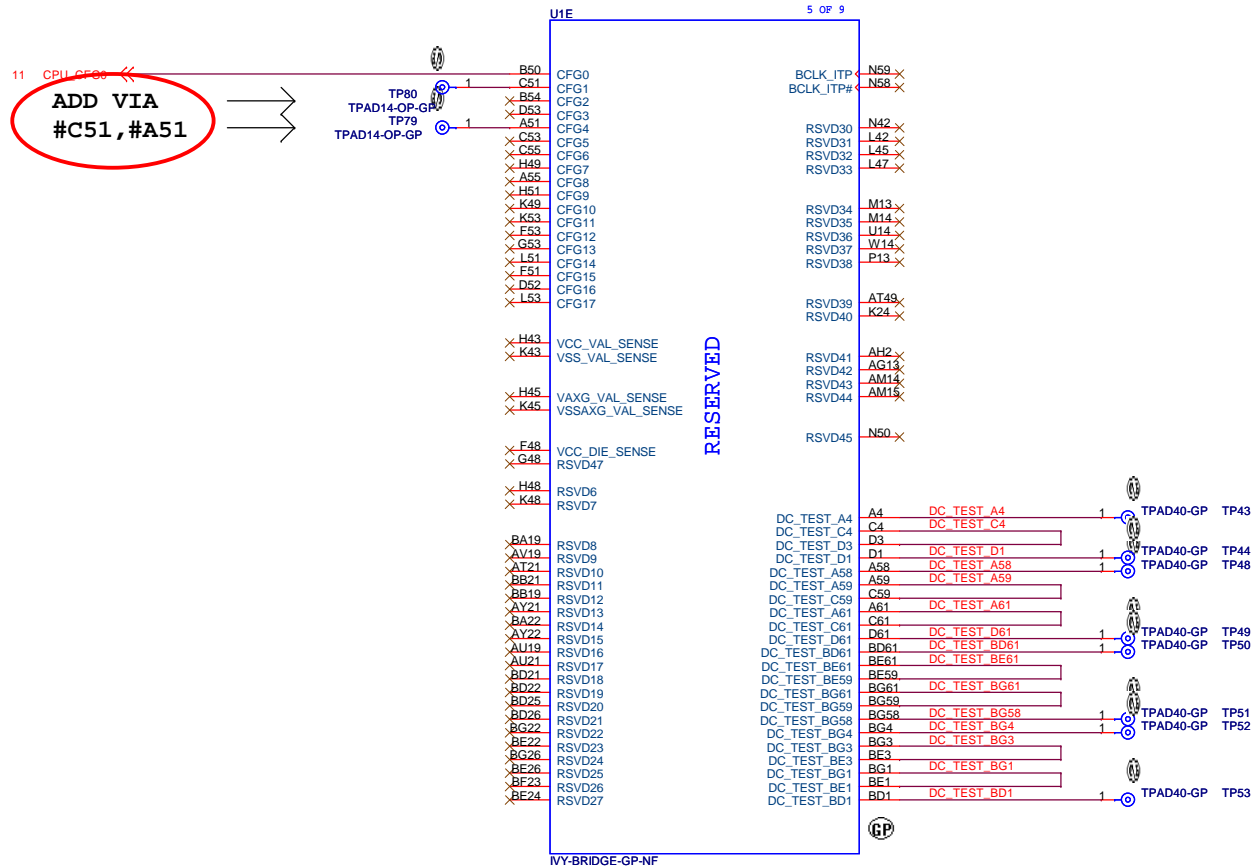
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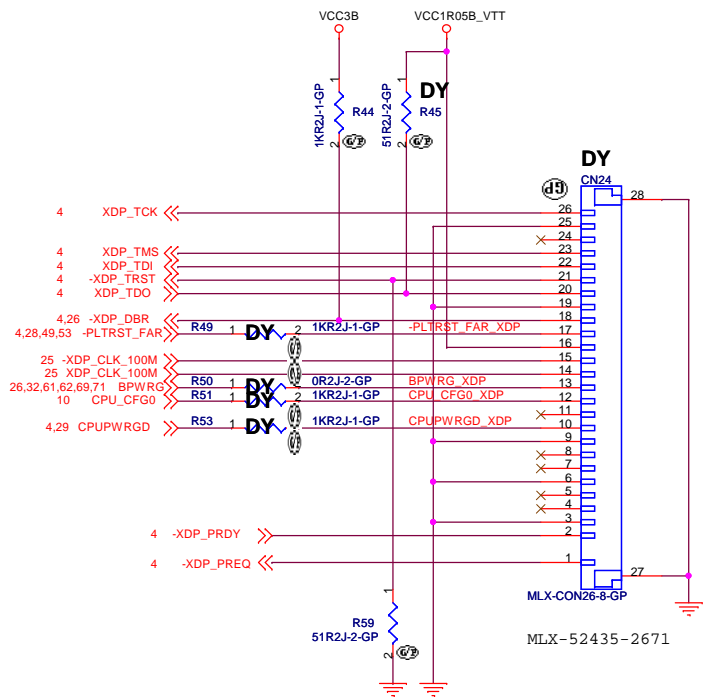




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Size	Document Number	Rev	
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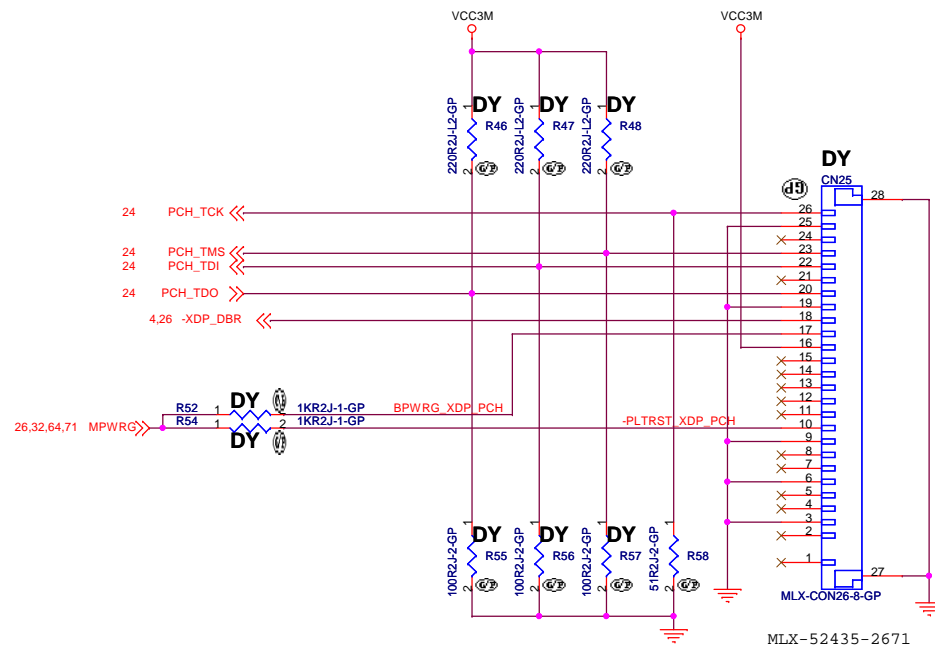


DEBUG Interface for Processor.

XDP1 NOTE:"ASM" FOR PDV/SDV ONLY

		ENABLE	DISABLE
TDO	R45	ASM	DY
TRST#	R59	ASM	ASM
DBRST#	R44	ASM	ASM
RESET#	R49	ASM	DY
CFG0	R51	ASM	DY
PWRGD	R53	ASM	DY
BPWRG	R50	ASM	DY
	CN24	ASM	DY

FVT Logic



DEBUG Interface for PCH.

XDP2 NOTE:"ASM" FOR PDV/SDV ONLY

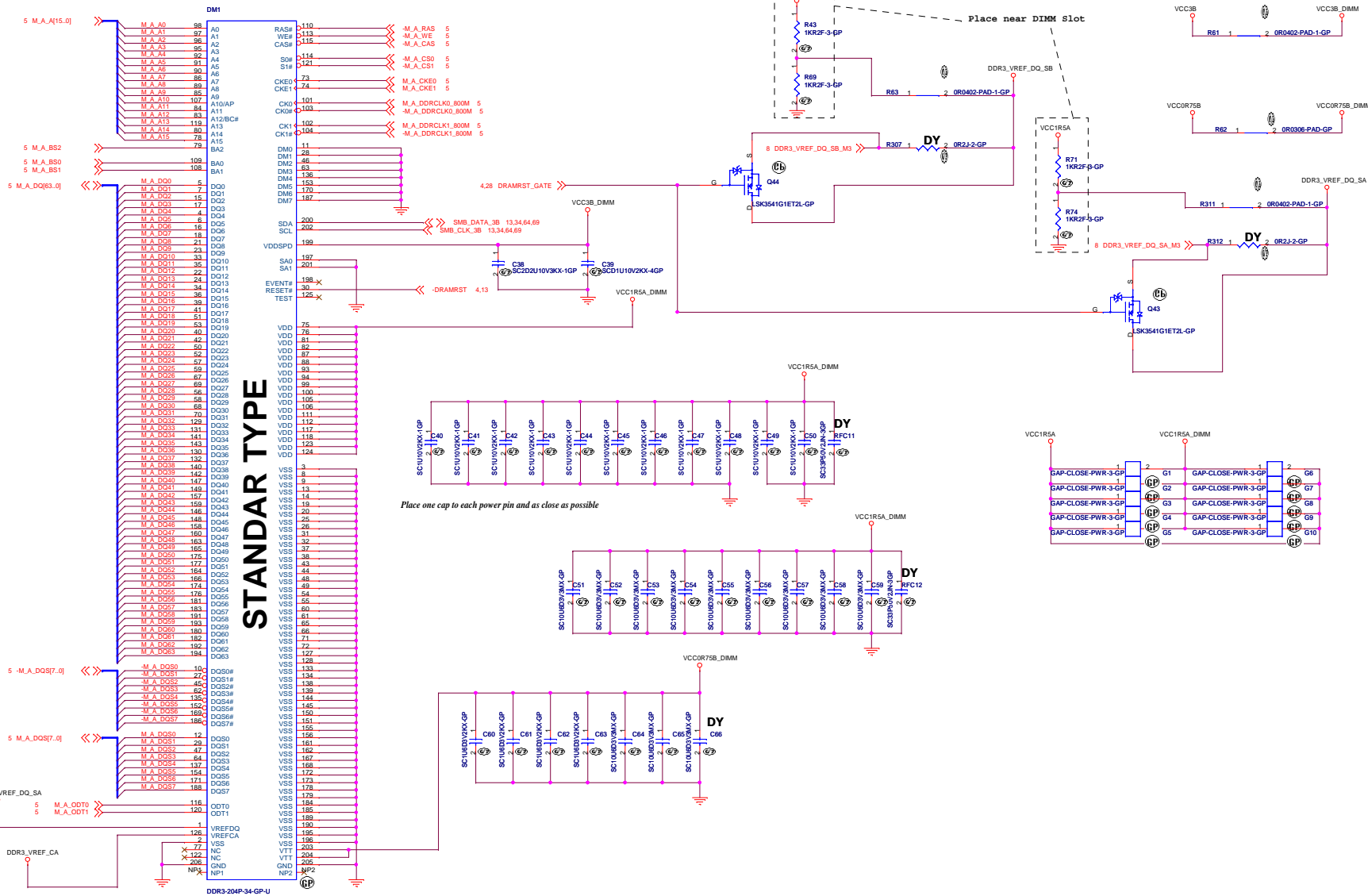
		ENABLE	DISABLE
TDO	R46	220	DY
	R55	100	DY
TMS	R48	220	DY
	R57	100	DY
TDI	R47	220	DY
	R56	100	DY
TCK	R58	51	51
MPWRG	R52	ASM	DY
	R54	ASM	DY
	CN25	ASM	DY

FVT Logic

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Title	XDP Connector		
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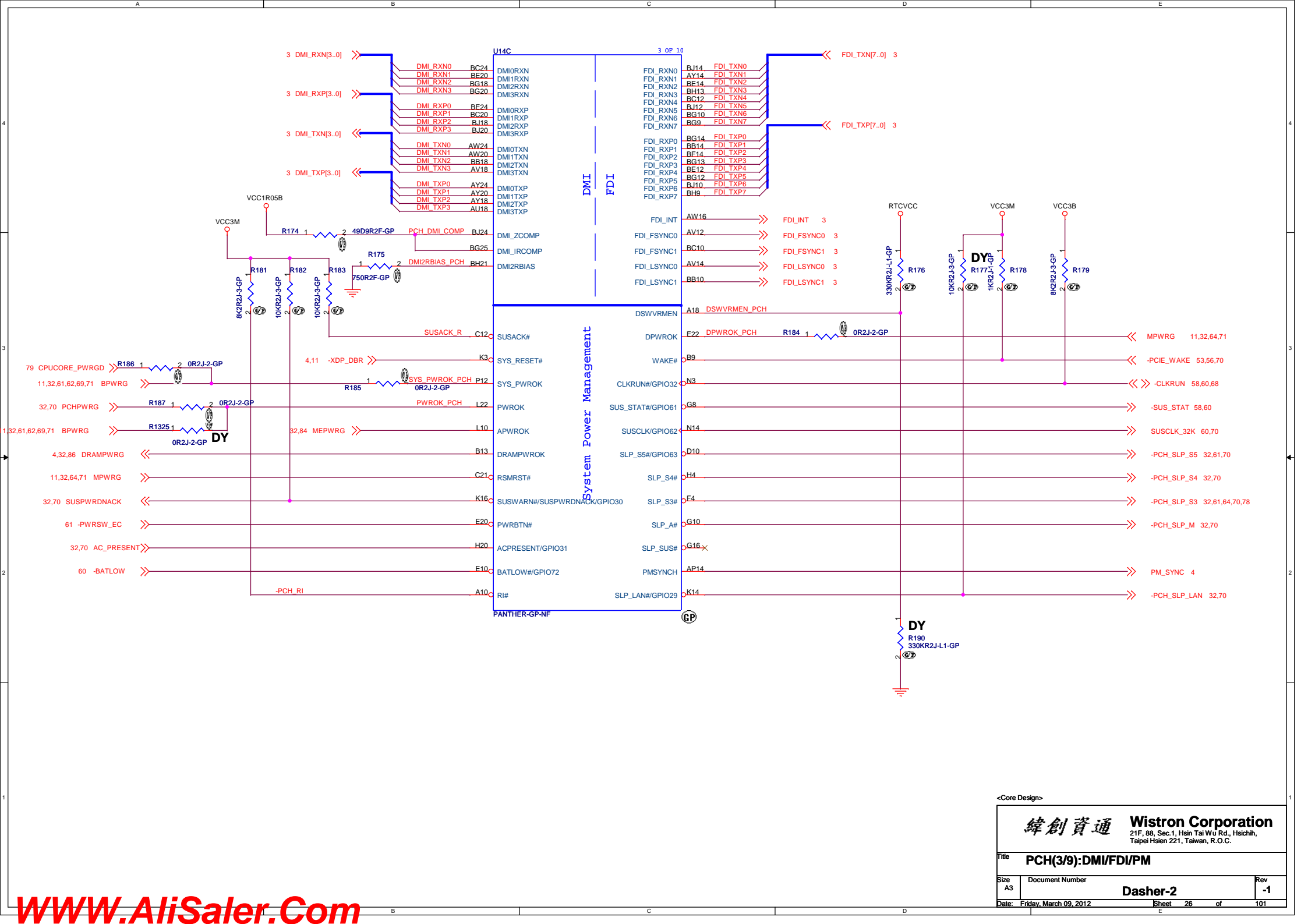
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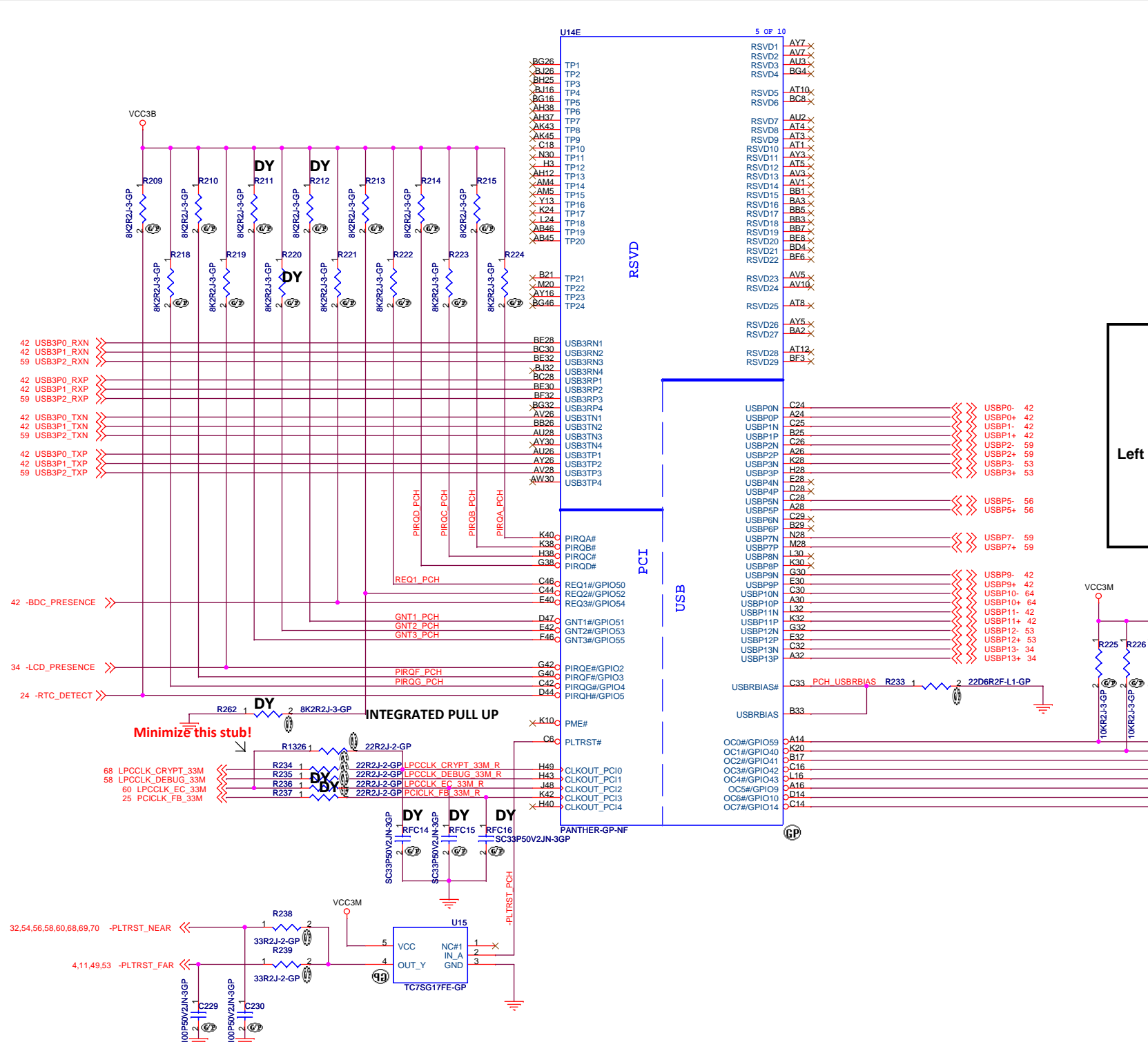




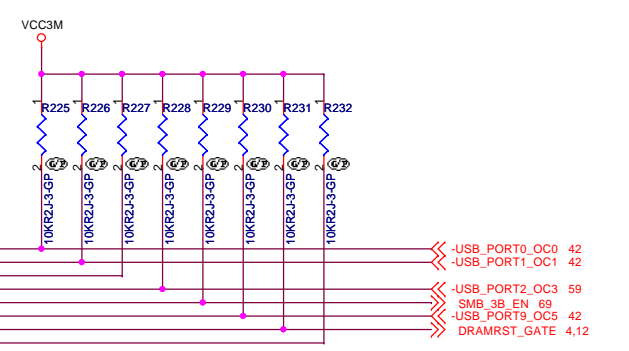
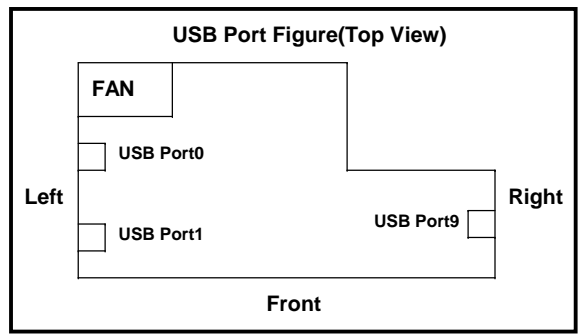




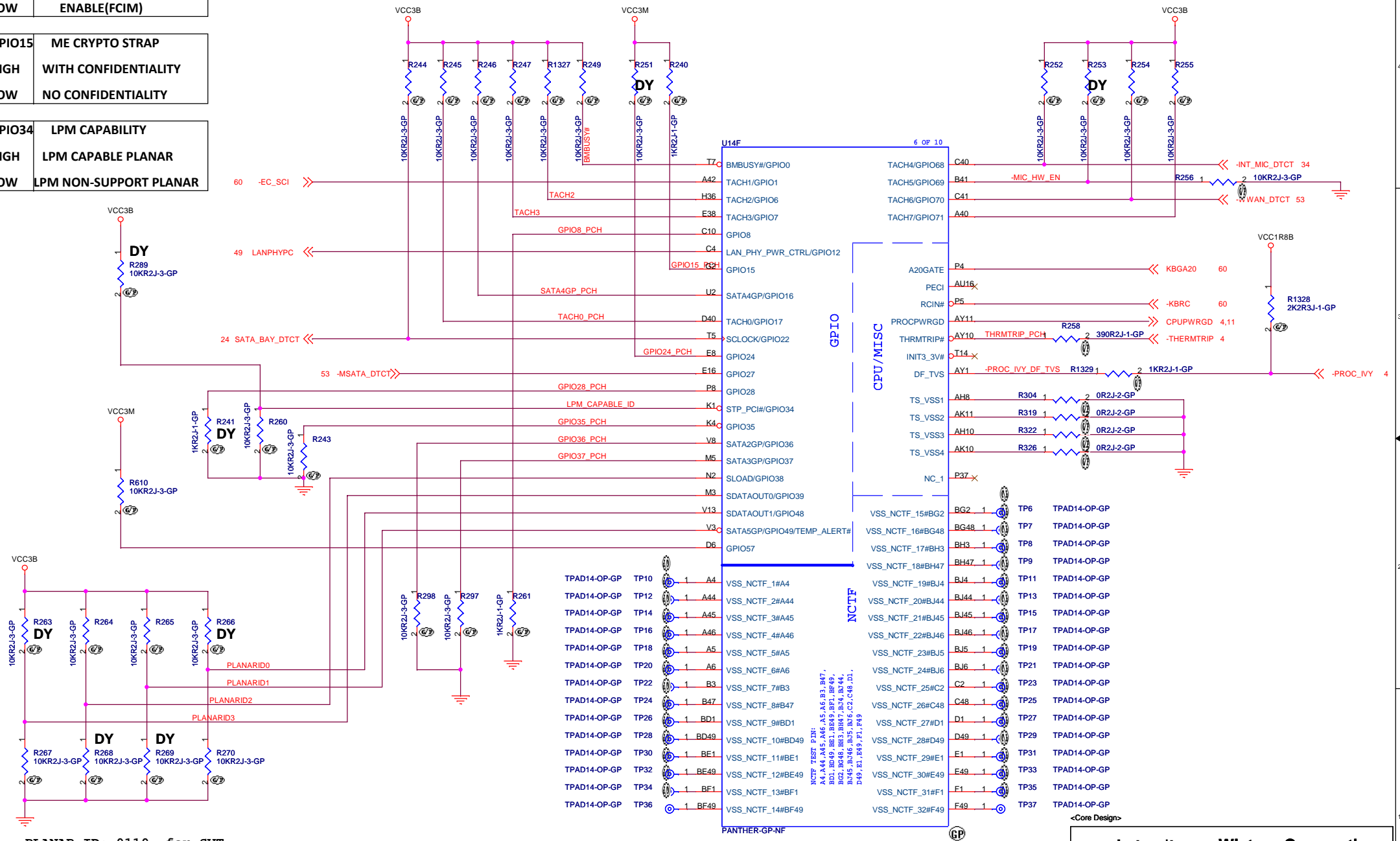




Dasher2	
USB0	System Port 0 (USB3.0)
USB1	System Port 1 (USB3.0)
USB2	since Dock USB3.0
USB3	WWAN
USB4	Reserved
USB5	Express Card
USB6	Reserved
USB7	USB2.0 DOCKING
USB8	Reserved
USB9	System Port 9 (iPod)
USB10	FPR/TOUCH PAD
USB11	Bluetooth
USB12	WLAN
USB13	Camera

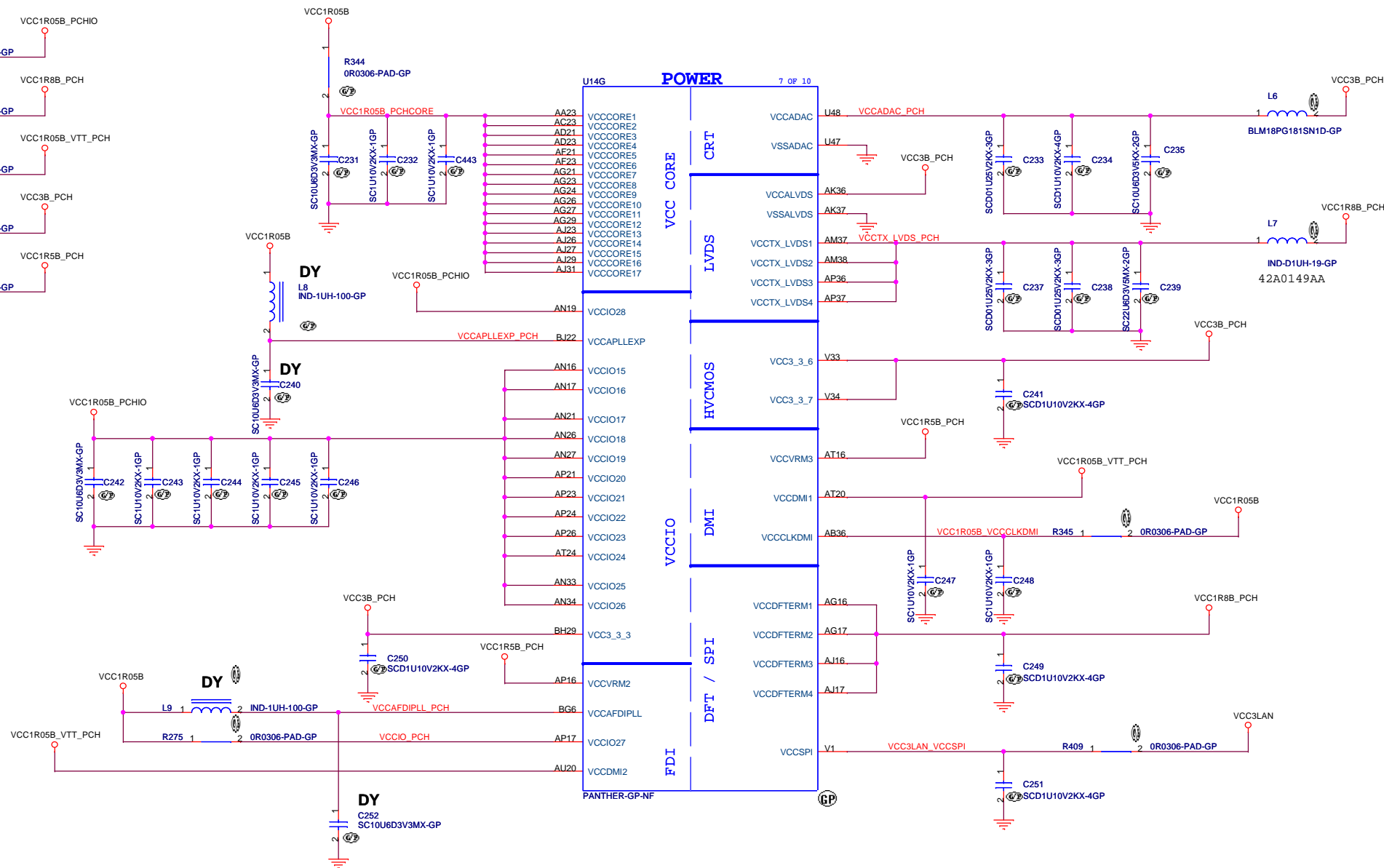


<b>GPI034</b>	<b>LPM CAPABILITY</b>
<b>HIGH</b>	<b>LPM CAPABLE PLANAR</b>
<b>LOW</b>	<b>LPM NON-SUPPORT PLANAR</b>



PLANAR ID: 0110 for SVT

<Core Design>			
		<b>Wistron Corporation</b> 21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	<b>PCH(6/9):GPIO/NCTF-RSVD</b>		
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Title **PCH(7/9):Power**

Size A3 Document Number

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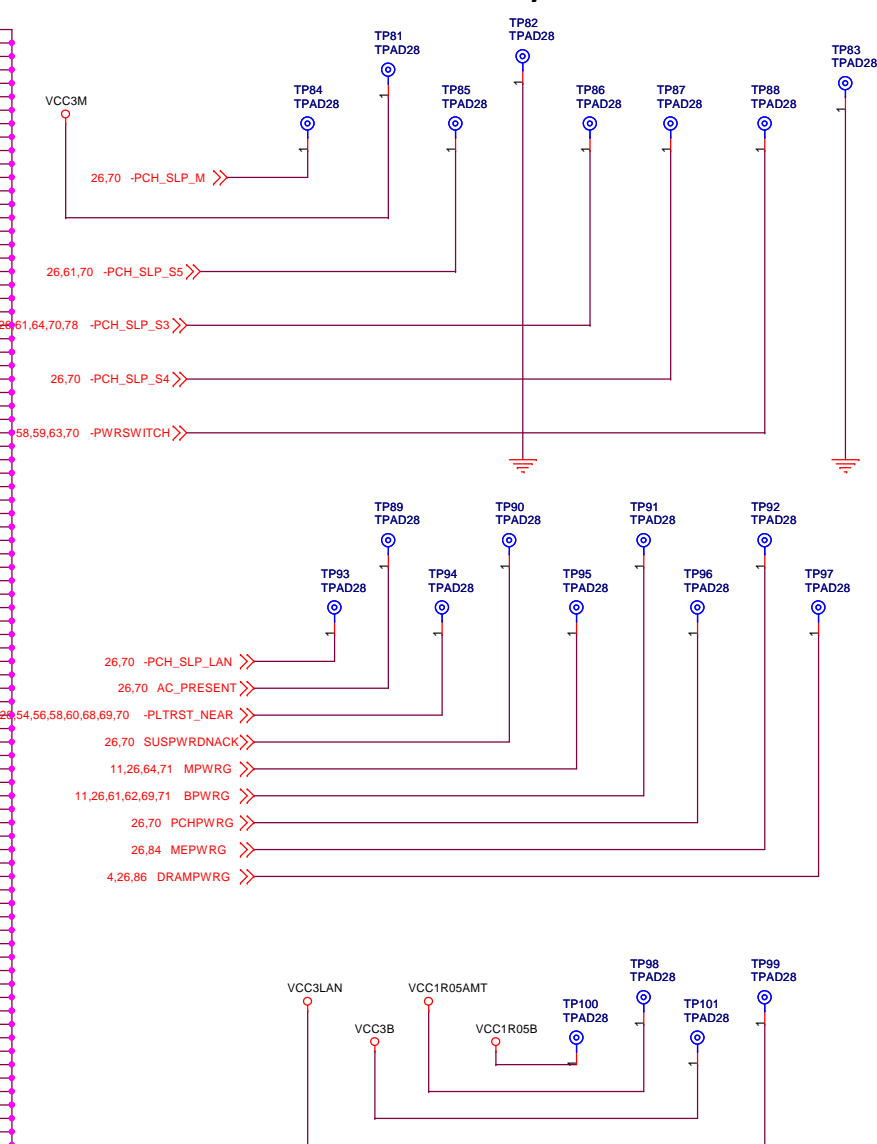
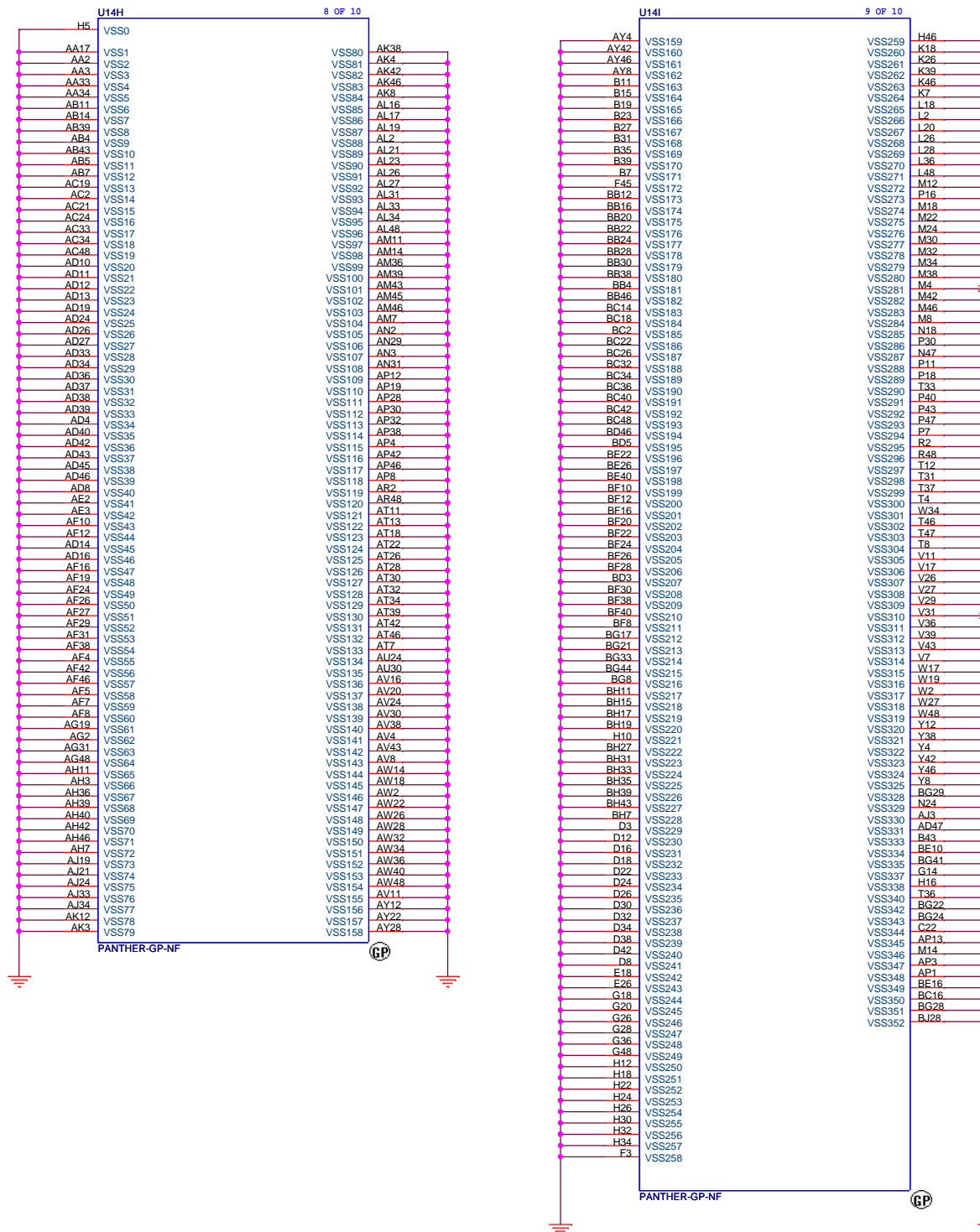
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# TEST PAD FOR METS/APS



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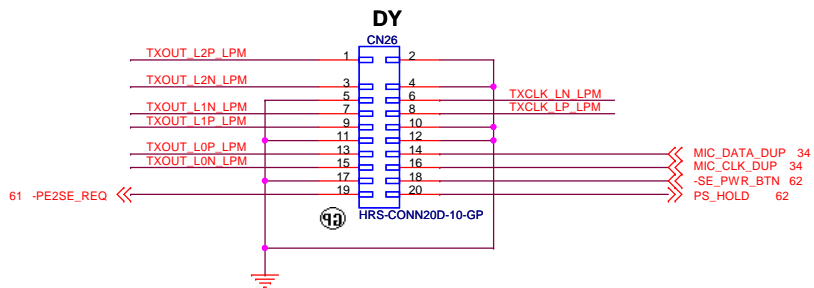
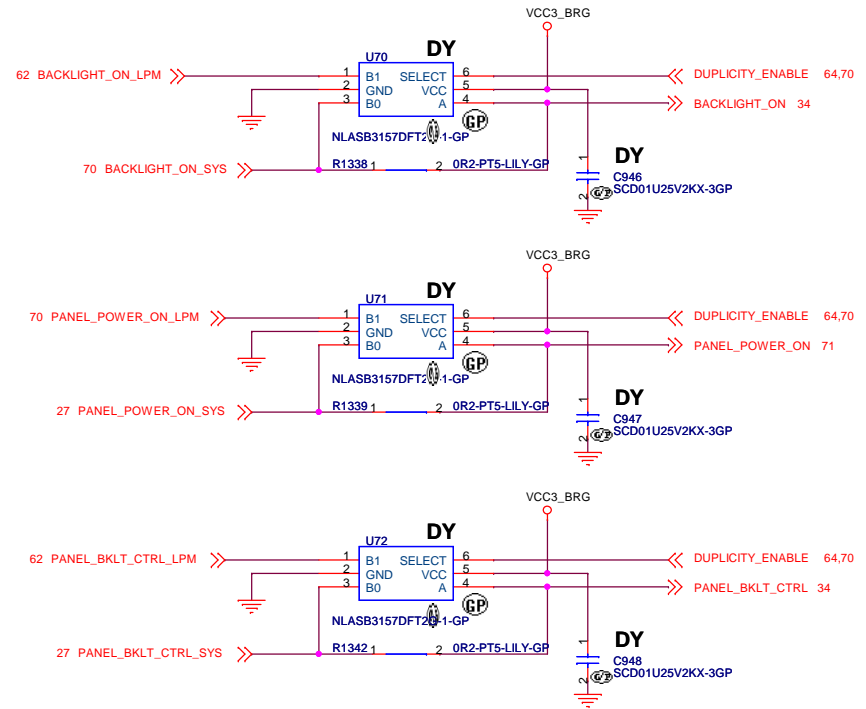
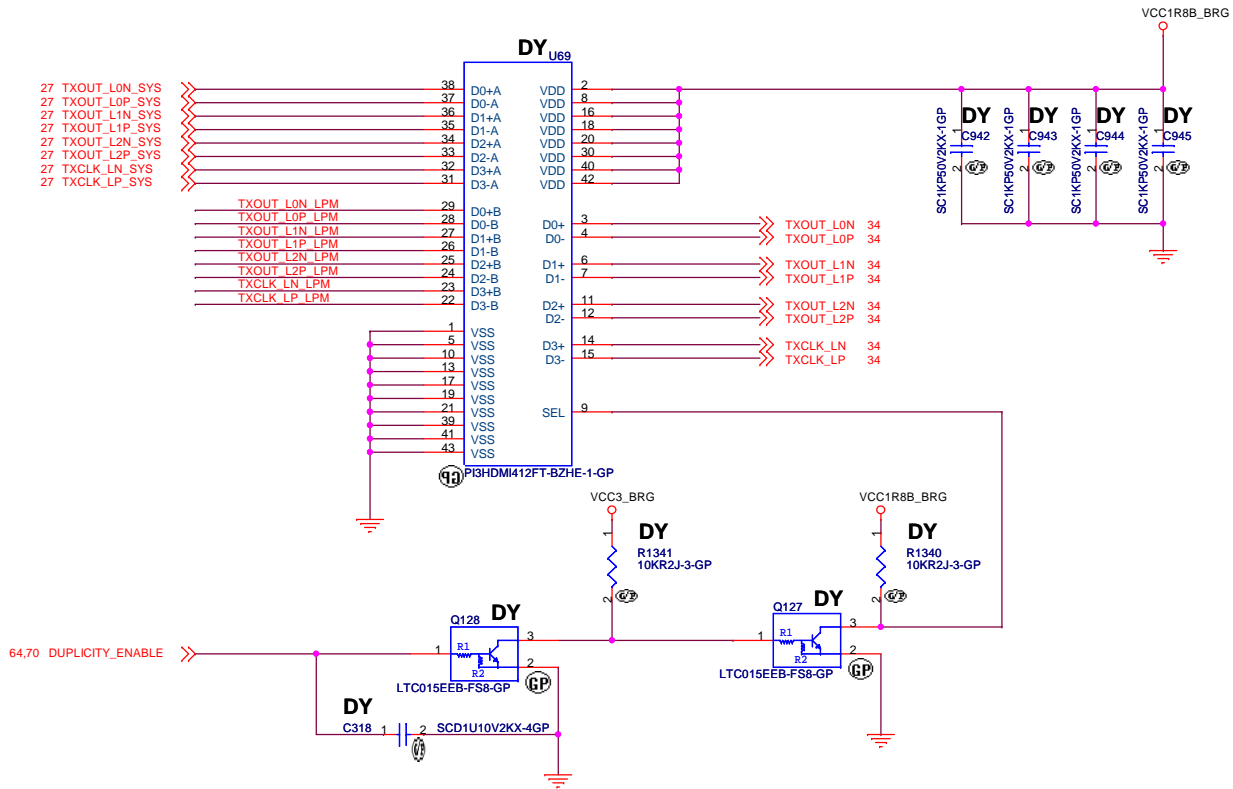
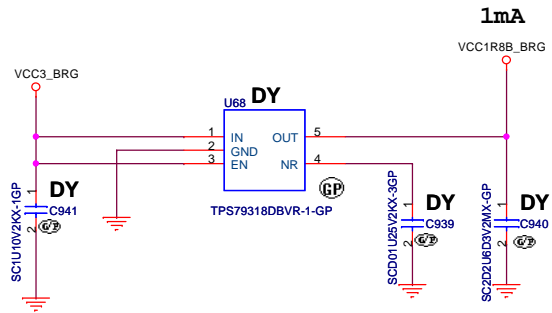
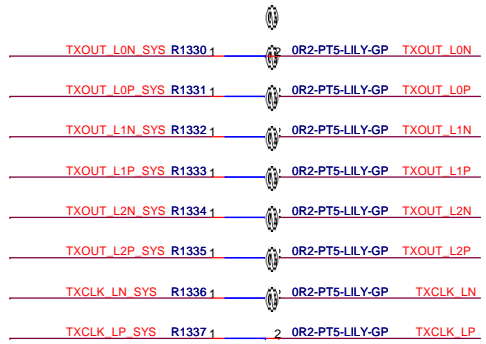
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supplier	Vendor P/N	Wistron P/N
Pericom	PIHDMI412-BZHE	71.03412.B0G
TI	TS3DV421RUAR	71.03421.003



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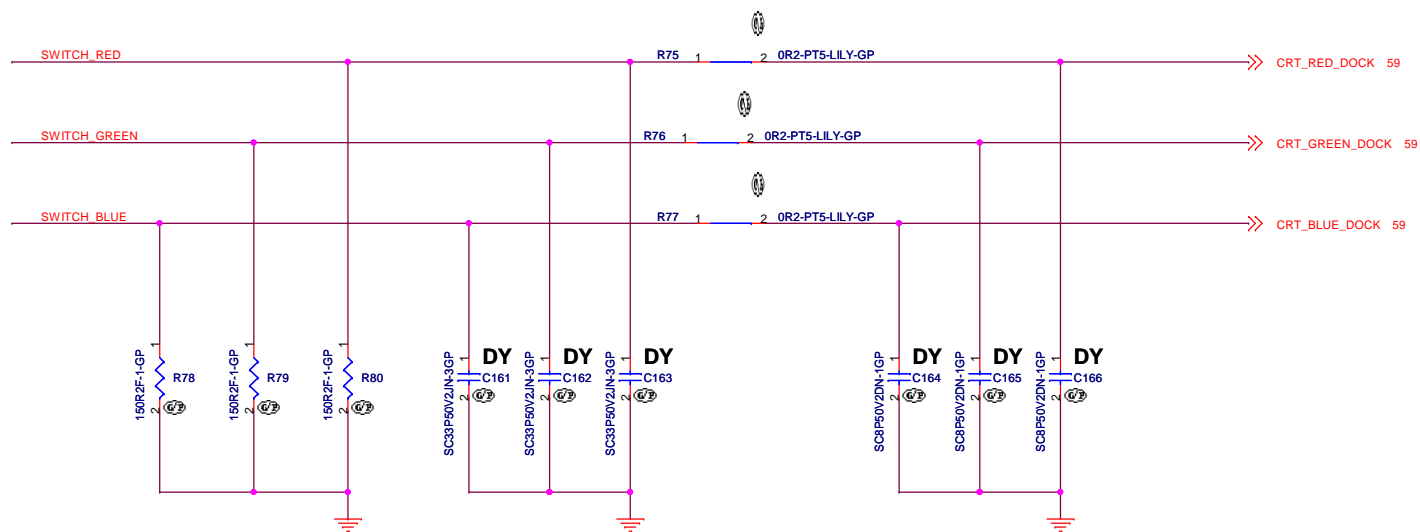
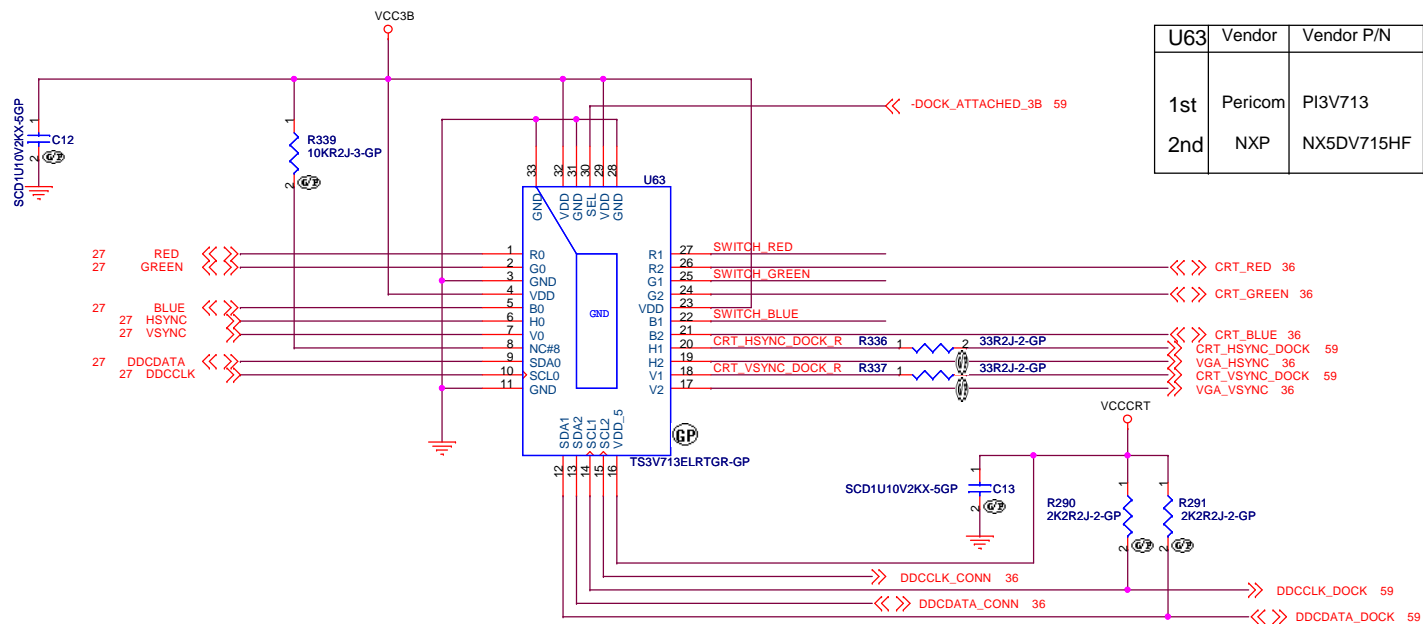
Title LPM LVDS SW/Connector

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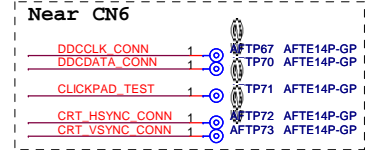
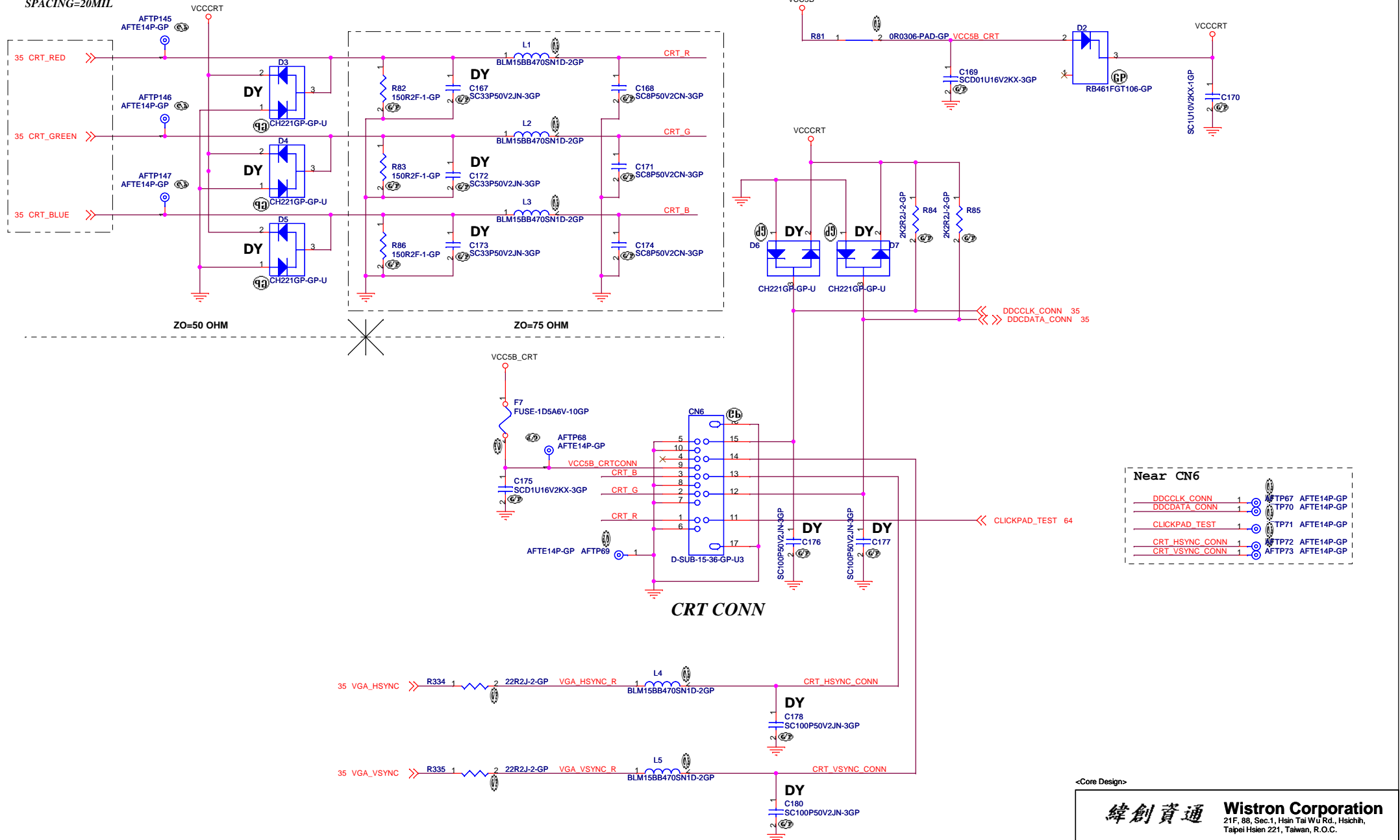
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Title			
CRT SELECTOR			
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# GND GUARDING

EACH SIGNAL WIDTH DEPENDS ON ZO(TRACE IMPEDANCE)

SPACING=20MIL



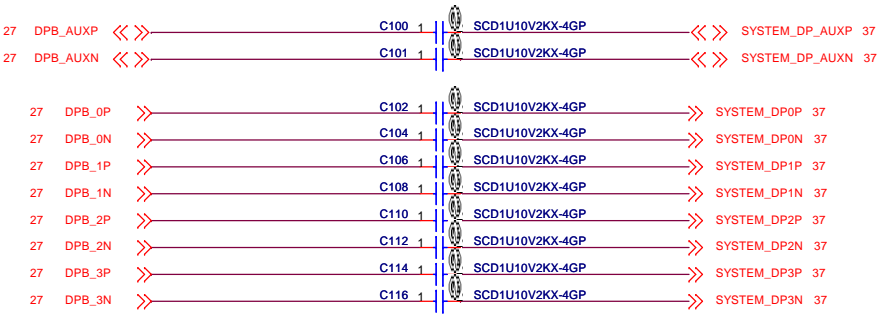
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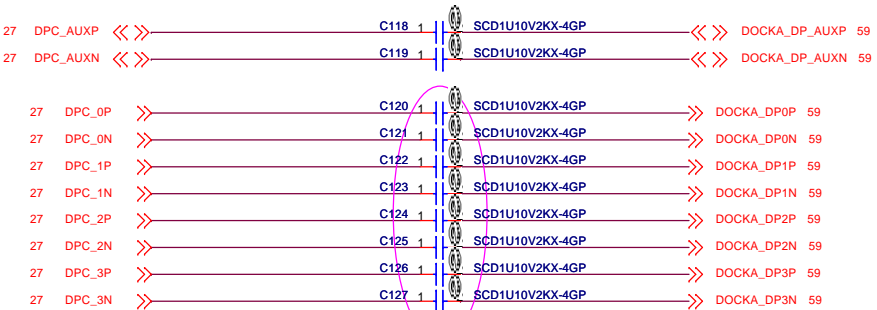
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Ext CRT Interface			
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System DP Connector

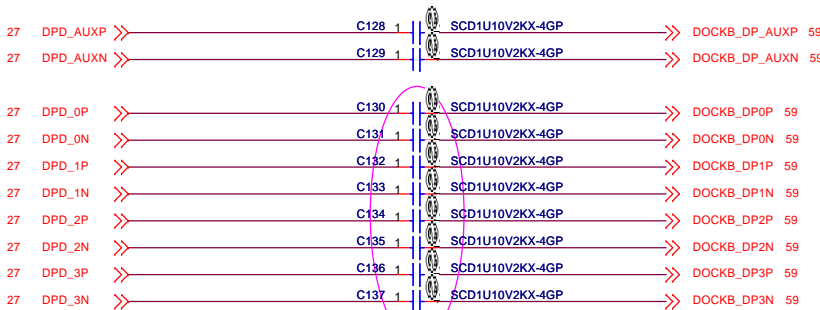


Docking DP Connector A



Place Near Docking Connector

Docking DP Connector B



Place Near Docking Connector

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Display Port AC Coupling

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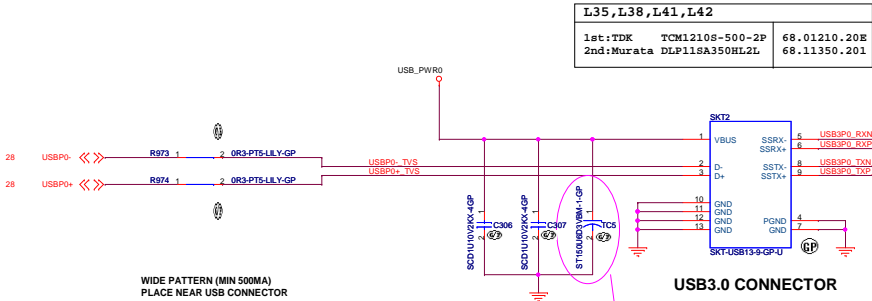
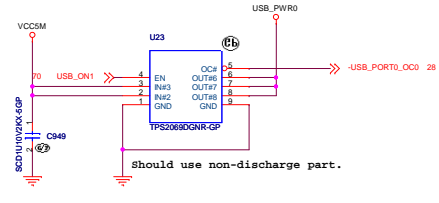




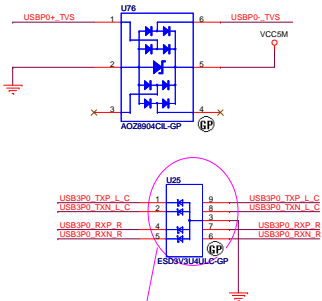
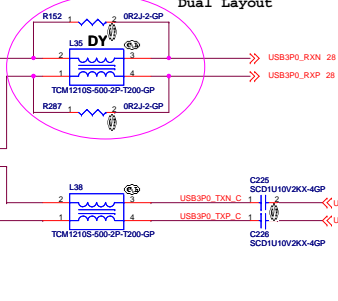
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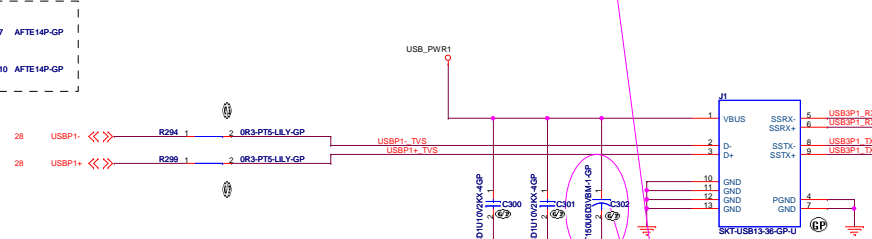
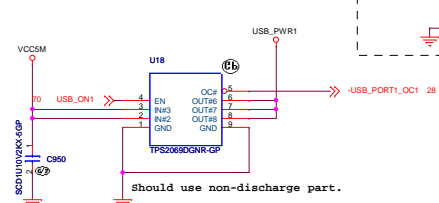
USB3.0 port0			
U23,U18			
USB3.0 Enable	TI	TPS2069DGN	74.02069.079
	GMT	G548A1F51U	74.00548.A79



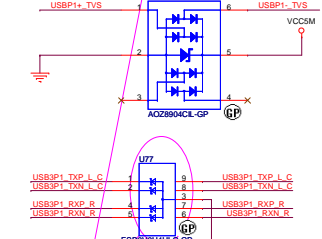
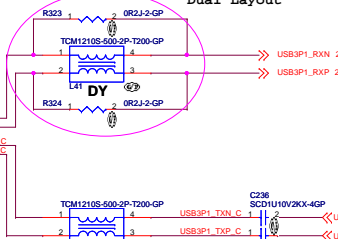
L35,L38,L41,L42			
1st:TDK	TCM1210S-500-2P	68.01210.20E	
2nd:Murata	DLP118A350HLZL	68.11350.201	



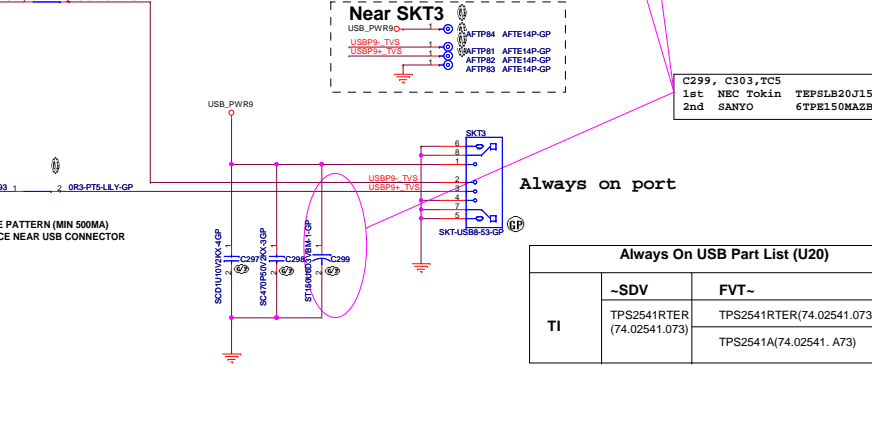
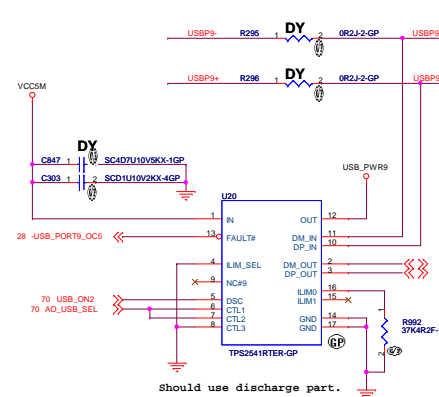
## USB3.0 port1



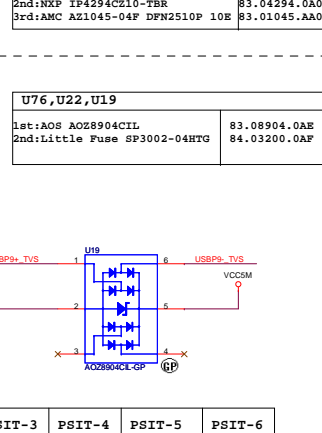
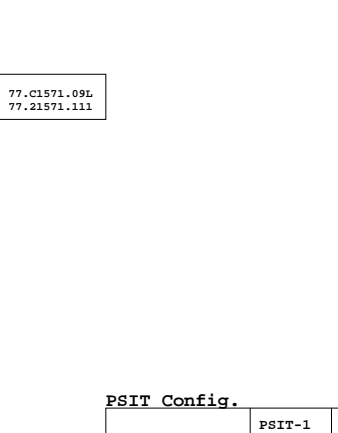
L35,L38,L41,L42			
1st:TDK	TCM1210S-500-2P	68.01210.20E	
2nd:Murata	DLP118A350HLZL	68.11350.201	



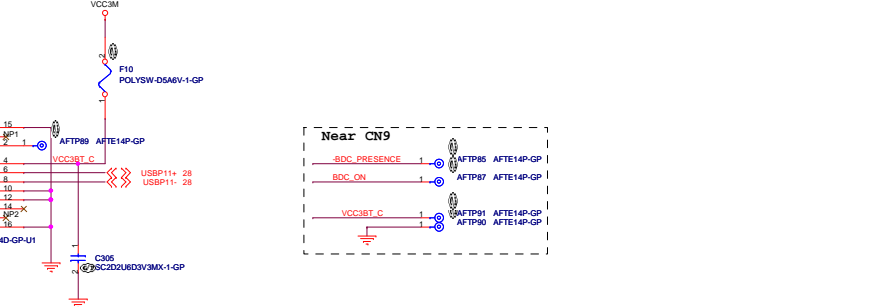
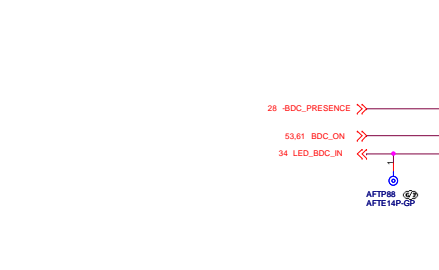
## USB port9(Always On USB)



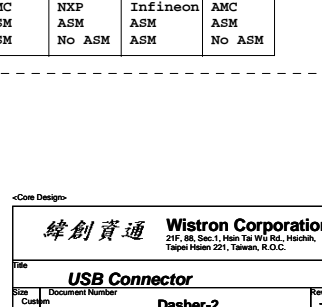
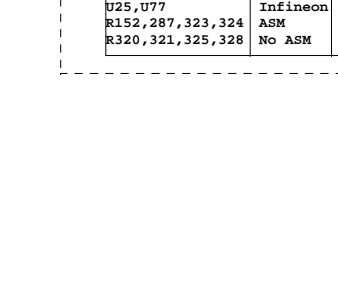
L35,L38,L41,L42			
1st:TDK	TCM1210S-500-2P	68.01210.20E	
2nd:Murata	DLP118A350HLZL	68.11350.201	



## Bluetooth Module



L35,L38,L41,L42			
1st:TDK	TCM1210S-500-2P	68.01210.20E	
2nd:Murata	DLP118A350HLZL	68.11350.201	



## PSIT Config.

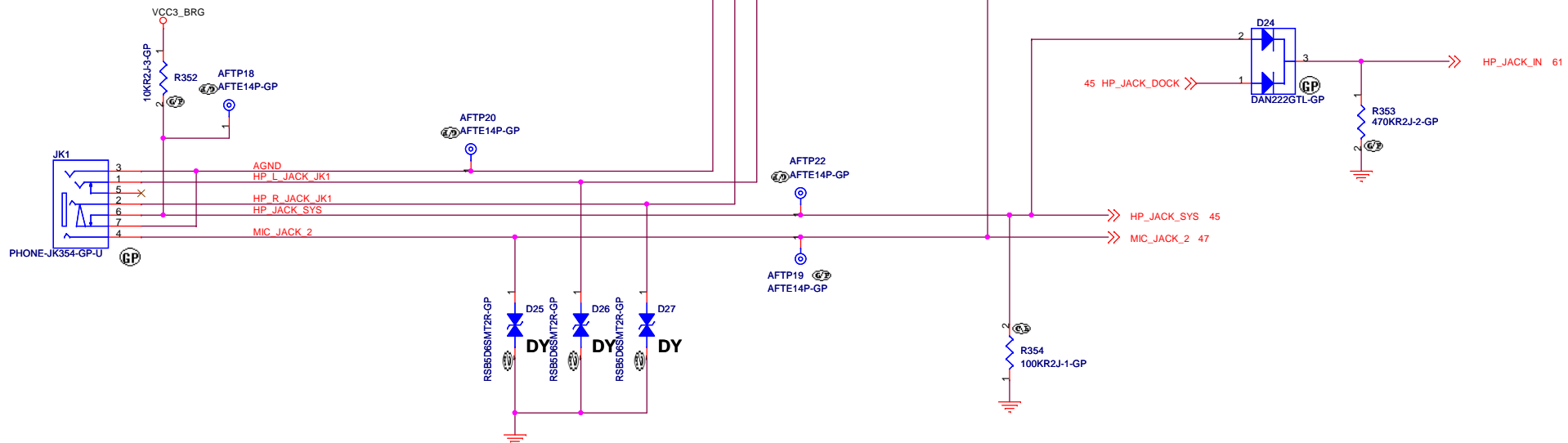
	PSIT-1	PSIT-2	PSIT-3	PSIT-4	PSIT-5	PSIT-6
L35,L41	No ASM	No ASM	No ASM	No ASM	No ASM	No ASM
L38,L42	TDK	No ASM	No ASM	TDK	No ASM	Murata
U25,U77	Infineon	NXP	AMC	NXP	Infineon	AMC
R152,287,323,324	ASM	ASM	ASM	ASM	ASM	ASM
R320,321,325,328	No ASM	ASM	ASM	No ASM	ASM	No ASM



# NEAR HEADPHONE CONN

WIDE PATTERN

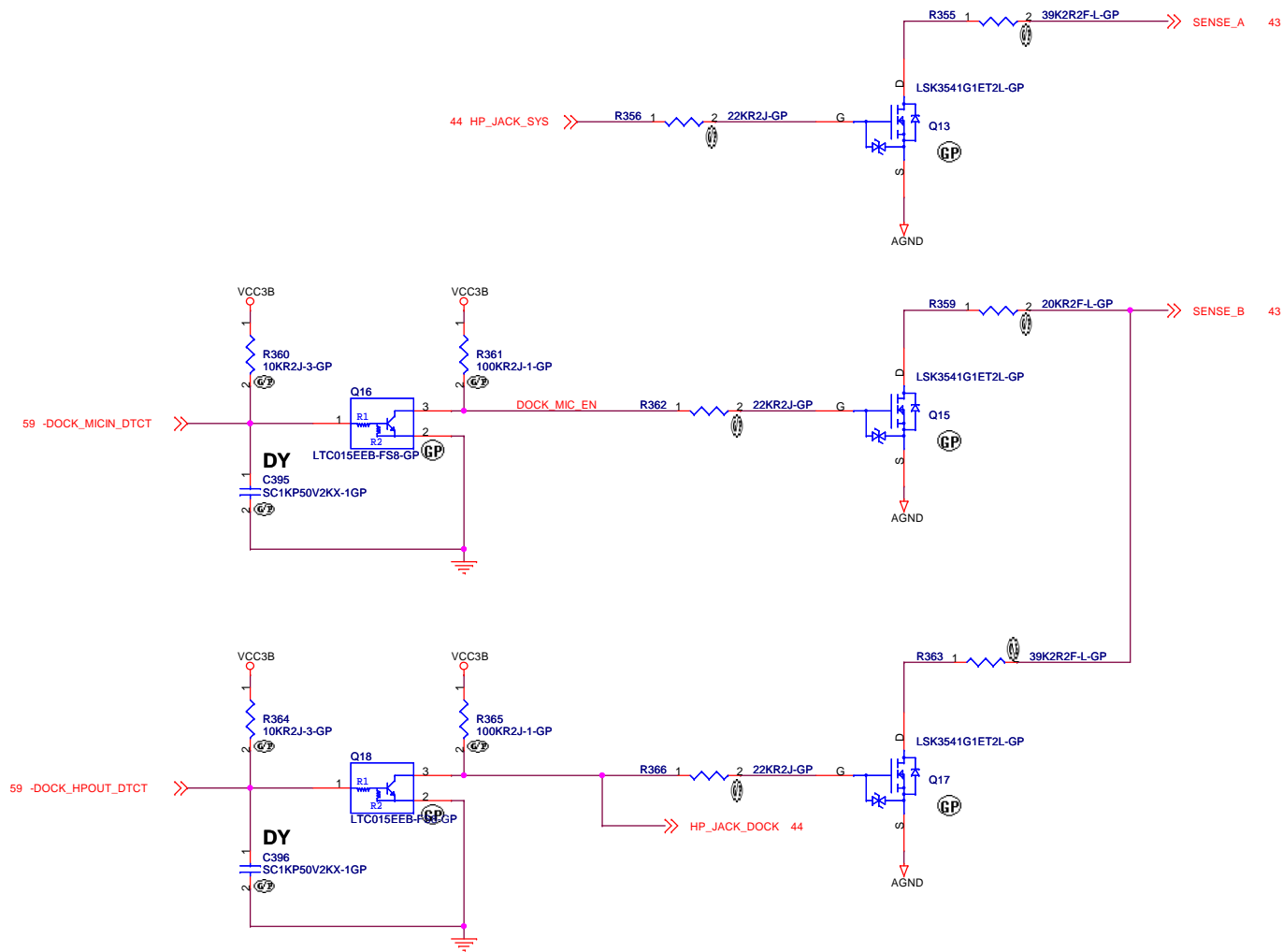
WIDE AND SHORT PATTERN



<Core Design>

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

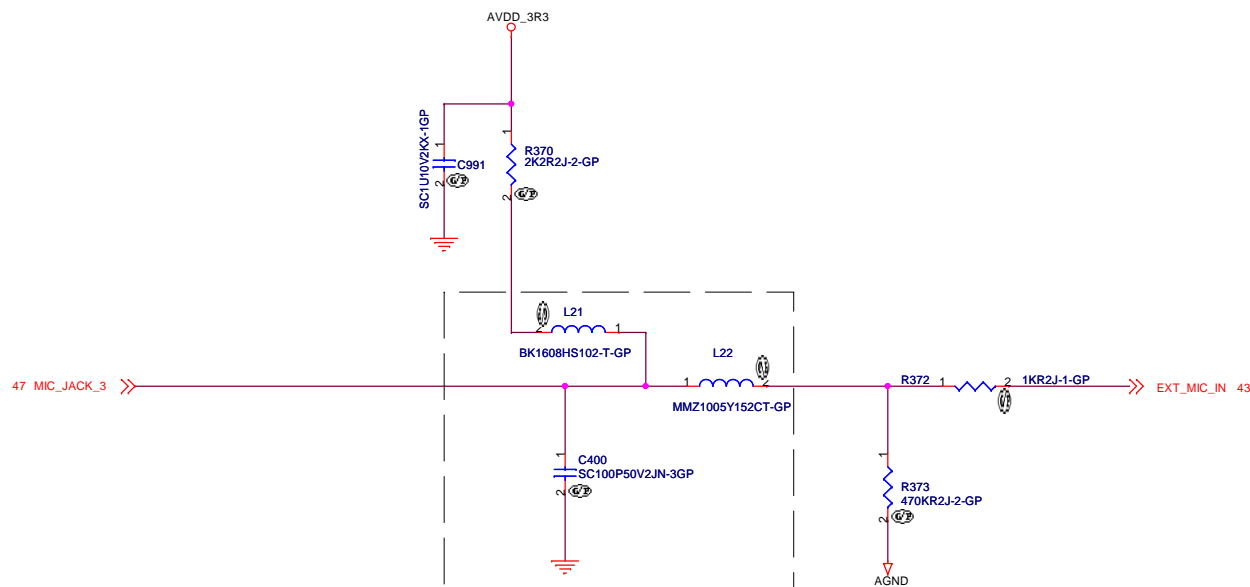
Title		
Audio Connector		
Size A3	Document Number Dasher-2	Rev -1
Date: Friday, March 09, 2012	Sheet 44 of 101	



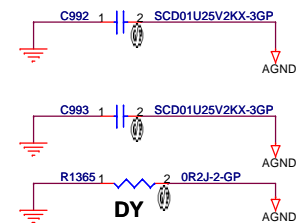
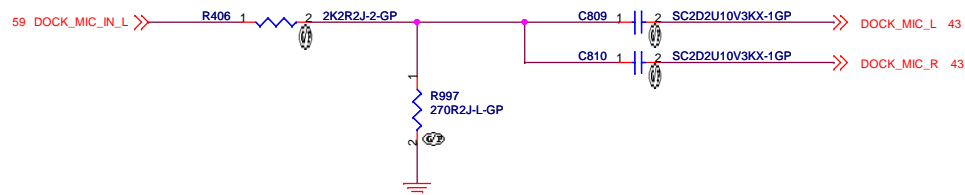
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Title			Audio Jack Sense	
Size	Document Number	Dasher-2		Rev
A3				-1
Date:	Friday, March 09, 2012	Sheet	45 of 101	

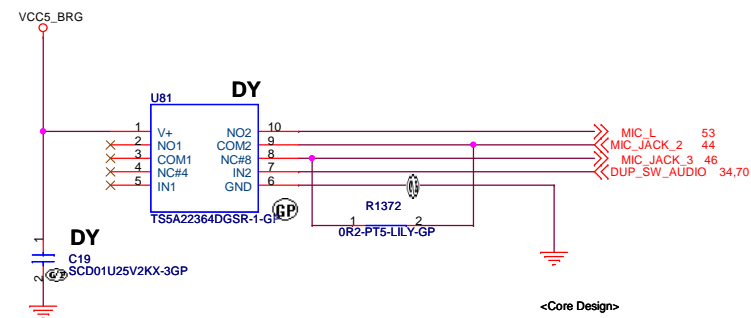
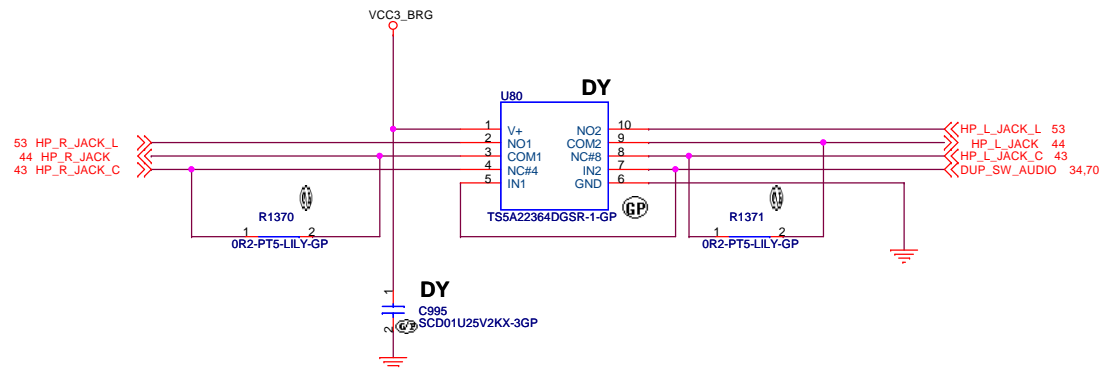
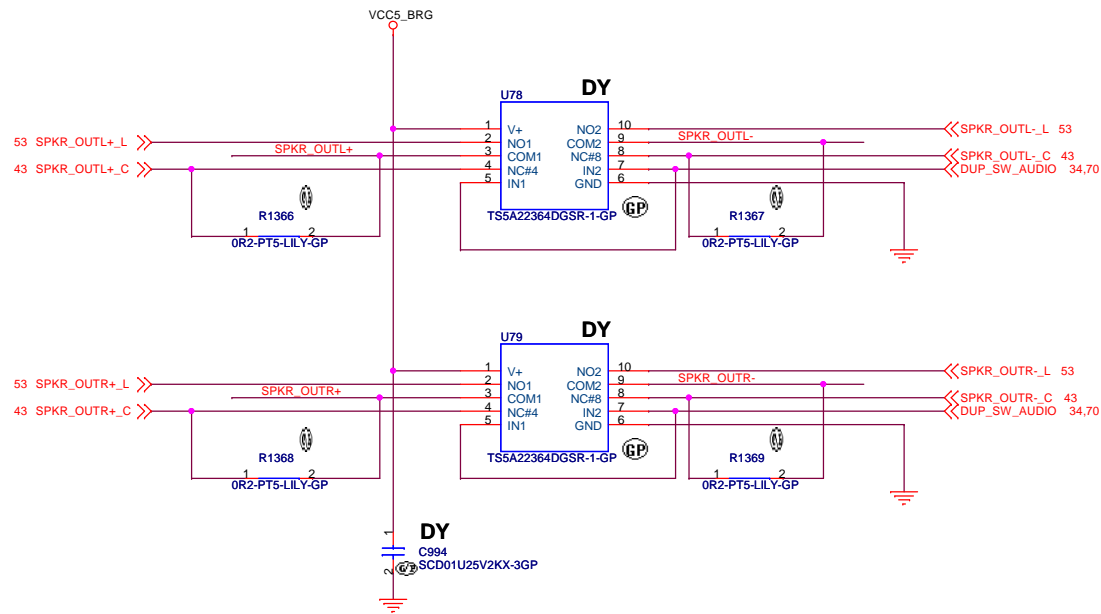
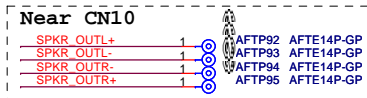
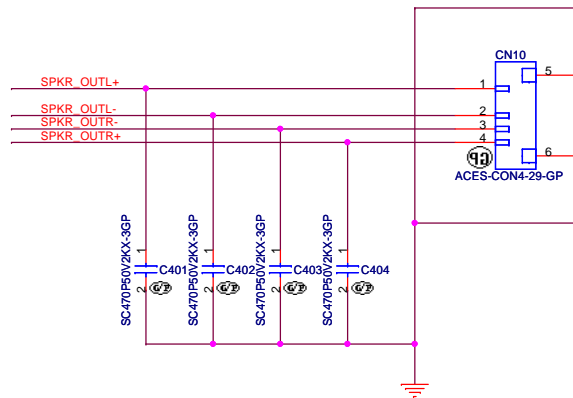


NEAR EXT MIC CONN



<Core Design>

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		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title		<b>Audio Ext MIC I/F</b>	
Size A3	Document Number	<b>Dasher-2</b>	Rev <b>-1</b>
Date:	Friday, March 09, 2012	Sheet	46 of 101

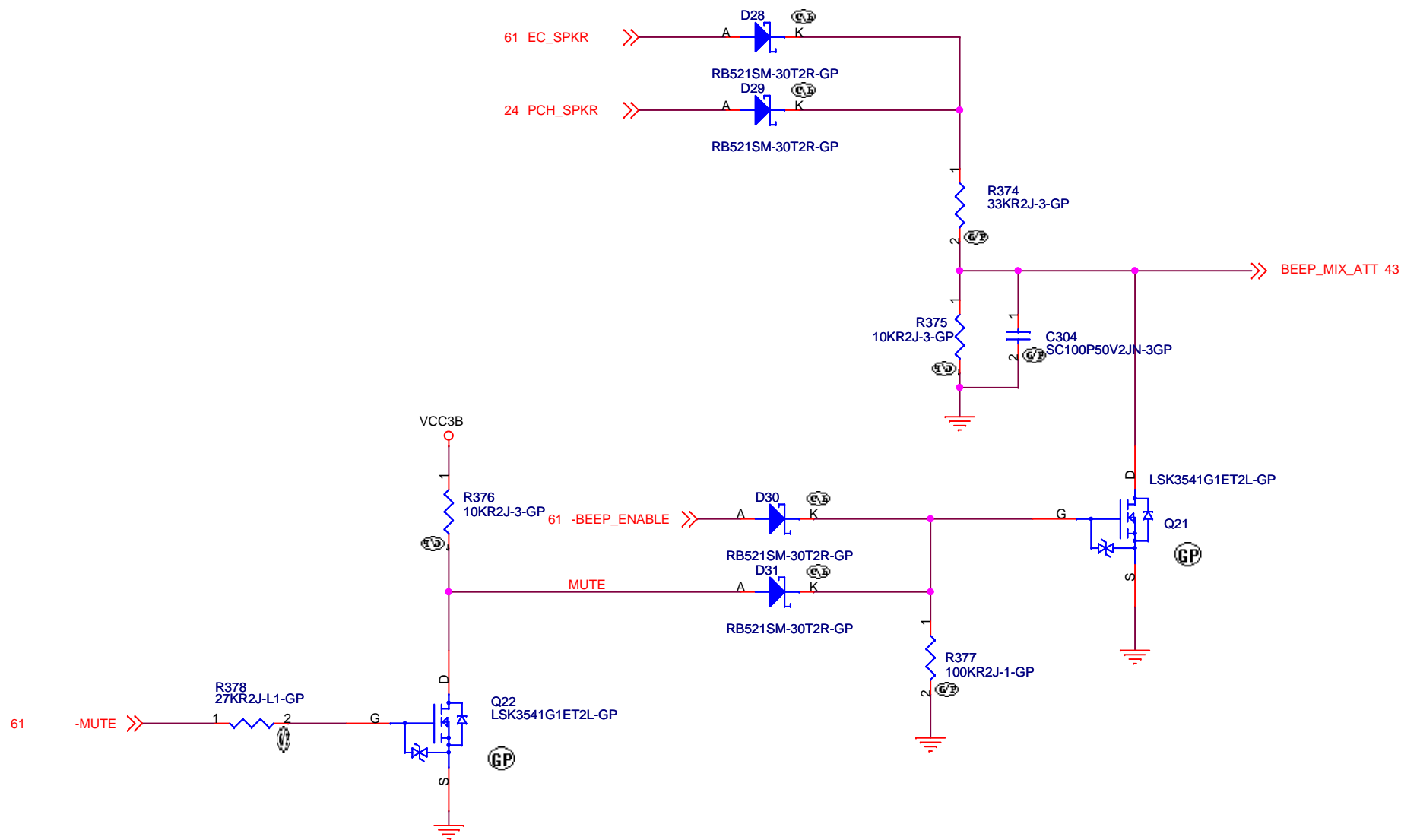


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**AUDIO SPEAKER**

File	Dasher-2	
Size	Document Number	Rev
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Date: Friday, March 09, 2012	Sheet 47 of 101	



<Core Design>

緯創資通

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

Title

**Audio BEEP**

Size  
A4

Document Number

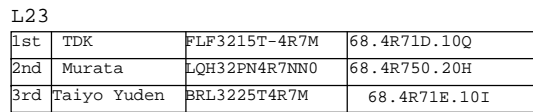
**Dasher-2**

Rev  
-1

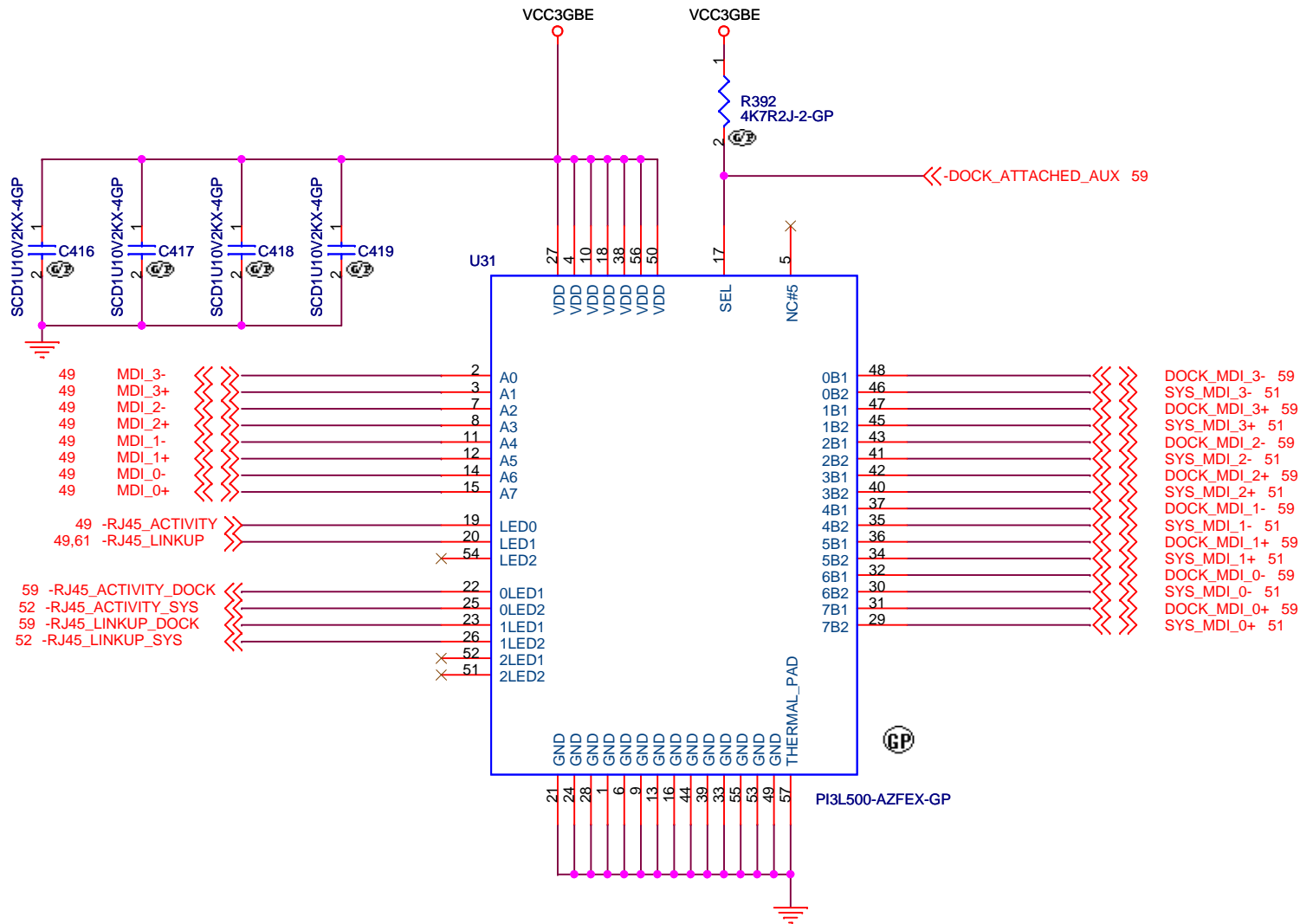
Date: Friday, March 09, 2012

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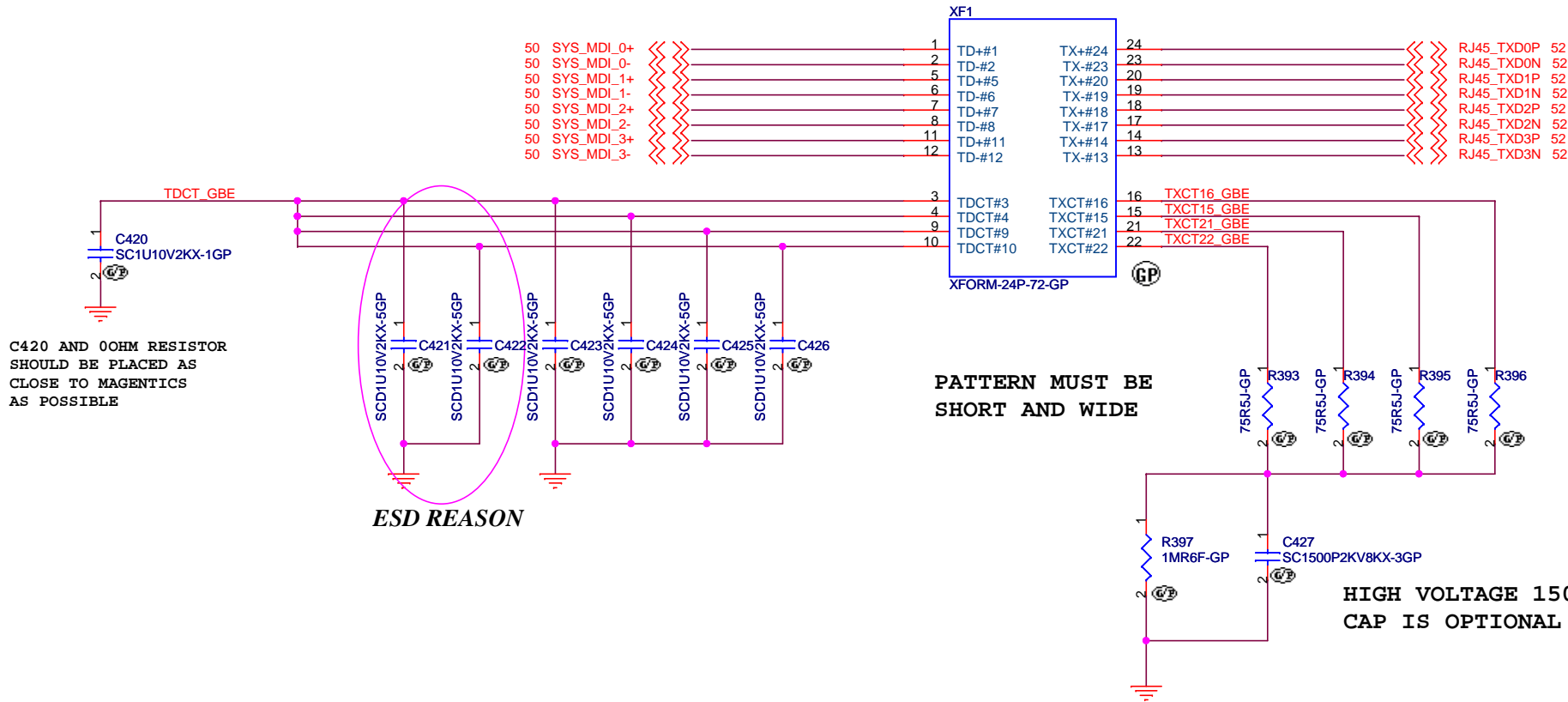
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緯創資通		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichah, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
GBE Lewisville			
Size A3	Document Number	Dasher-2	Rev -1
Date:	Friday, March 09, 2012	Sheet	49 of 101



		Vendor P/N	Wistron P/N
1st	Pericom	PI3L500AZFEX	73.3L500.003
2nd	TI	TS3L500AERHUR	73.3L500.A0V
3rd	ST	STMUX1800LQTR	73.01800.003

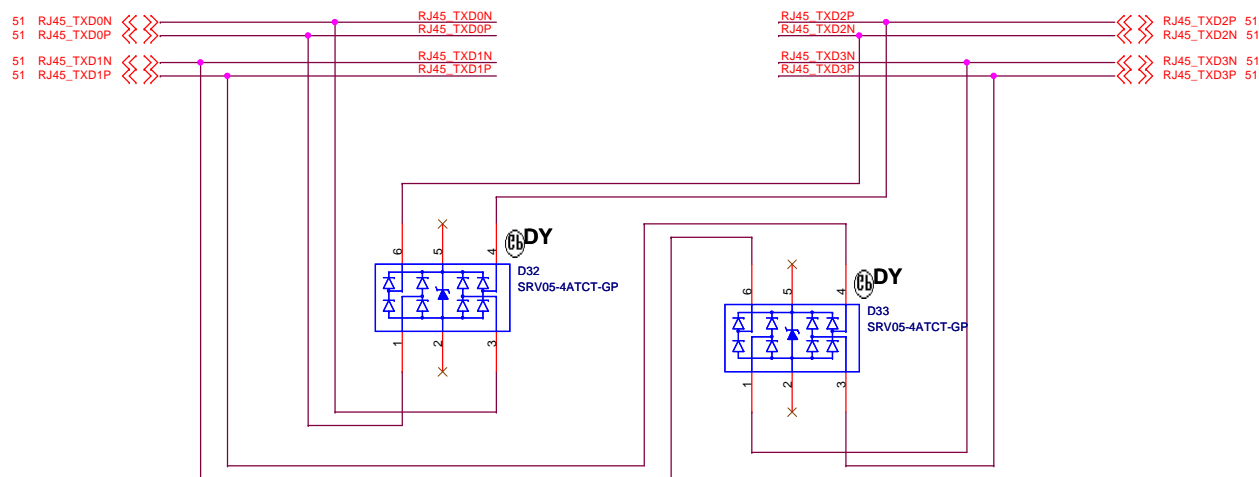
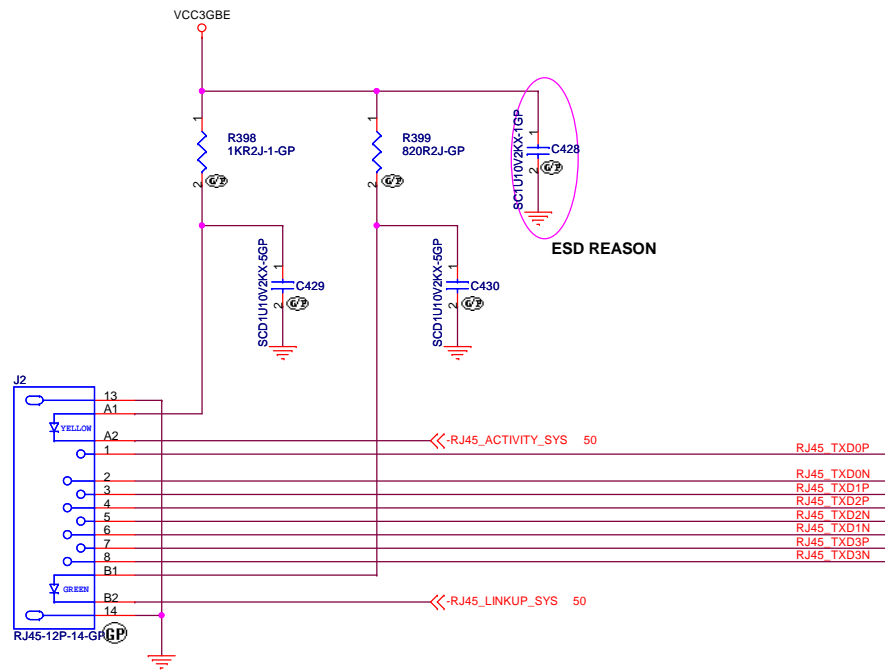
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<b>緯創資通</b>		<b>Wistron Corporation</b> 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
<b>Title</b> <b>GBE LAN Switch</b>			
Size A4	Document Number <b>Dasher-2</b>		Rev <b>-1</b>
Date: Friday, March 09, 2012		Sheet 50 of 101	



<Core Design>

Title		GBE MAGNETICS	
Size	Document Number	Dasher-2	
Custom		Rev -1	
Date:	Friday, March 09, 2012	Sheet	51 of 101



<Core Design>

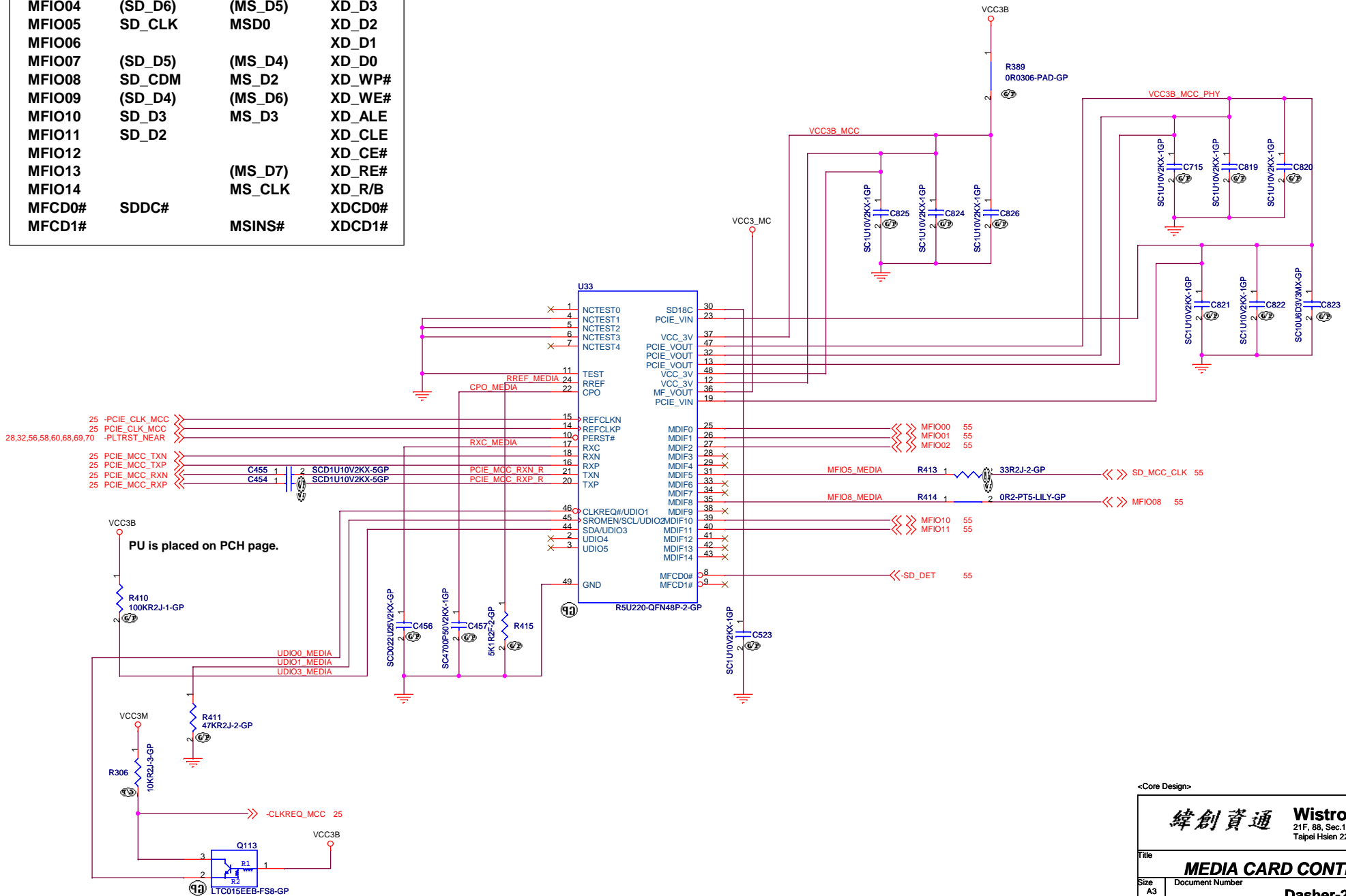
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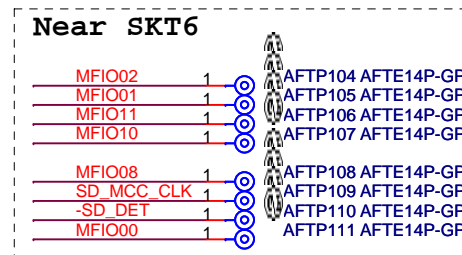
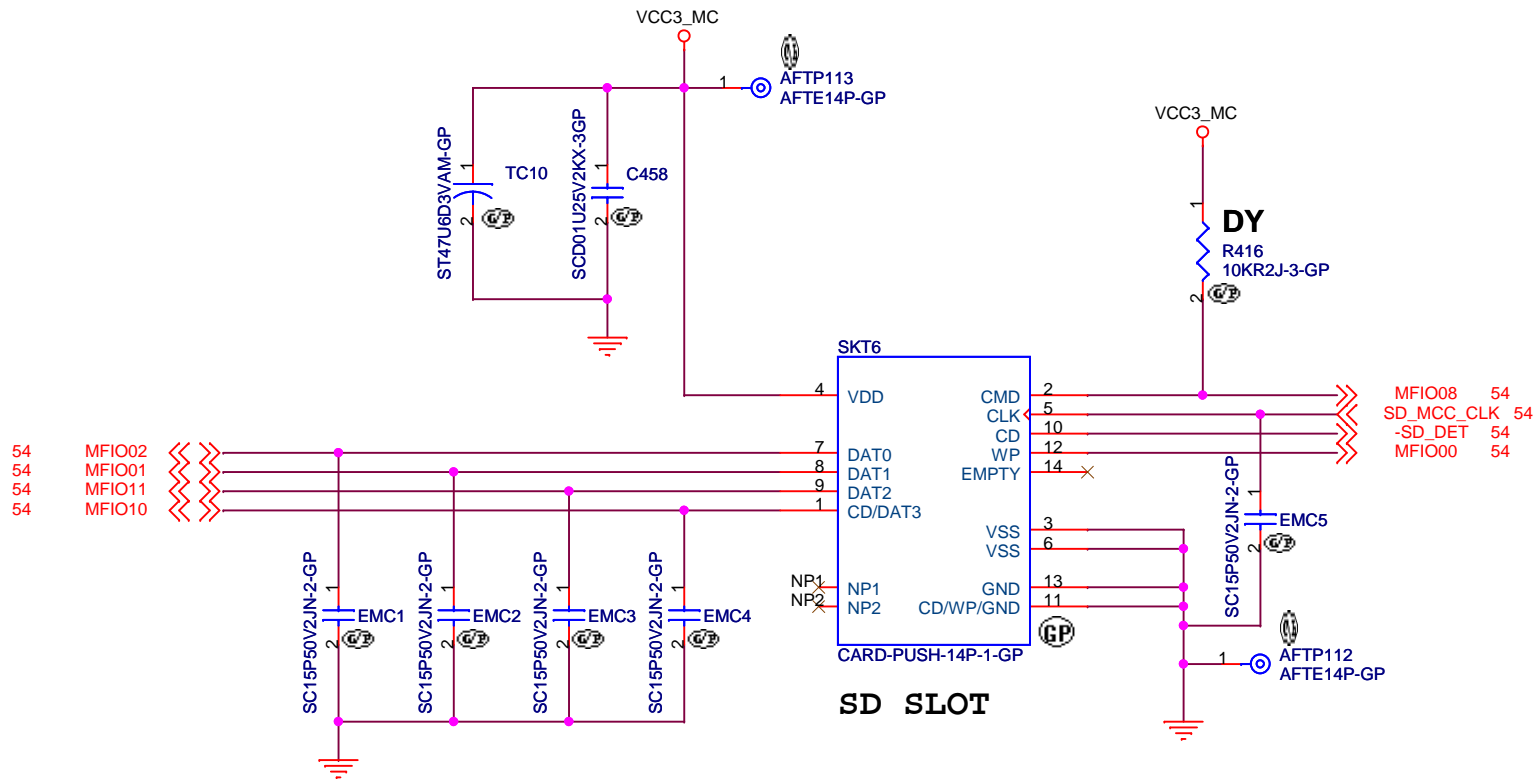
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Title		
<b>RJ45 CONNECTOR</b>		
Size A3	Document Number <b>Dasher-2</b>	Rev <b>-1</b>
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MEDIA I/F	SD/MMC	MEMORYSTICK	XD
MFIO00	SDWP#	MSBS	XD_D7
MFIO01	SD_D1		XD_D6
MFIO02	SD_D0	MS_D1	XD_D5
MFIO03	(SD_D7)		XD_D4
MFIO04	(SD_D6)	(MS_D5)	XD_D3
MFIO05	SD_CLK	MSD0	XD_D2
MFIO06			XD_D1
MFIO07	(SD_D5)	(MS_D4)	XD_D0
MFIO08	SD_CDM	MS_D2	XD_WP#
MFIO09	(SD_D4)	(MS_D6)	XD_WE#
MFIO10	SD_D3	MS_D3	XD_ALE
MFIO11	SD_D2		XD_CLE
MFIO12			XD_CE#
MFIO13		(MS_D7)	XD_RE#
MFIO14		MS_CLK	XD_R/B
MFCD0#	SDDC#		XDCD0#
MFCD1#		MSINS#	XDCD1#





<Core Design>

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Title

**Media Card Slot**

Size  
A4

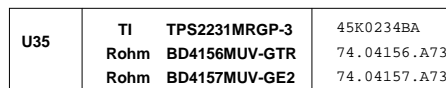
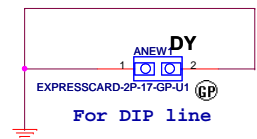
Document Number

**Dasher-2**

Rev  
-1

Date: Friday, March 09, 2012

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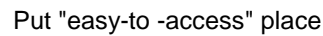


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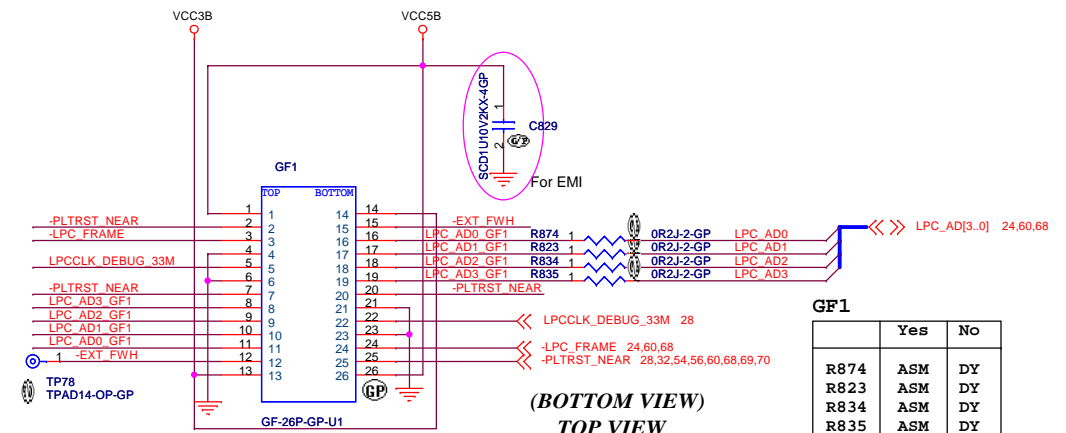
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Title <b>BLANK</b>			
Size A	Document Number <b>Dasher-2</b>		Rev <b>-1</b>
Date: Tuesday, February 21, 2012		Sheet 57 of	101

## Golden Finger for Debug Board



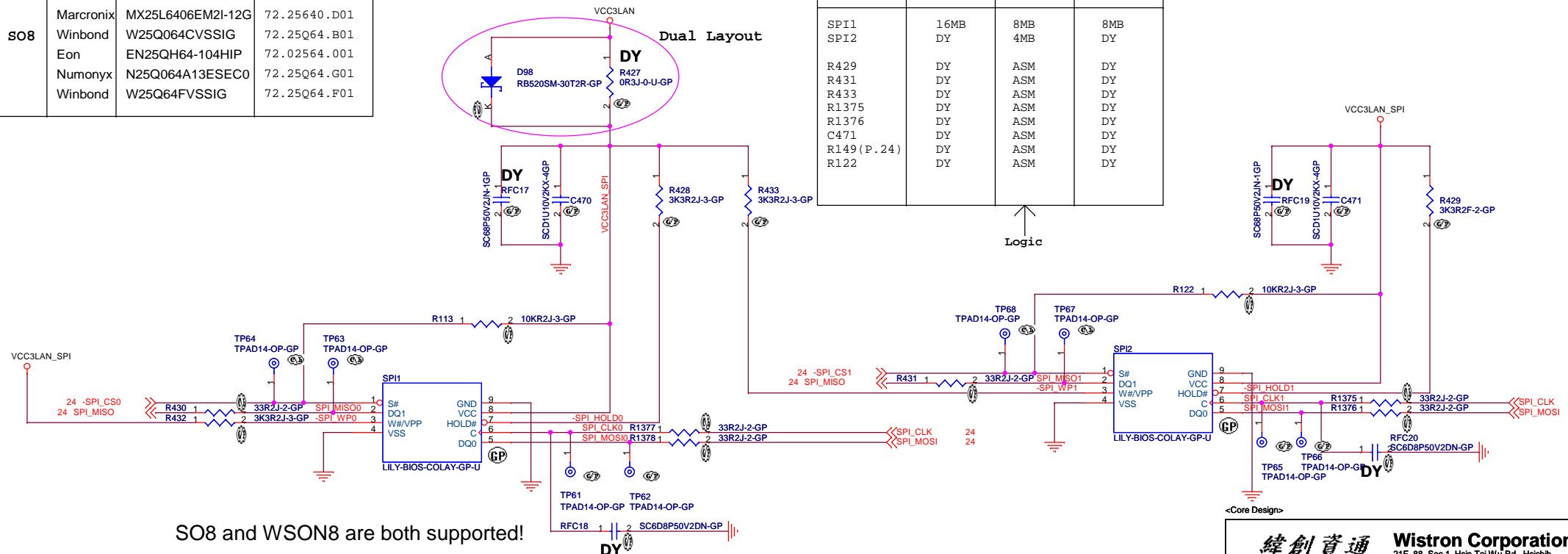
<b>Debug</b>	<b>Enable</b>	<b>Disable</b>
<b>CN14</b>	<b>ASM</b>	<b>DY</b>



	Yes	No
R874	ASM	DY
R823	ASM	DY
R834	ASM	DY
R835	ASM	DY
R235	ASM	DY

### Configuration Table

	CONFIG-1 16MB	CONFIG-2 12MB	CONFIG-3 8MB
SPI1 SPI2	16MB DY	8MB 4MB	8MB DY
R429	DY	ASM	DY
R431	DY	ASM	DY
R433	DY	ASM	DY
R1375	DY	ASM	DY
R1376	DY	ASM	DY
C471	DY	ASM	DY
R149 (P.24)	DY	ASM	DY
R122	DY	ASM	DY



SO8 and WSON8 are both supported!

## <Core Design>

緯創資通

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Title

### ***SPI&LPC debug card***

Size

Document Number
-----------------

## QUESTIONS

Rev

Date: Friday, March 09, 2012

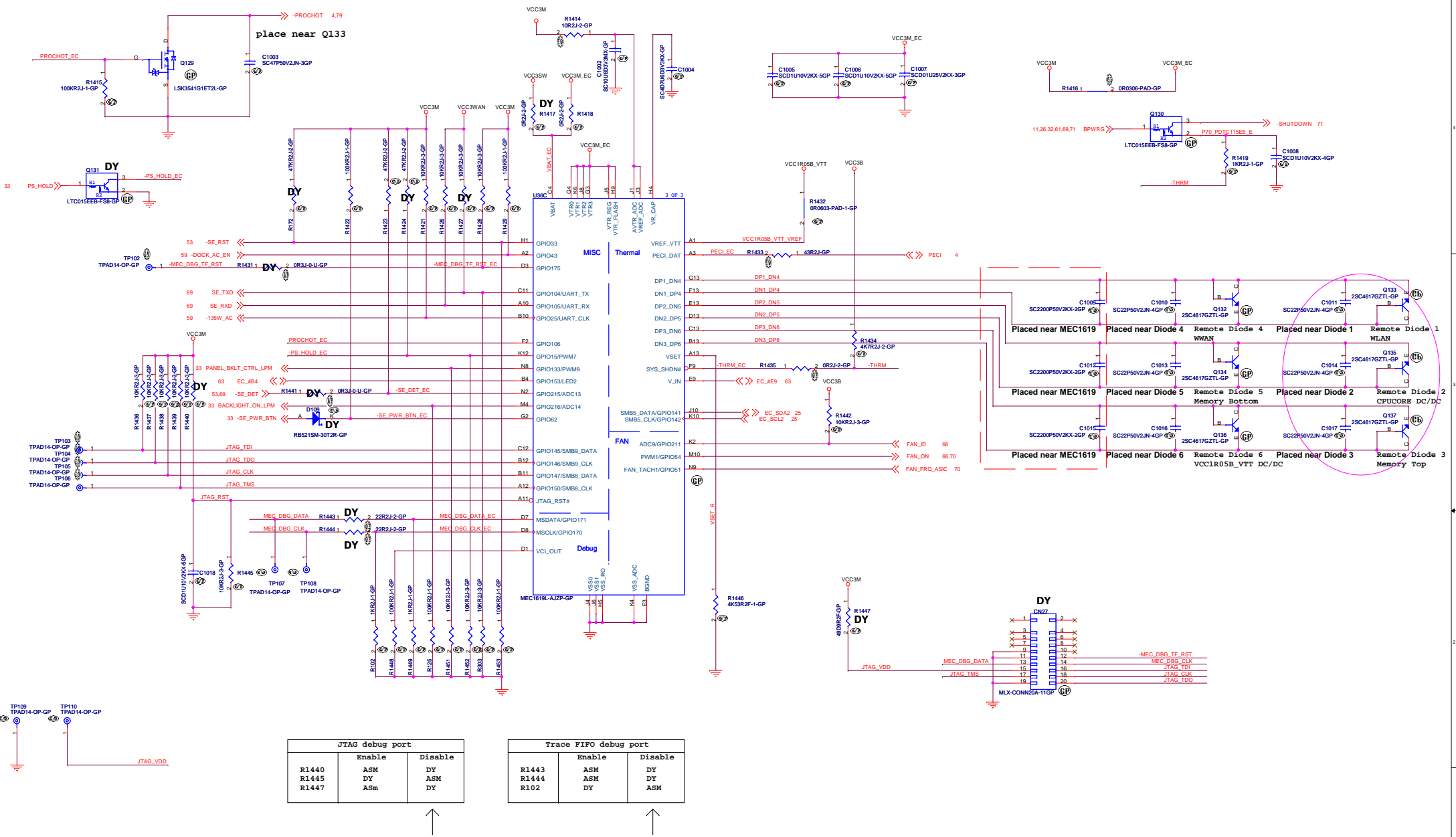
Sheet 58 of

101







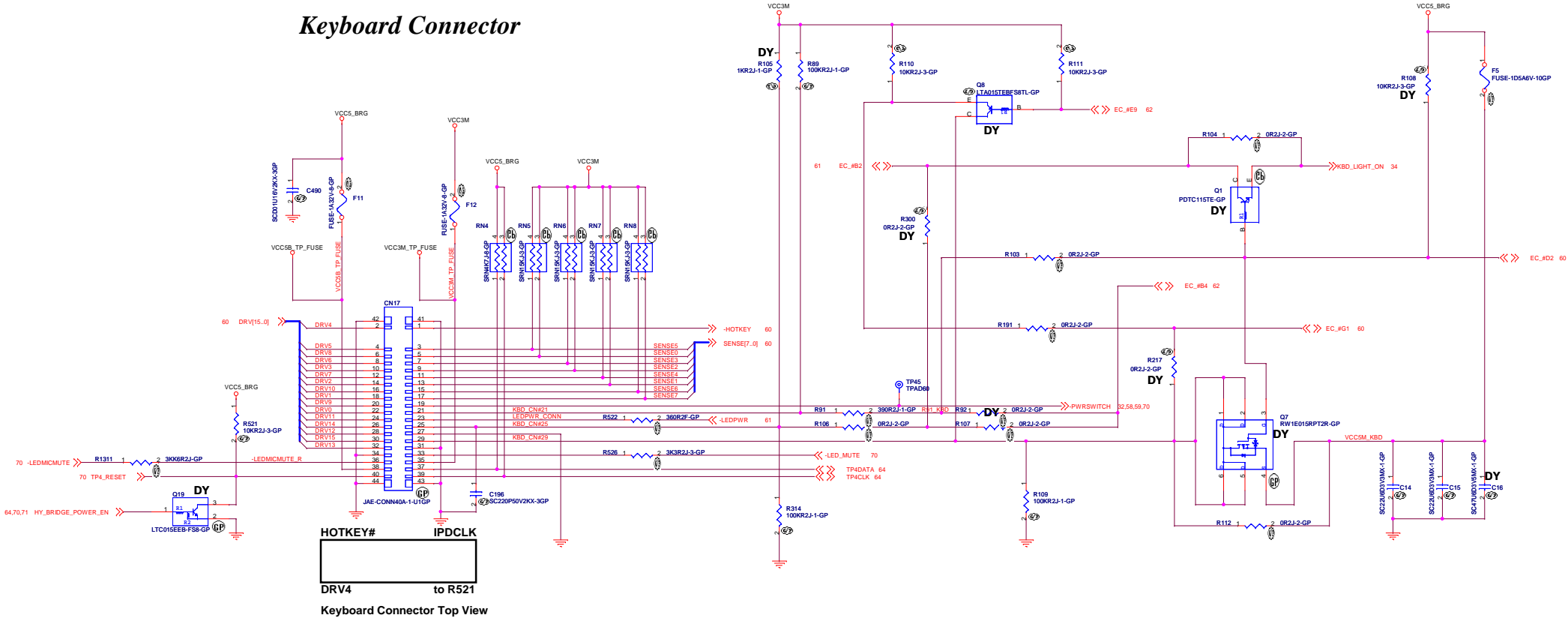


~Variant Name~

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File **Embedded Controller (3/3)**  
Size **A2** Document Number **Dasher-2** Rev **1**  
Date **Friday, March 09, 2012** Sheet **62** of **101**

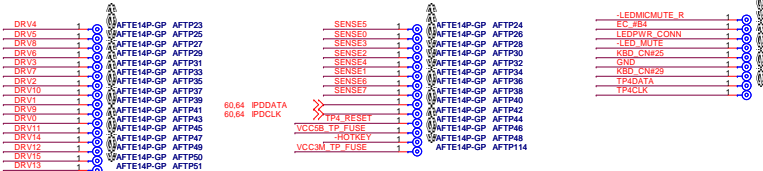
## Keyboard Connector



### Keyboard Connector Top View



Near CN17



**KBD Table1**

		case1	case2	case3	case4
CS12 KBD w/o BL		v	v	v	
CS12 KBD w BL			v	v	
CS09				v	v
Parts#	parts	case1	case2	case3	case4
R108	10k_5%_0402	DY	DY	ASM	ASM
R104	0.5%_0402	ASM	ASM	DY	DY
R89	100k_5%_0402	ASM	ASM	ASM	ASM
R105	1k_5%_0402	ASM	DY	ASM	ASM
R111	10k_5%_0402	ASM	ASM	ASM	ASM
R110	10k_5%_0402	DY	ASM	ASM	ASM
R92	0.5%_0402	DY	DY	ASM	ASM
R91	390_5%_0402	DY	ASM	ASM	ASM
R107	0.5%_0402	DY	ASM	DY	DY
R103	0.5%_0402	ASM	ASM	DY	DY
R106	0.5%_0402	DY	ASM	ASM	ASM
R112	0.5%_0402	DY	ASM	DY	DY
R109	100k_5%_0402	DY	ASM	ASM	DY
R191	0.5%_0402	ASM	ASM	DY	ASM
R217	0.5%_0402	DY	DY	ASM	DY
R300	0.5%_0402	DY	DY	ASM	ASM
C16	47uF_6.3V_0805	DY	DY	DY	DY
C15	10uF_6.3V_0603	DY	ASM	ASM	DY
C14	10uF_6.3V_0603	DY	ASM	ASM	DY
Q1	LTC015TE	DY	DY	ASM	ASM
Q8	LTA015TE	DY	DY	ASM	DY
Q7	RW1E015RP	DY	DY	ASM	DY
F5	1.5A/6A Fuse	DY	ASM	DY	DY
	1.5A/6V PolySW	DY	DY	ASM	DY
R314	100k_5%_0402	DY	ASM	DY	DY

**KBD Table2**

Pre-DV	case4
SDV	case2
FVT	case2
PreSIT	case2
SIT	case2

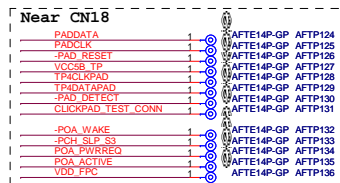
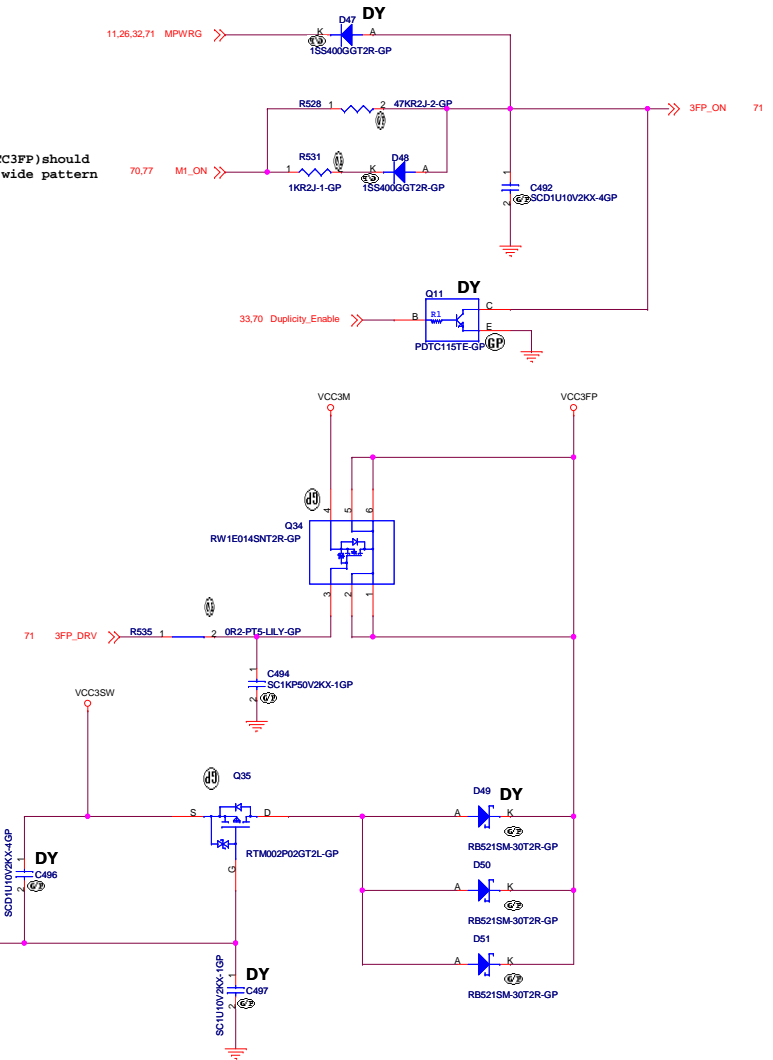
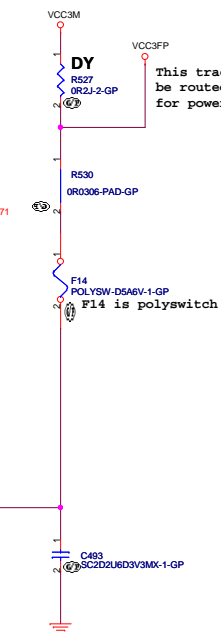
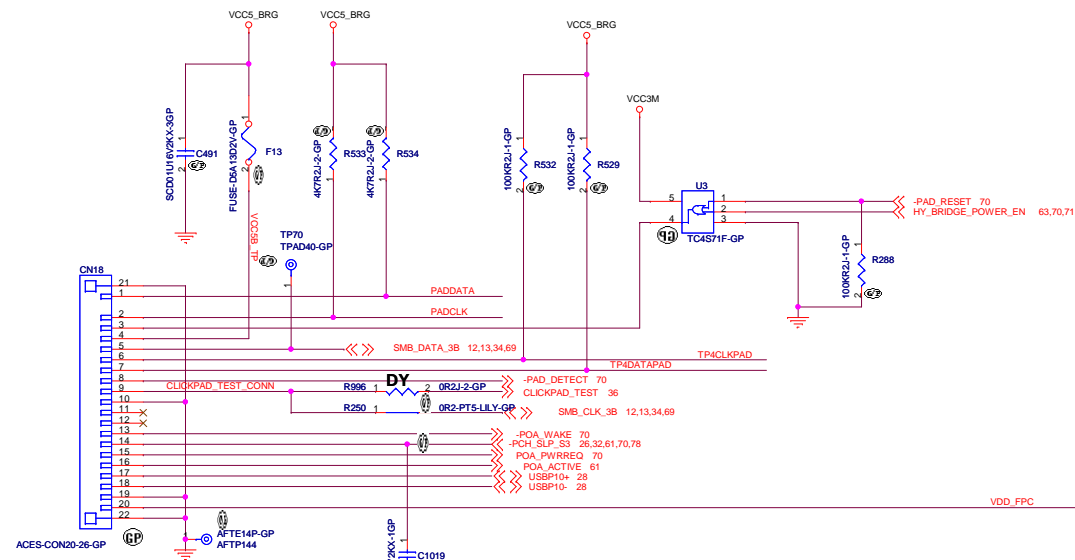
← Logic

◀Core Design▶

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Title			
<b>KEYBOARD CONNECTOR</b>			
Size A2	Document Number		Rev
	<b>Dasher-2</b>		<b>-1</b>
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**Fingerprint Reader / Touch PAD**

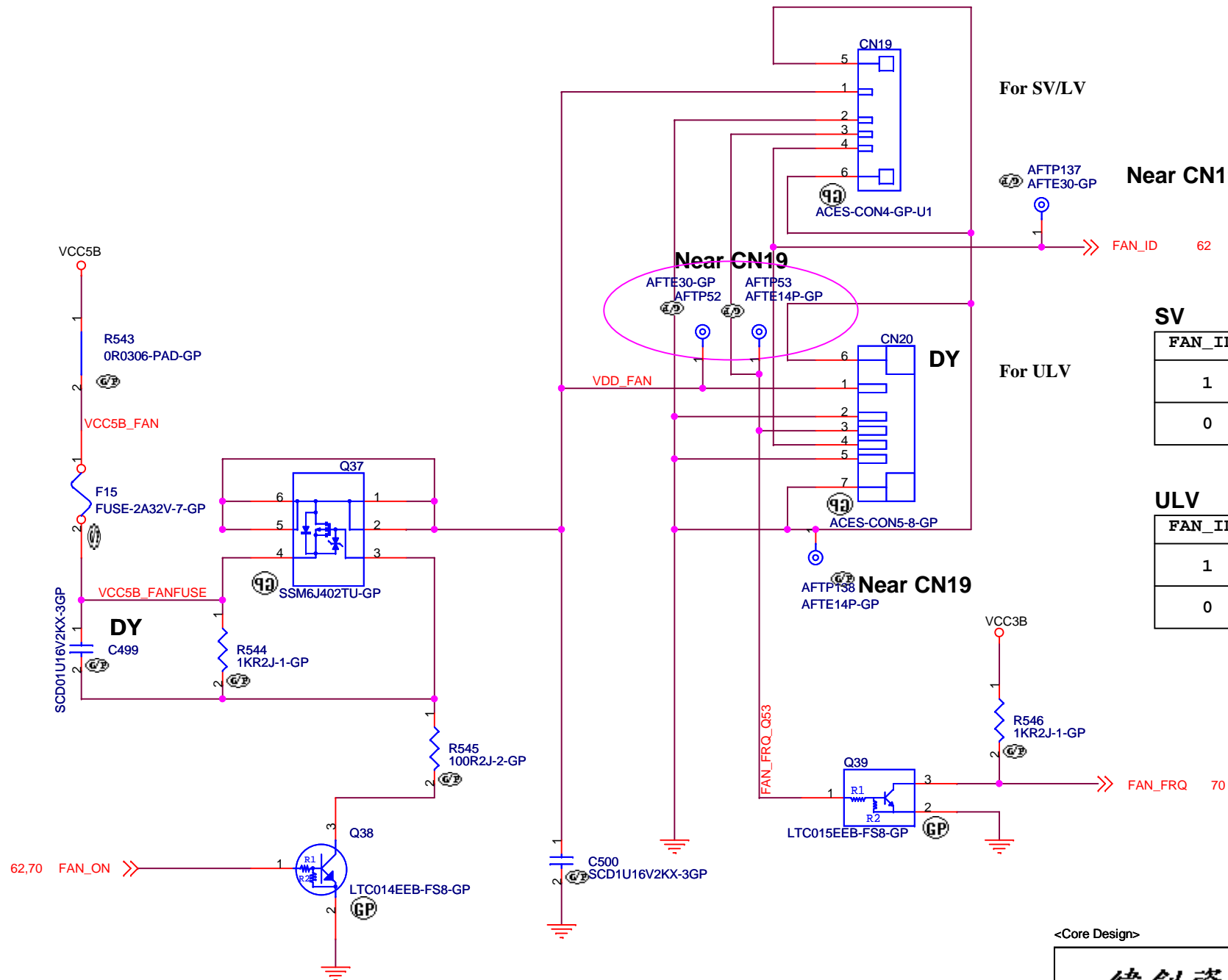




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Title <b>BLANK</b>			
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### SV

FAN_ID	Thermal module
1	DELTA or Toshiba
0	AVC

### ULV

FAN_ID	Thermal module
1	Toshiba
0	AVC or DELTA

<Core Design>

緯創資通

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Title

**FAN Control**

Size  
A4

Document Number

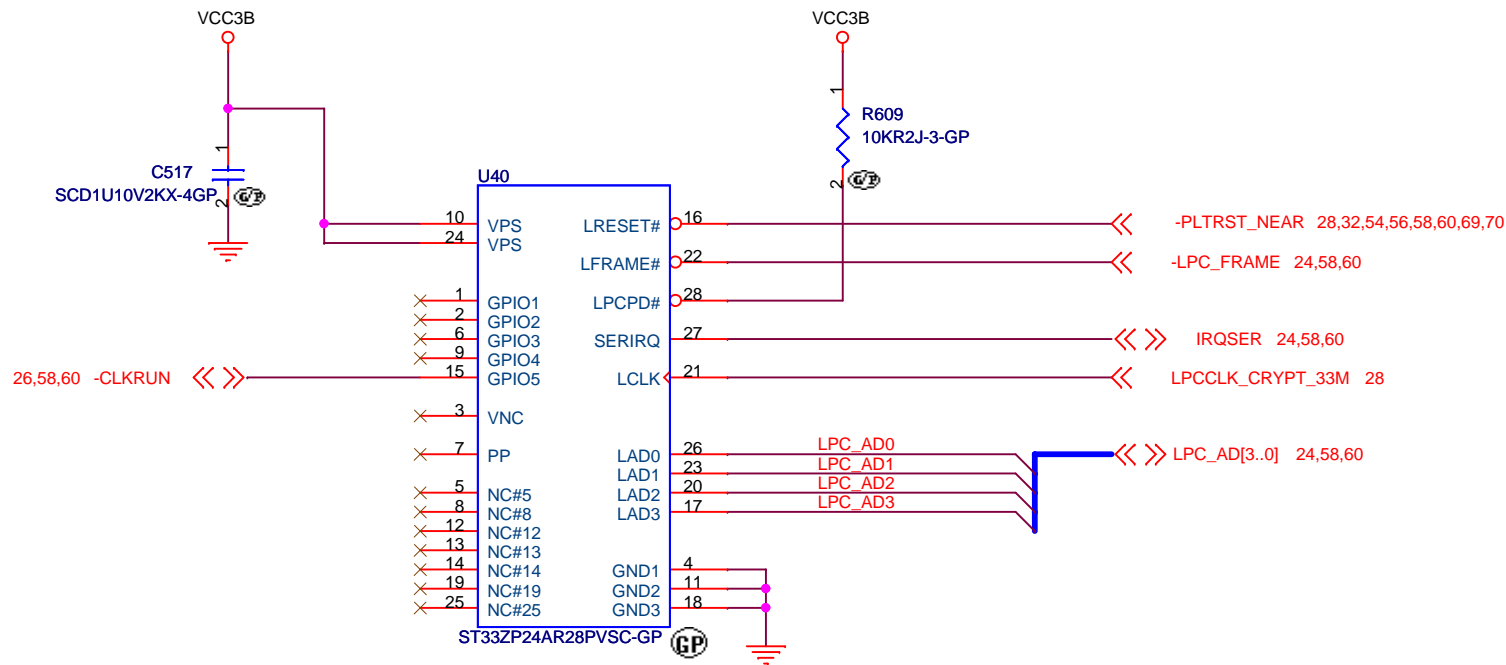
**Dasher-2**

Rev  
-1

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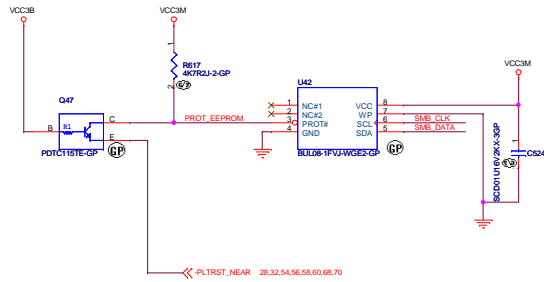


BU	After SDV
ST19NP18ER28PVMO (71.19N18.T0W)	ST33ZP24AR28PVxx xx="OG" for SDV(71.03324.A0W), "RC" for FVT, PreSIT (FW 1.2.C.0)(71.03324.C0W) SC for SIT (not PreSIT) FW 1.2.D.0(71.03324.D0W)

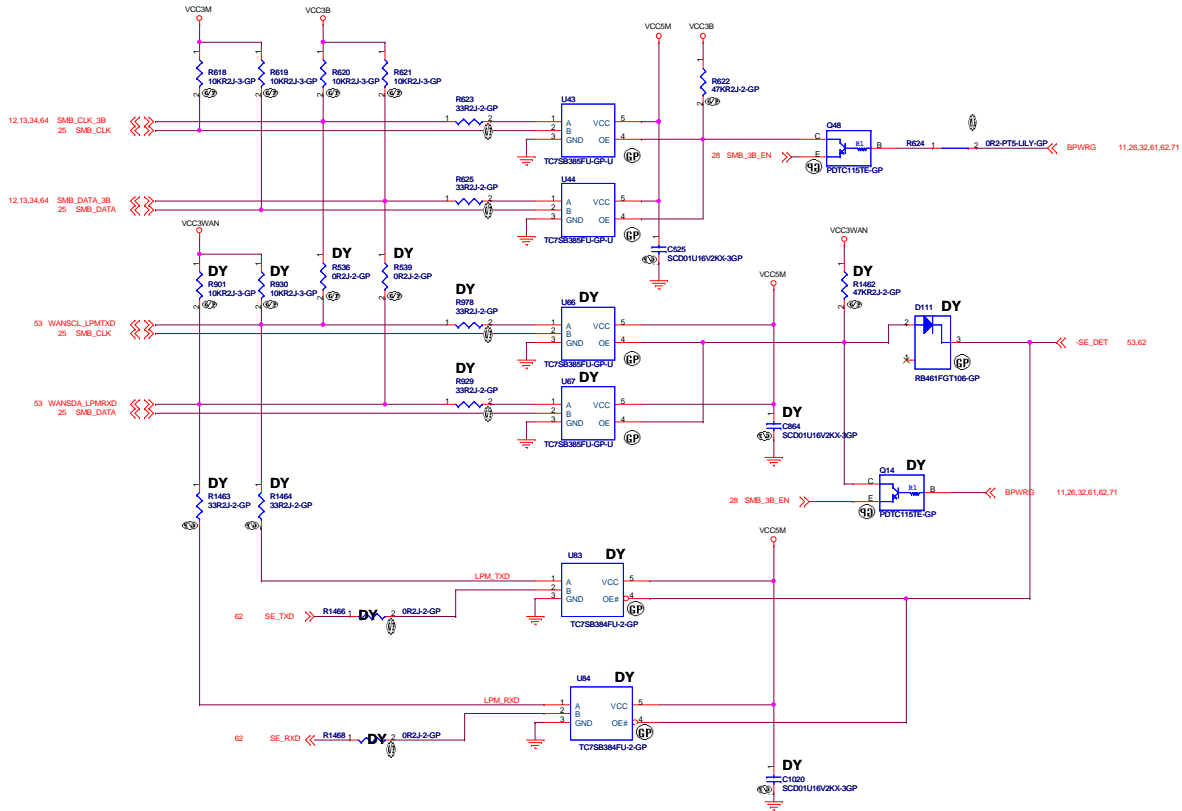
<Core Design>

<b>緯創資通</b>		<b>Wistron Corporation</b> 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
<b>TPM</b>			
Size A4	Document Number		Rev -1
<b>Dasher-2</b>			
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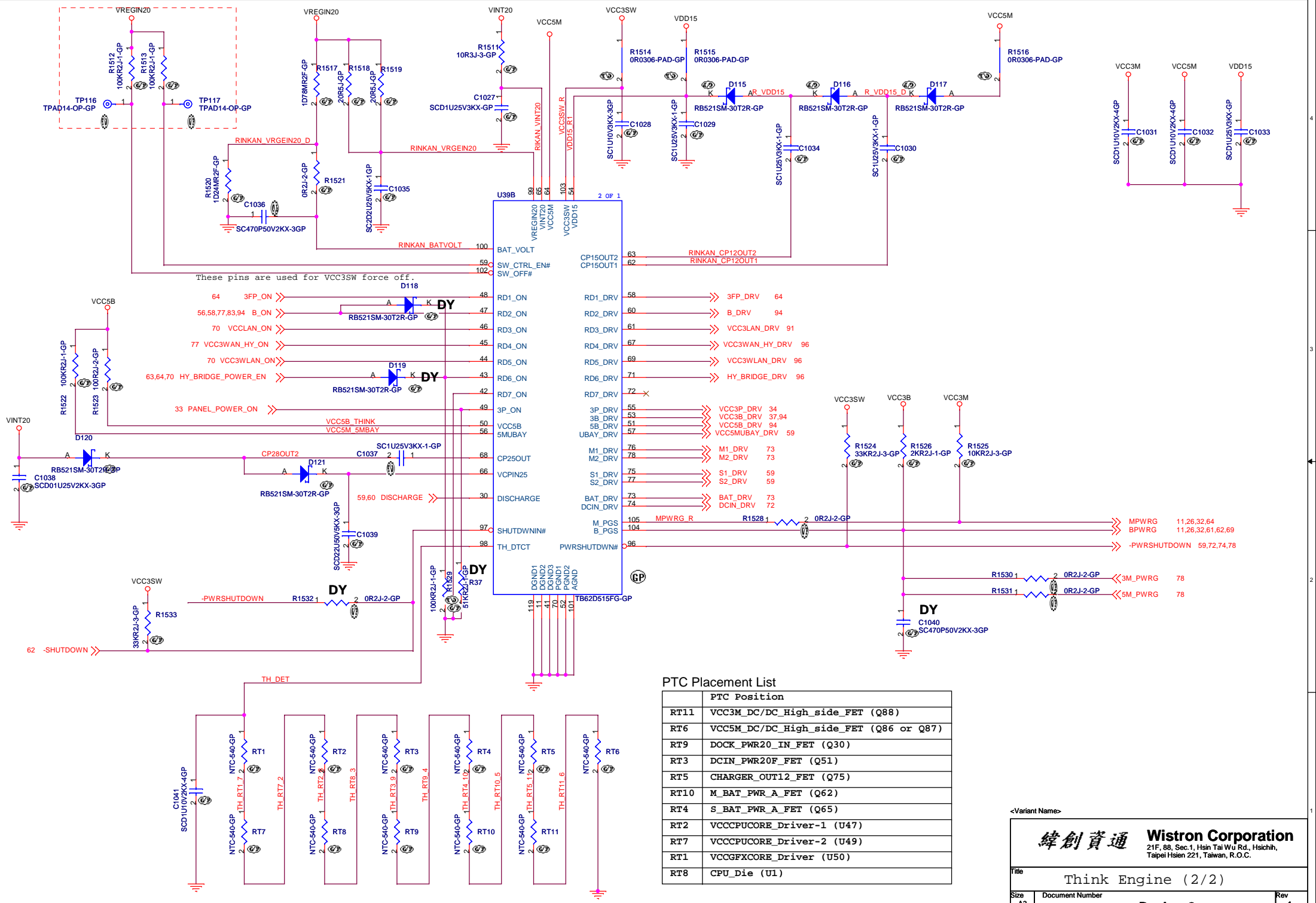
## ***EEPROM***



	Vendor	U42	Part Number
1st	ROHM	BUL08-1FVJ-W	72.BUL08.A0Q
2nd	NXP	PCA24S08ADP	72.24S08.A0Q
3rd	Sanyo	LE26CAP08TT	72.26C08.00R







PTC Placement List	
	PTC Position
RT11	VCC3M_DC/DC_High_side_FET (Q88)
RT6	VCC5M_DC/DC_High_side_FET (Q86 or Q87)
RT9	DOCK_PWR20_IN_FET (Q30)
RT3	DCIN_PWR20F_FET (Q51)
RT5	CHARGER_OUT12_FET (Q75)
RT10	M_BAT_PWR_A_FET (Q62)
RT4	S_BAT_PWR_A_FET (Q65)
RT2	VCCCPUCORE_Driver-1 (U47)
RT7	VCCCPUCORE_Driver-2 (U49)
RT1	VCCGFXCORE_Driver (U50)
RT8	CPU_Die (U1)

緯創資通

Wistron Corporation

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

Think Engine (2/2)

Document Number

Dasher-2

Rev

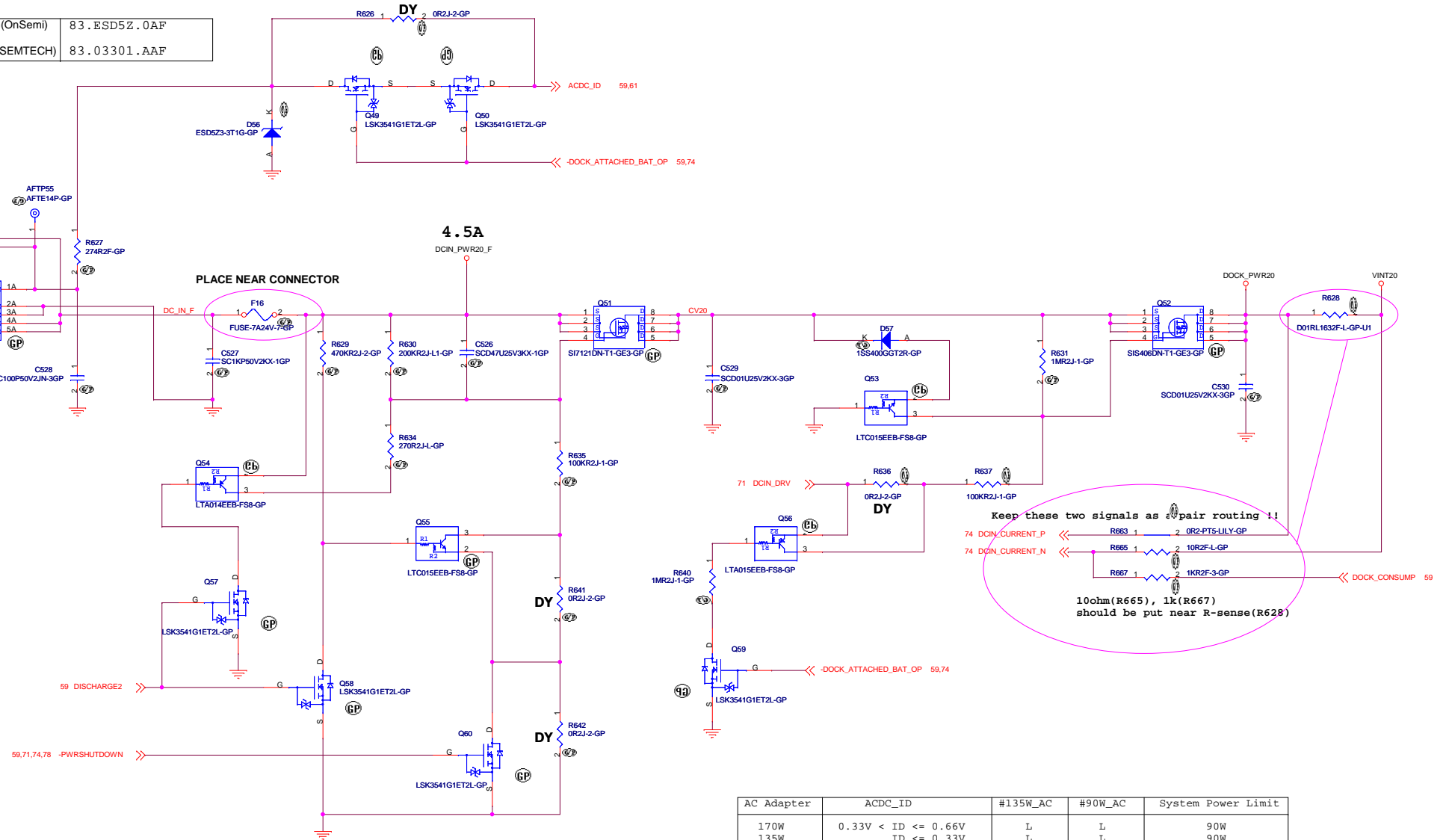
-1

Friday, March 09, 2012

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D56

ESD5Z3.3T1G(OnSemi)	83.ESD5Z.0AF
uClamp3301H(SEMTECH)	83.03301.AAF



AC Adapter	ACDC_ID	#135W_AC	#90W_AC	System Power Limit
170W	0.33V < ID <= 0.66V	L	L	90W
135W	ID <= 0.33V	L	L	90W
90W	2.64V < ID	H	L	90W
65W	1.32V < ID <= 1.98V	H	H	65W

PEAK SHIFT	YES	NO
R641	NO-ASM	ASM
R629	ASM	NO-ASM
Q58	ASM	NO-ASM
Q55	ASM	NO-ASM

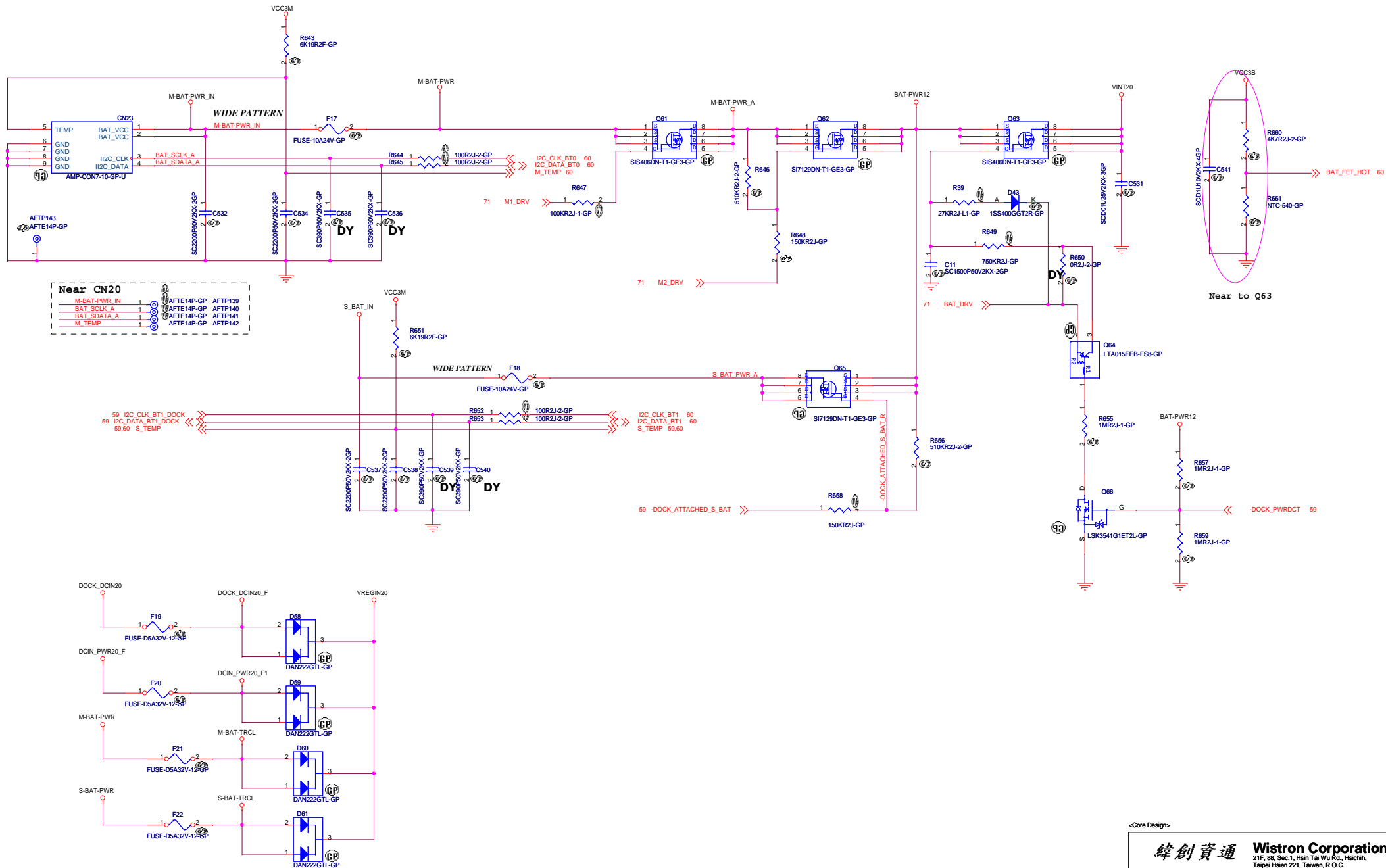
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緯創資通 Wistron Corporation	
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Title	DC-IN
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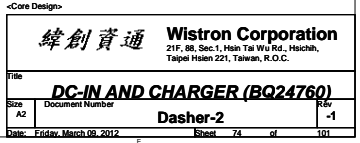


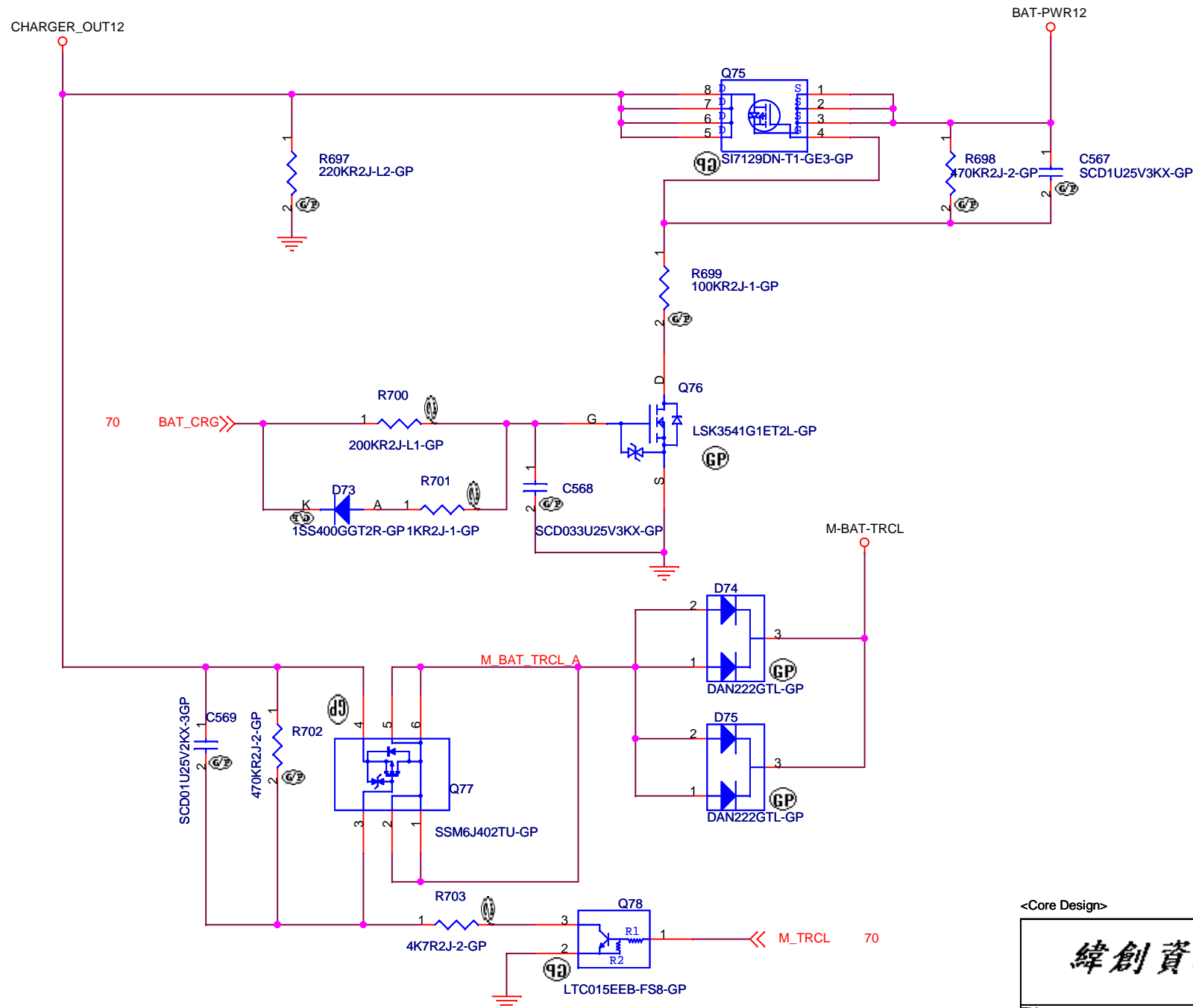


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 Taipei Hsien 221, Taiwan, R.O.C.

Title		<b>BATTERY INPUT</b>		
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<Core Design>

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

Title

**CHARGER SELECT**

Size  
A4

Document Number

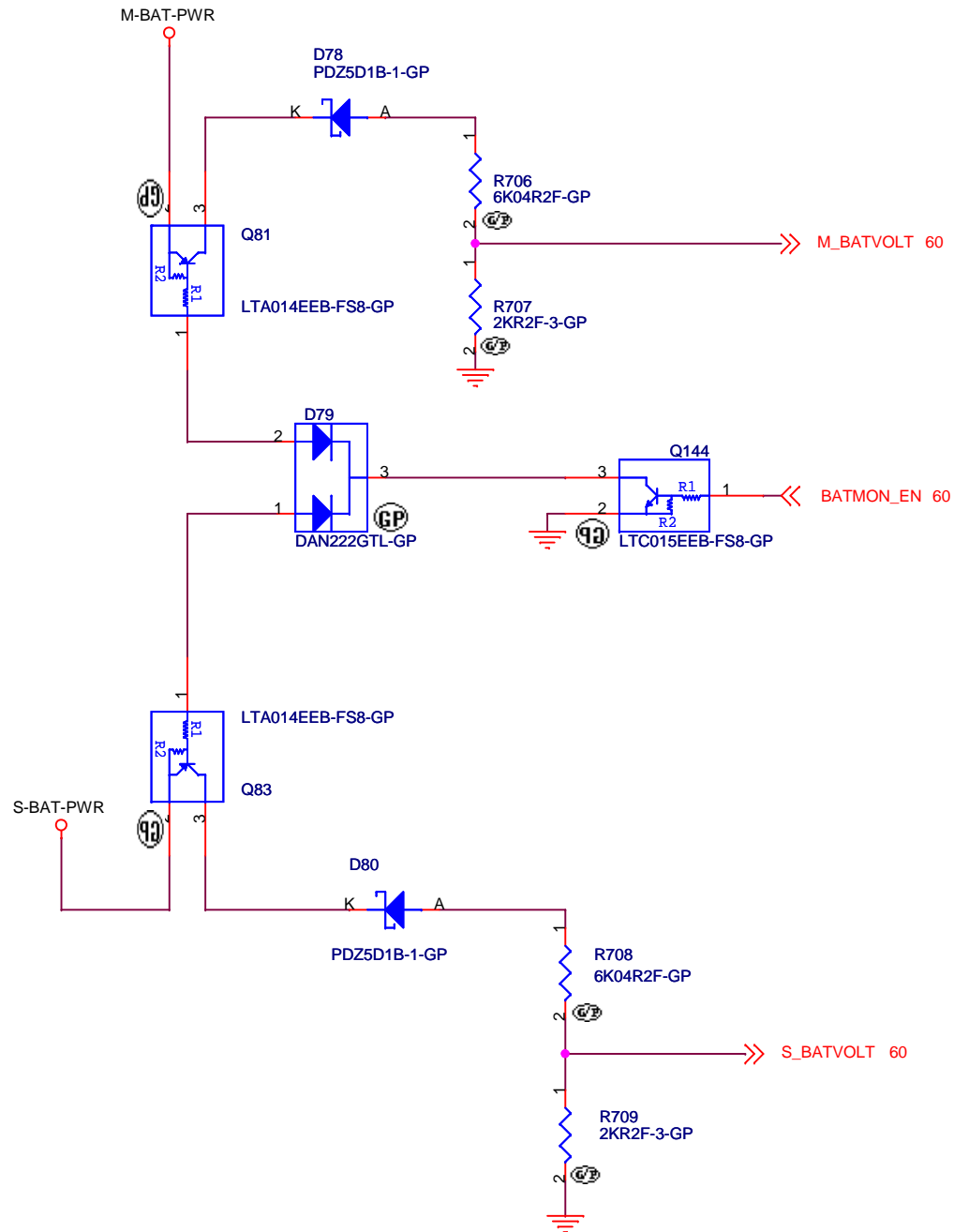
**Dasher-2**

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-1

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$$V_{OUT} = 0.249 (V_{BAT} - 5)$$



<Core Design>

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

Title

**BATTERY MONITOR**

Size  
A4

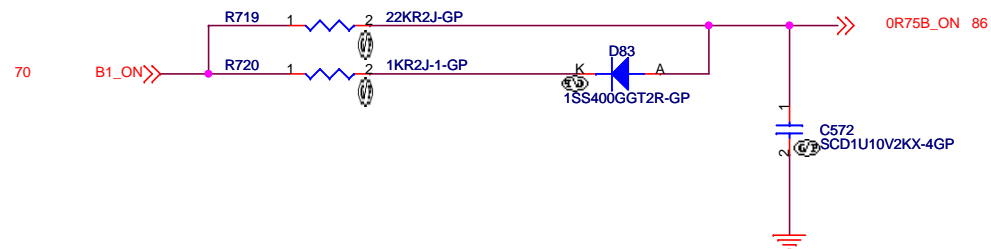
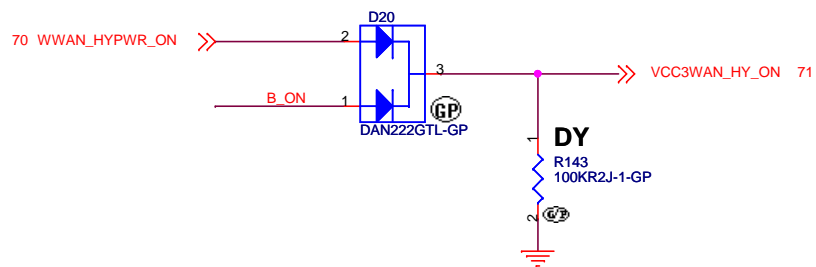
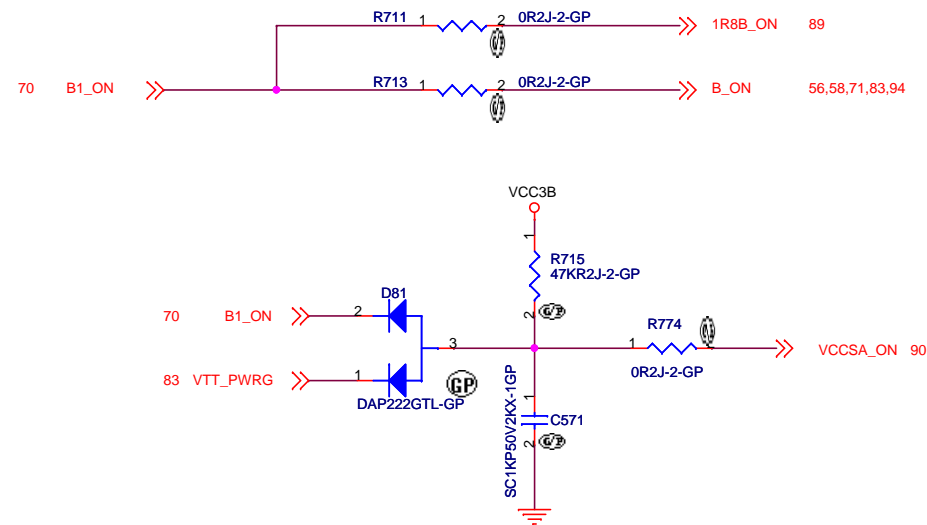
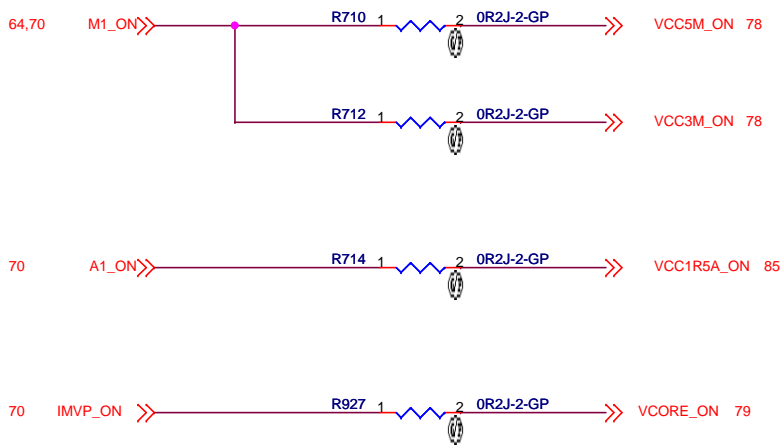
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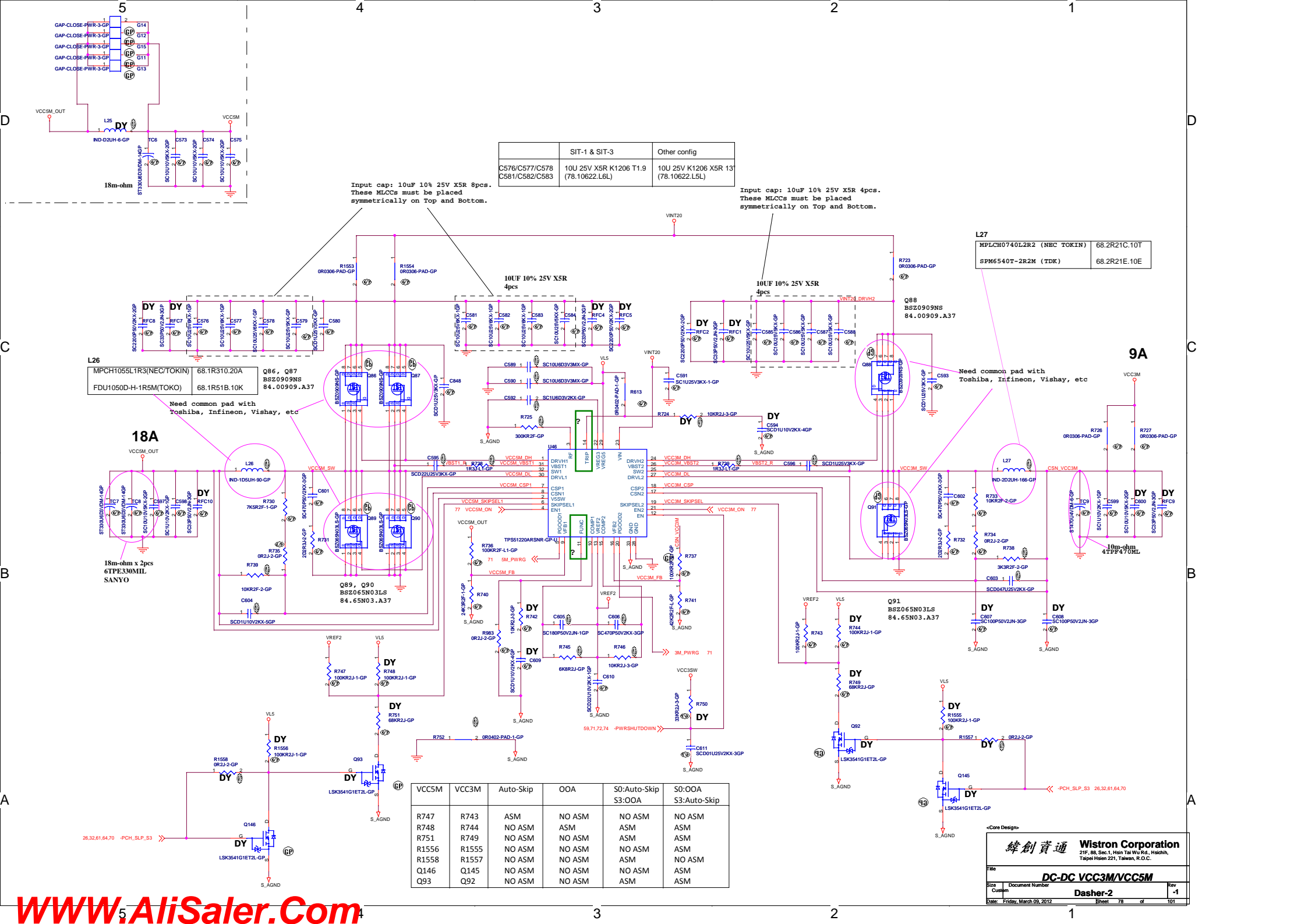


AOAC Duplicity	YES YES	YES NO	NO YES	NO NO
D20 R143	ASM DY	ASM DY	ASM DY	DY ASM

Logic

<Core Design>

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<b>POWER SEQUENCE</b>			
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	SIT-1 & SIT-3	Other config
C576/C577/C578	10U 25V X5R K1206 T1.9 (78.10622.L6L)	10U 25V K1206 X5R 13 (78.10622.L5L)
C581/C582/C583		

Input cap: 10uF 10% 25V X5R 4pcs.  
These MLCCs must be placed  
symmetrically on Top and Bottom.

L27	MPLCH0740L2R2 (NEC TOKIN)	68.2R21C.10T
	SPM6540T-2R2M (TDK)	68.2R21E.10E

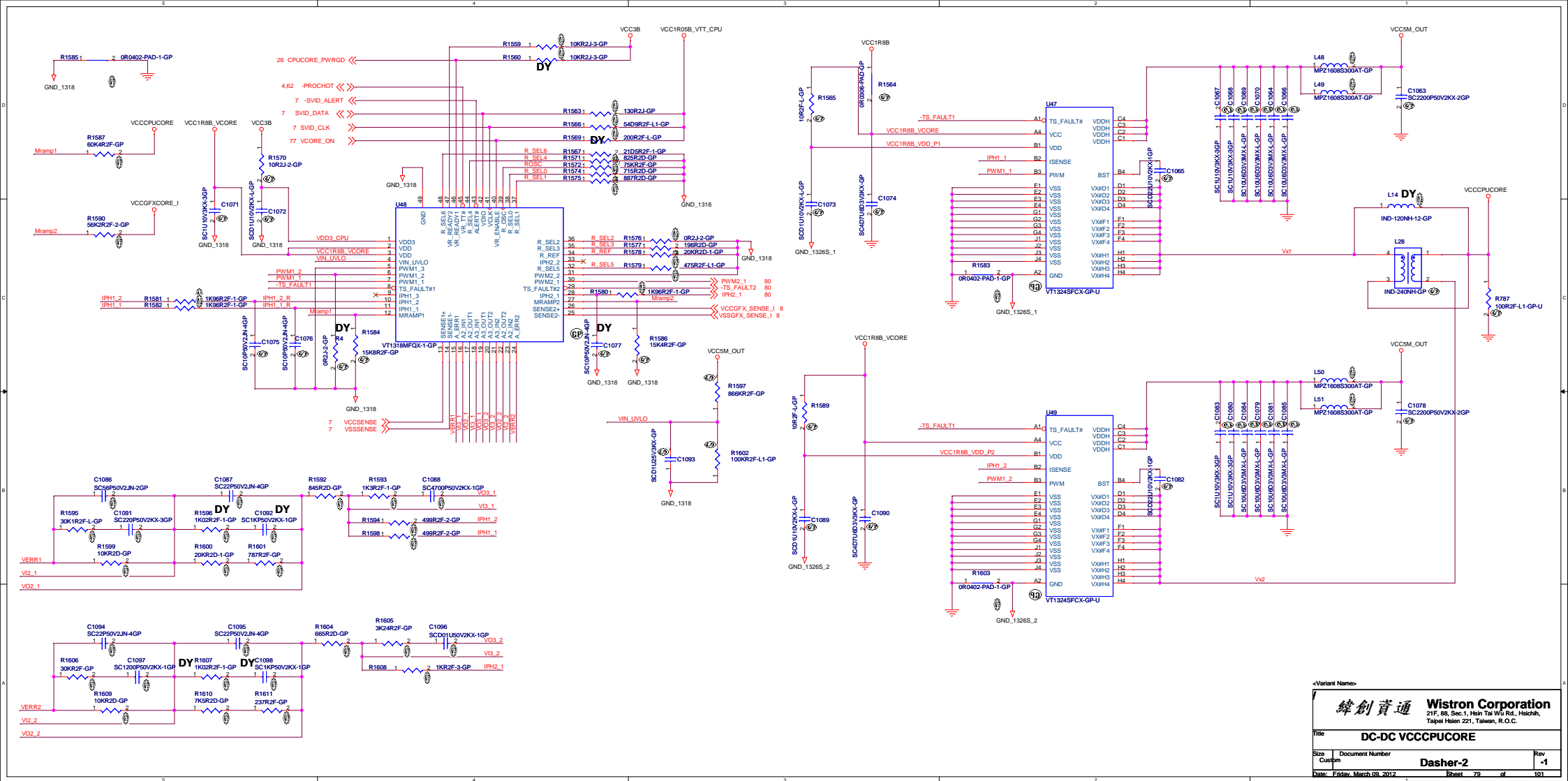
L26	MPCH1055L1R3(NEC/TOKIN)	68.1R310.20A
	FDU1050D-H-1R5M(TOKO)	68.1R51B.10K

Need common pad with  
Toshiba, Infineon, Vishay, etc

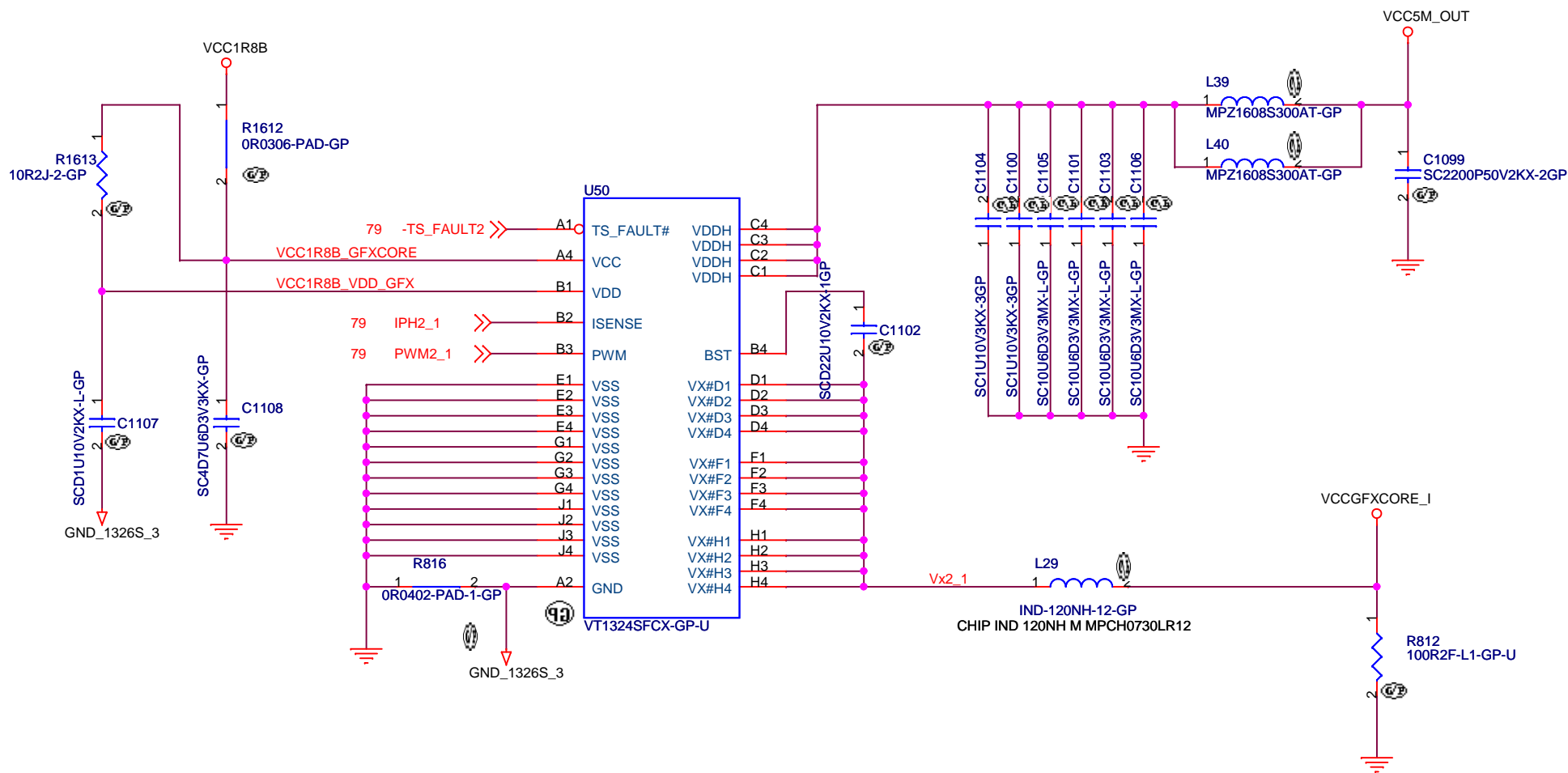
Need common pad with  
Toshiba, Infineon, Vishay, etc

VCC5M	VCC3M	Auto-Skip	OOA	S0:Auto-Skip S3:OOA	S0:OOA S3:Auto-Skip
R747	R743	ASM	NO ASM	NO ASM	NO ASM
R748	R744	NO ASM	ASM	ASM	ASM
R751	R749	NO ASM	NO ASM	ASM	ASM
R1556	R1555	NO ASM	NO ASM	NO ASM	ASM
R1558	R1557	NO ASM	NO ASM	ASM	NO ASM
Q146	Q145	NO ASM	NO ASM	NO ASM	ASM
Q93	Q92	NO ASM	NO ASM	ASM	ASM

◀Core Design▶			
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File			
DC-DC VCC3M/VCC5M			
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<Variant Name>

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**Wistron Corporation**

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Title  
**VCCGFXCORE**

Size  
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Title

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Size  
A3

Document Number

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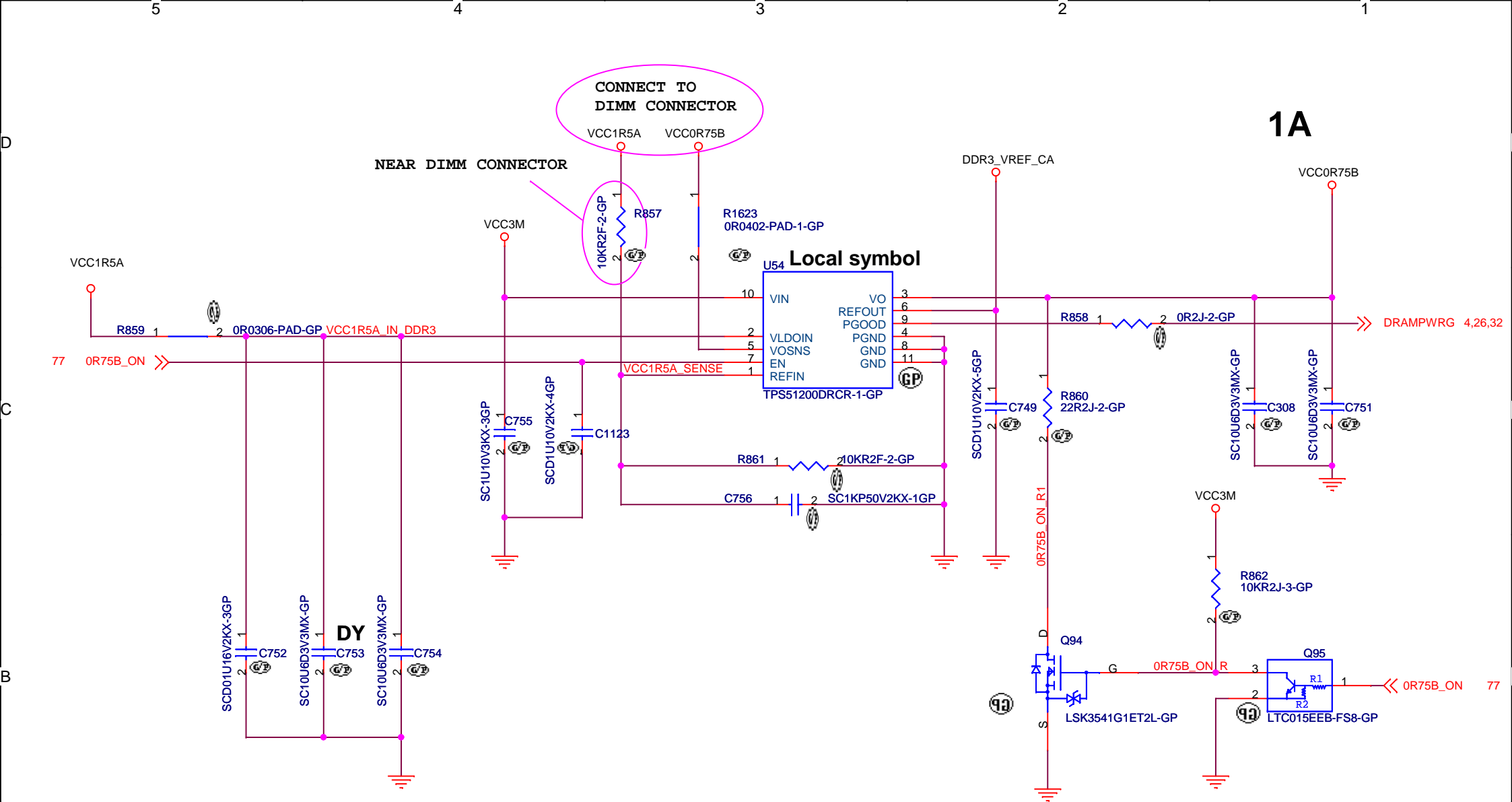
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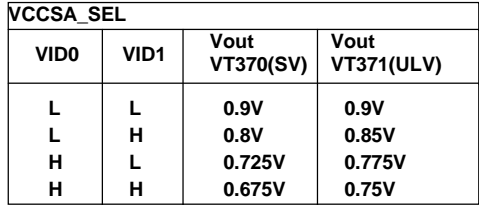
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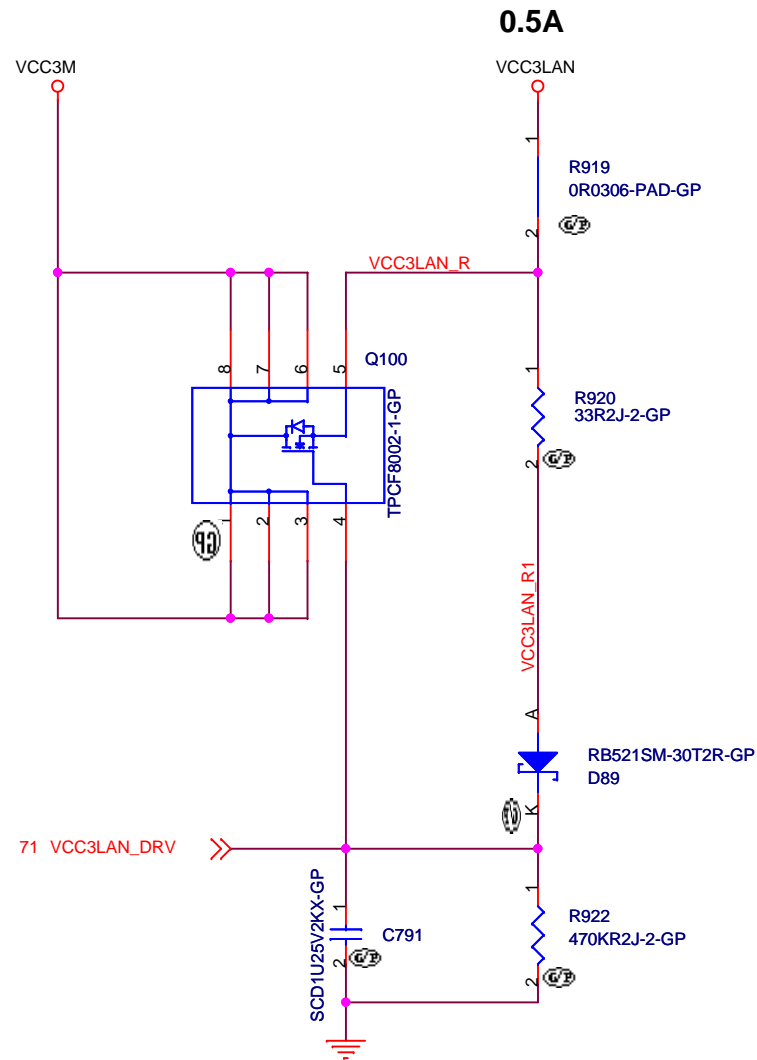
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Title

**LOAD SW LAN**

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Size <div>A4</div>	Document Number <div>Dasher-2</div>	Rev <div>-1</div>
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D

C

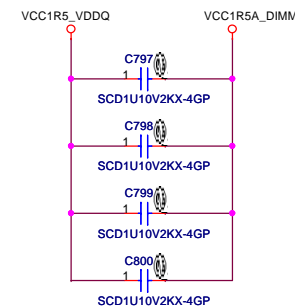
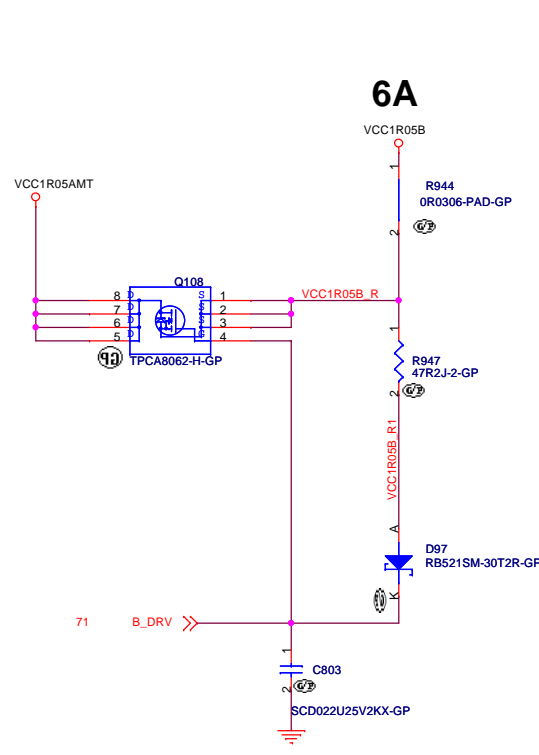
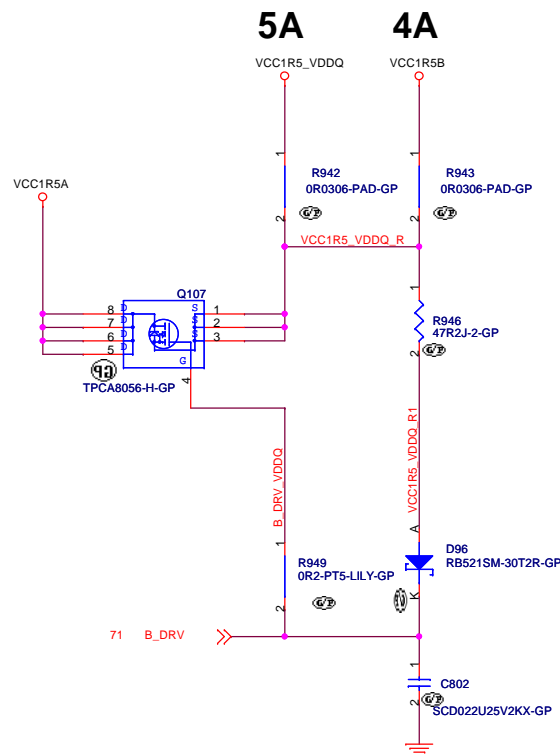
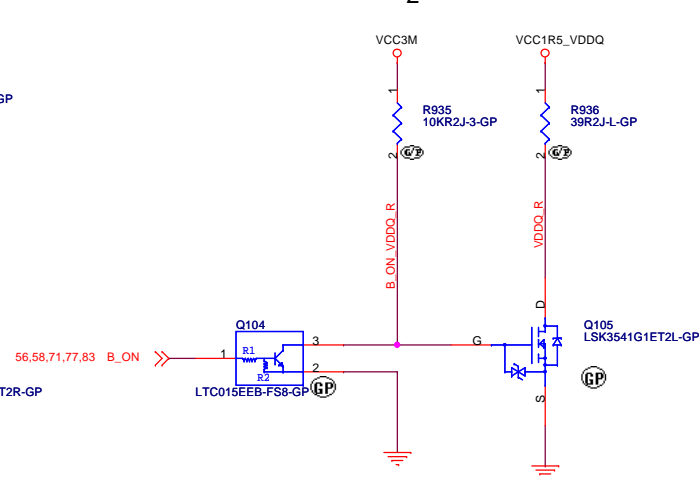
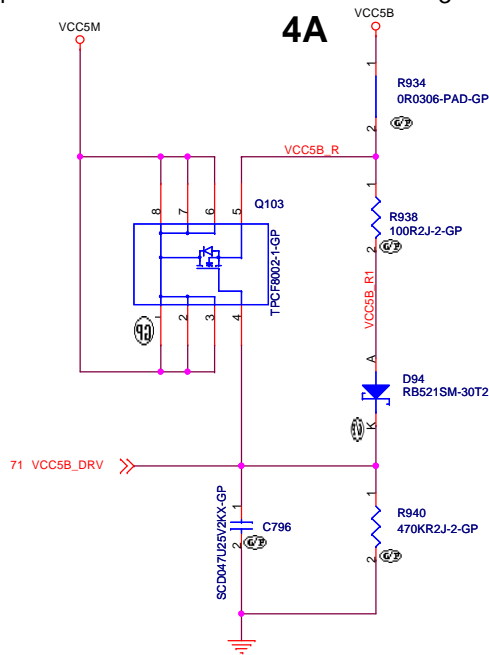
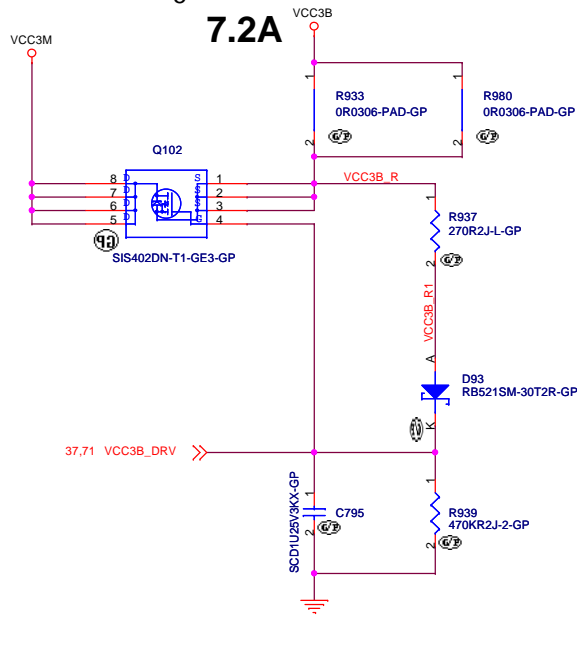
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File			
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A3		-1	
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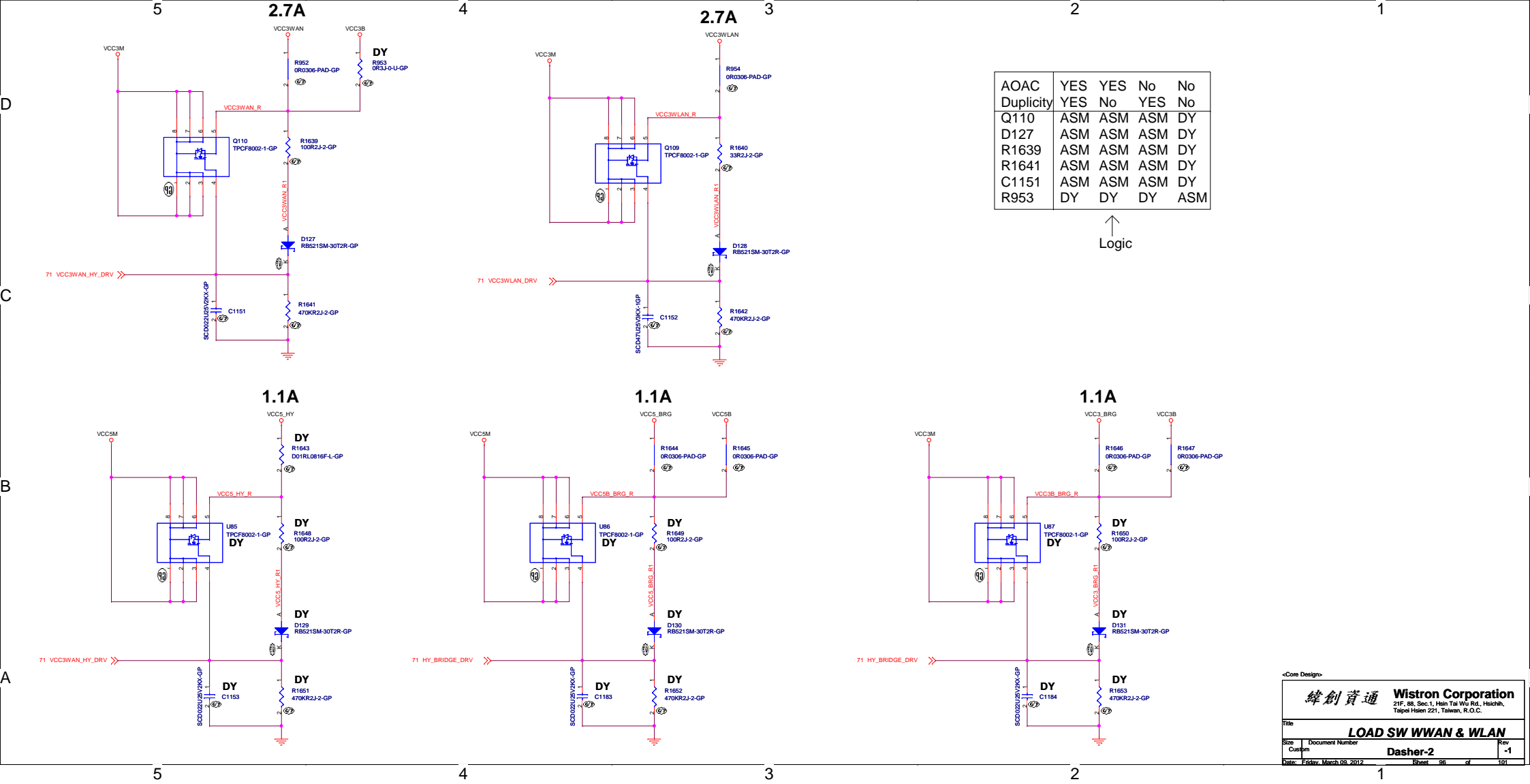
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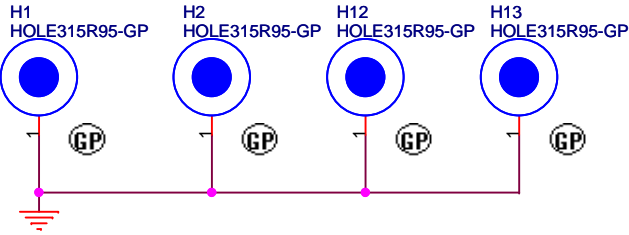
Date: Tuesday, February 21, 2012

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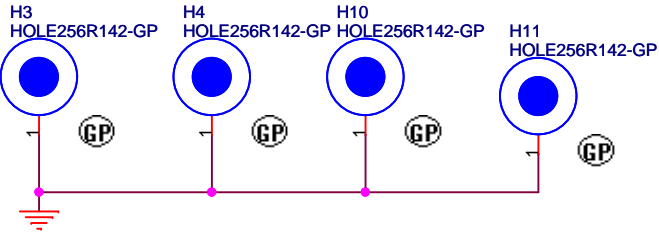




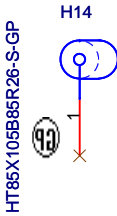
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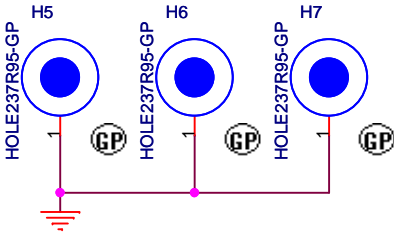
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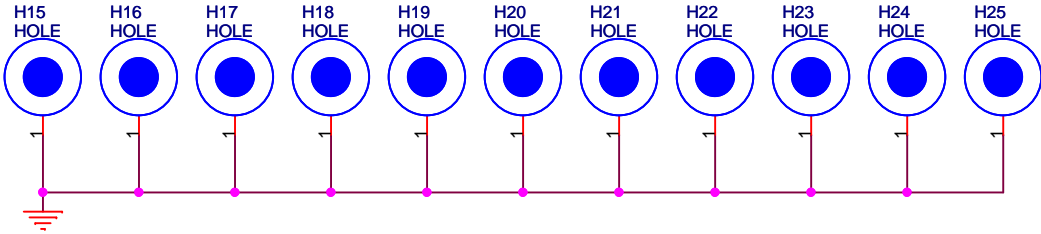
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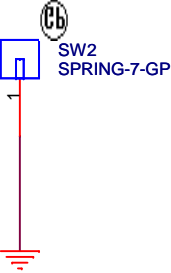
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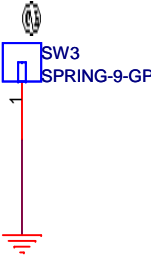
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34.49U26.001  
GND pad for docking connector



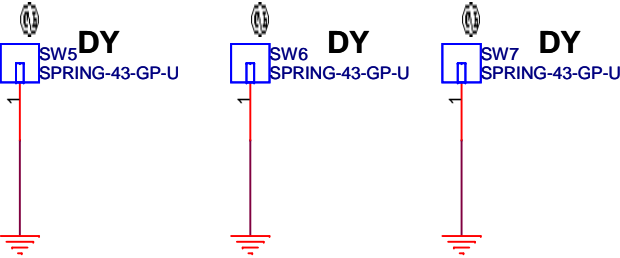
34.49U23.001  
GND pad for docking connector



34.15J03.001  
spring for EMI



34.15J03.001  
spring for RF (SW5~SW7)



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Title		
HOLES/GND/PADS		
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Page	Parts	LPM2.0	LPM1.1	Disable
29	R289 R260	ASM DY	ASM DY	DY ASM
33	U69	ASM	ASM	DY
	C942	ASM	ASM	DY
	C943	ASM	ASM	DY
	C944	ASM	ASM	DY
	C945	ASM	ASM	DY
	R1340	ASM	ASM	DY
	R1341	ASM	ASM	DY
	Q127	ASM	ASM	DY
	Q128	ASM	ASM	DY
	C318	ASM	ASM	DY
	U68	ASM	ASM	DY
	C939	ASM	ASM	DY
	C940	ASM	ASM	DY
	C941	ASM	ASM	DY
	U70	ASM	ASM	DY
	U71	ASM	ASM	DY
	U72	ASM	ASM	DY
	C946	ASM	ASM	DY
	C947	ASM	ASM	DY
	C948	ASM	ASM	DY
	R1338	DY	DY	ASM
	R1339	DY	DY	ASM
	R1342	DY	DY	ASM
	R1330	DY	DY	ASM
	R1331	DY	DY	ASM
	R1332	DY	DY	ASM
	R1333	DY	DY	ASM
	R1334	DY	DY	ASM
	R1335	DY	DY	ASM
	R1336	DY	DY	ASM
	R1337	DY	DY	ASM
	CN26	ASM	ASM	DY
	34	U73	ASM	ASM
U74		ASM	ASM	DY
U75		ASM	ASM	DY
R1343		DY	DY	ASM
R1344		DY	DY	ASM
R1345		DY	DY	ASM
R1346		DY	DY	ASM

LOGIC

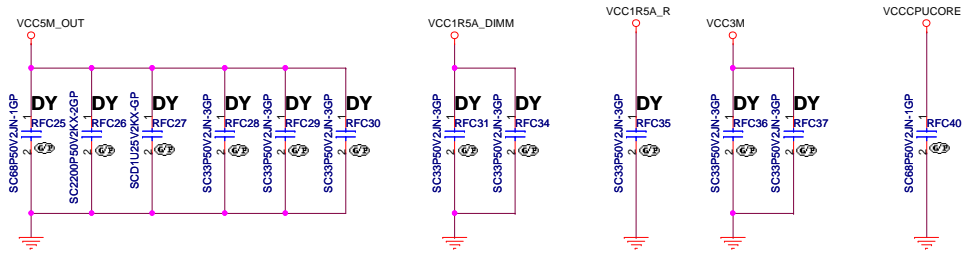
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	U79	ASM	ASM	DY
	U80	ASM	ASM	DY
	U81	ASM	ASM	DY
	C994	ASM	ASM	DY
	C995	ASM	ASM	DY
	C19	ASM	ASM	DY
	R1366	DY	DY	ASM
	R1367	DY	DY	ASM
	R1368	DY	DY	ASM
	R1369	DY	DY	ASM
	R1370	DY	DY	ASM
	R1371	DY	DY	ASM
	R1372	DY	DY	ASM
	53	U82	ASM	ASM
R404		DY	DY	ASM
R405		DY	DY	ASM
R1374		ASM	ASM	DY
R1373		DY	DY	ASM
61	R1450	DY	DY	ASM
	R1420	ASM	ASM	DY
	R313	ASM	ASM	DY
	R117	DY	DY	ASM
62	Q131	ASM	ASM	DY
	D109	ASM	ASM	DY
	R1441	ASM	ASM	DY
	R1424	ASM	ASM	DY
	R1452	DY	DY	ASM
	R172	ASM	ASM	DY
	R1453	DY	DY	ASM
63	Q19	ASM	ASM	DY
64	Q11	DY	DY	DY
69	U83	ASM	ASM	DY
	U84	ASM	ASM	DY
	R1463	ASM	ASM	DY
	R1464	ASM	ASM	DY
	R1466	ASM	ASM	DY
	R1468	ASM	ASM	DY
	R901	DY	DY	Ref to P101
	R930	DY	DY	Ref to P101
	R536	DY	DY	Ref to P101
	R539	DY	DY	Ref to P101
	C1020	ASM	ASM	DY
	D111	Ref P101	Ref P101	DY
	U42	ASM	ASM	Ref to P101
	Q47	ASM	ASM	Ref to P101
	R617	ASM	ASM	Ref to P101
	C524	ASM	ASM	Ref to P101
	Q48	ASM	ASM	Ref to P101

LOGIC

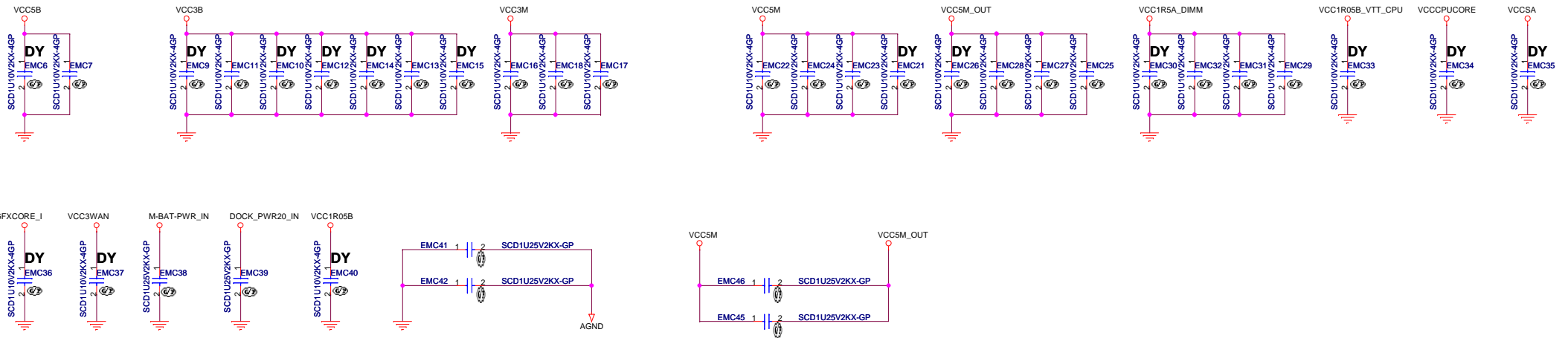
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71	D118 D119 R37	ASM ASM ASM	ASM ASM ASM	DY DY DY
77	D20 R143	ASM DY	ASM DY	Ref to P77 Ref to P77
96	R953 Q110 R1639 R1641 D127 C1151 U85  R1643 R1648 R1651 D129 C1153 R1645 U86  R1649 R1652 D130 C1183 R1647 U87 R1650 R1653 D131 C1184	DY ASM ASM ASM ASM ASM ASM  ASM ASM ASM ASM DY ASM  ASM ASM ASM ASM DY ASM  ASM ASM ASM ASM DY ASM  ASM ASM ASM ASM ASM ASM ASM	DY ASM ASM ASM ASM ASM ASM  ASM ASM ASM ASM ASM ASM  ASM ASM ASM ASM ASM ASM  ASM ASM ASM ASM ASM ASM  ASM ASM ASM ASM ASM ASM  ASM ASM ASM ASM ASM ASM ASM	Ref p96 AOAC table Ref p96 AOAC table Ref p96 AOAC table Ref p96 AOAC table Ref p96 AOAC table Ref p96 AOAC table DY  DY DY DY DY ASM  DY DY DY DY DY DY  DY DY DY DY DY DY  DY DY DY DY DY DY DY

## LOGIC

named as RFCxxx



### *Long power trace EMI decoupling caps*



		SV		ULV	
Master IC		U48	VT1318M	VT1318M	
# of slave for CPU			2	1	
Slave for CPU		U47	VT1324S	VT1324S	
Inductor for CPU		U49	VT1324S	no stuff	
		L14	BFW10040	no stuff	
			no stuff	MPCH0730LR12	
# of slave for GPU			1	1	
Slave for GPU		U50	VT1324S	VT1324S	
Inductor for GPU		L29	MPCH0730LR12	MPCH0730LR12	

			SV			ULV		
R_SEL[0]	pin 38	R1574	715	0.5%		280	1.0%	
R_SEL[1]	pin 37	R1575	887	0.5%		825	0.5%	
R_SEL[2]	pin 36	R1576	0	5.0%		0	5.0%	
R_SEL[3]	pin 35	R1577	196	0.5%		196	0.5%	
R_SEL[4]	pin 44	R1571	825	0.5%		825	0.5%	
R_SEL[5]	pin 32	R1579	475	1.0%		402	0.5%	
R_SEL[6]	pin 48	R1567	21.5	1.0%		21.5	1.0%	
R_REF	pin 34	R1578	20K	0.5%		20K	0.5%	
ROSC	pin 39	R1572	75K	1.0%		61.9K	1.0%	

				SV			ULV		
LL_R1_CPU	pin 15 - pin 16	R1599	10K	0.5%		10K	0.5%		
LL_R2_CPU	pin 16 - pin 17	R1600	20K	0.5%		7.5K	0.5%		
	pin 16 - pin 17	R1601	787	1.0%		453	1.0%		
LL_C1_CPU	pin 15 - pin 16	C1086	56pF			33pF			
LL_C2_CPU	pin 16 - pin 17	C1087	22pF			22pF			
LL_RLEAD_CPU	pin 15 - pin 16	R1595	30.1K	1.0%		15K	1.0%		
LL_CLEAD_CPU	pin 15 - pin 16	C1091	220pF			680pF			
LL_RLAG_CPU	pin 16 - pin 17	R1596	no stuff			no stuff			
LL_CLAG_CPU	pin 16 - pin 17	C1092	no stuff			no stuff			
RDES_CPU	pin 17 - pin 18	R1592	845	0.5%		487	0.5%		
RINT_CPU	pin 18 - pin 19	R1593	1.3K	1.0%		2.74K	1.0%		
CINT_CPU	pin 18 - pin 19	C1088	4700PF			3300pF			
RPH11	IPH1_1 - pin 18	R1598	499	1.0%		750	1.0%		
RPH12	IPH1_2 - pin 18	R1594	499	1.0%		no stuff	1.0%		
IPHF11_R	pin 11	R1582	1.96K	1.0%		1.96K	1.0%		
IPHF11_C	pin 11	C1076	10pF			no stuff			
IPHF12_R	pin 10	R1581	1.96K	1.0%		no stuff	1.0%		
IPHF12_C	pin 10	C1075	10pF			no stuff			
R_MRAMP1	pin 12	R1584	15.8K	1.0%		13K	1.0%		
R_MRAMP1_PU	pin 12	R1587	60.4K	1.0%		43.2K	1.0%		
R_PWM2	Pin 6	R4	no stuff			0	5.0%		
LL_R1_GPU	pin 24 - pin 23	R1609	10K	0.5%		10K	0.5%		
LL_R2_GPU	pin 23 - pin 22	R1610	7.5K	0.5%		7.87K	0.5%		
	pin 23 - pin 22	R1611	237	1.0%		0	5.0%		
LL_C1_GPU	pin 24 - pin 23	C1094	22pF			22pF			
LL_C2_GPU	pin 23 - pin 22	C1095	22pF			22pF			
LL_RLEAD_GPU	pin 24 - pin 23	R1606	30K	1.0%		30K	1.0%		
LL_CLEAD_GPU	pin 24 - pin 23	C1097	1200pF			1000pF			
LL_RLAG_GPU	pin 23 - pin 22	R1607	no stuff			no stuff			
LL_CLAG_GPU	pin 23 - pin 22	C1098	no stuff			no stuff			
RDES_GPU	pin 22 - pin 21	R1604	665	0.5%		665	0.5%		
RINT_GPU	pin 21 - pin 20	R1605	3.24K	1.0%		3.24K	1.0%		
CINT_GPU	pin 21 - pin 20	C1096	10nF			10nF			
RPH21	IPH2_1 - pin 21	R1608	1K	1.0%		1K	1.0%		
IPHF21_R	pin 28	R1580	1.96K	1.0%		1.96K	1.0%		
IPHF21_C	pin 28	C1077	no stuff			no stuff			
R_MRAMP2	pin 27	R1586	15.4K	1.0%		15.4K	1.0%		
R_MRAMP2_PU	pin 27	R1590	56.2K	1.0%		56.2K	1.0%		

			SV		ULV	
		C1090	4.7uF	no stuff		
		R1589	10 1.0%	no stuff		
		C1089	0.1uF	no stuff		
		C1082	0.22uF	no stuff		
		C1083	1uF	no stuff		
		C1080	1uF	no stuff		
		C1084	10uF	no stuff		
		C1079	10uF	no stuff		
		C1081	10uF	no stuff		
		C1085	10uF	no stuff		
		L50	MPZ1608S300A	no stuff		
		L51	MPZ1608S300A	no stuff		
		C1078	2200pF	no stuff		

Vcore Coutput

		SV		ULV	
C687	22uF	0805	22uF	0805	
C669	22uF	0603	22uF	0603	
C671	22uF	0603	22uF	0603	
C673	4.7uF	0603	22uF	0603	
C675	22uF	0603	22uF	0603	
C676	22uF	0603	22uF	0603	
C678	22uF	0603	22uF	0603	
C695	4.7uF	0603	22uF	0603	
C681	4.7uF	0603	22uF	0603	
C682	4.7uF	0603	22uF	0603	
C683	22uF	0603	22uF	0603	
C750	22uF	0603	22uF	0603	
C686	22uF	0603	22uF	0603	
C691	22uF	0603	22uF	0603	
C670	22uF	0603	22uF	0603	
C694	22uF	0603	22uF	0603	
C698	4.7uF	0603	22uF	0603	
C1112	22uF	0603	22uF	0603	
C1113	22uF	0603	22uF	0603	
C672	22uF	0603	22uF	0603	
C1157	22uF	0603	22uF	0603	
C674	22uF	0603	22uF	0603	
C1160	22uF	0603	22uF	0603	
C689	22uF	0603	22uF	0603	
C1167	22uF	0603	22uF	0603	
C680	22uF	0603	22uF	0603	
C679	4.7uF	0603	10uF	0603	
C677	4.7uF	0603	10uF	0603	
C1156	4.7uF	0603	10uF	0603	
C684	10uF	0603	10uF	0603	
C693	4.7uF	0603	10uF	0603	
C1159	10uF	0603	10uF	0603	
C692	10uF	0603	10uF	0603	
C1158	4.7uF	0603	10uF	0603	
C1161	4.7uF	0603	10uF	0603	
C1162	4.7uF	0603	10uF	0603	
C690	N/A	0603	N/A	0603	
C1109	N/A	0603	N/A	0603	
C1110	N/A	0603	N/A	0603	
C1111	N/A	0603	N/A	0603	
C1163	N/A	0603	N/A	0603	
C1164	22uF	0603	N/A	0603	
C1165	N/A	0603	N/A	0603	
C1166	22uF	0603	N/A	0603	
C1168	N/A	0603	N/A	0603	
C1169	22uF	0603	N/A	0603	
C444	2.2uF	0402	2.2uF	0402	
C445	2.2uF	0402	2.2uF	0402	
C446	2.2uF	0402	2.2uF	0402	
C447	2.2uF	0402	2.2uF	0402	
C448	2.2uF	0402	2.2uF	0402	
C449	2.2uF	0402	2.2uF	0402	
C450	2.2uF	0402	N/A	0402	
C451	2.2uF	0402	2.2uF	0402	
C452	2.2uF	0402	2.2uF	0402	
C453	2.2uF	0402	2.2uF	0402	

		SV		ULV	
C477	2.2uF	0402	2.2uF	0402	
C486	2.2uF	0402	2.2uF	0402	
C518	2.2uF	0402	2.2uF	0402	
C520	2.2uF	0402	2.2uF	0402	
C521	2.2uF	0402	2.2uF	0402	
C522	2.2uF	0402	N/A	0402	
C533	2.2uF	0402	2.2uF	0402	
C830	2.2uF	0402	2.2uF	0402	
C831	2.2uF	0402	2.2uF	0402	
C832	2.2uF	0402	2.2uF	0402	
C1172	N/A	0402	N/A	0402	
C1173	2.2uF	0402	N/A	0402	
C1174	2.2uF	0402	N/A	0402	
C1175	2.2uF	0402	N/A	0402	
C1176	N/A	0402	N/A	0402	
C1177	N/A	0402	N/A	0402	
C1178	2.2uF	0402	2.2uF	0402	
C1179	2.2uF	0402	2.2uF	0402	
C1180	2.2uF	0402	2.2uF	0402	
C1181	2.2uF	0402	2.2uF	0402	
C1182	2.2uF	0402	2.2uF	0402	
C1185	2.2uF	0402	2.2uF	0402	
C1186	2.2uF	0402	2.2uF	0402	
C1187	2.2uF	0402	2.2uF	0402	
C1188	2.2uF	0402	2.2uF	0402	
C1189	2.2uF	0402	2.2uF	0402	
C1190	2.2uF	0402	2.2uF	0402	
C1191	2.2uF	0402	2.2uF	0402	
C1192	2.2uF	0402	2.2uF	0402	
C1193	2.2uF	0402	2.2uF	0402	
C1194	2.2uF	0402	2.2uF	0402	
C1195	2.2uF	0402	2.2uF	0402	
C1196	2.2uF	0402	2.2uF	0402	

<Core Design>

緯創資通		Wistron Corporation	
		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsiehsh, Taipei Hsien 221, Taiwan, R.O.C.	
File		VT1318M TABLE	
Size	Document Number	Dasher-2	Rev
A2			-1
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Capability												
Config	1	2	3	4	5	6	7	8	9	10	11	12
AOAC	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No	Yes	No
Anti-Theft	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No
External EEPROM	Yes	No	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Duplicity	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes
U66	ASM	ASM	DY	DY	DY	DY	DY	DY	ASM	ASM	DY	DY
U67	ASM	ASM	DY	DY	DY	DY	DY	DY	ASM	ASM	DY	DY
C864	ASM	ASM	DY	DY	DY	DY	DY	DY	ASM	ASM	DY	DY
R978	ASM	ASM	DY	DY	DY	DY	DY	DY	ASM	ASM	DY	DY
R929	ASM	ASM	DY	DY	DY	DY	DY	DY	ASM	ASM	DY	DY
R901	ASM	ASM	DY	DY	DY	DY	DY	DY	ASM	ASM	DY	DY
R930	ASM	ASM	DY	DY	DY	DY	DY	DY	ASM	ASM	DY	DY
R1462	ASM	ASM	DY	DY	DY	DY	DY	DY	ASM	ASM	DY	DY
Q14	ASM	DY	DY	DY	DY	DY	DY	DY	ASM	ASM	DY	DY
Q48	ASM	DY	ASM	DY	ASM	DY	ASM	DY	ASM	ASM	ASM	ASM
R624	ASM	DY	ASM	DY	ASM	DY	ASM	DY	ASM	ASM	ASM	ASM
R536	DY	DY	DY	DY	ASM	ASM	DY	DY	DY	DY	DY	DY
R539	DY	DY	DY	DY	ASM	ASM	DY	DY	DY	DY	DY	DY
U42	ASM	DY	ASM	DY	ASM	DY	ASM	DY	ASM	ASM	ASM	ASM
Q47	ASM	DY	ASM	DY	ASM	DY	ASM	DY	ASM	ASM	ASM	ASM
R617	ASM	DY	ASM	DY	ASM	DY	ASM	DY	ASM	ASM	ASM	ASM
C524	ASM	DY	ASM	DY	ASM	DY	ASM	DY	ASM	ASM	ASM	ASM
D111	DY	DY	DY	DY	DY	DY	DY	DY	ASM	ASM	DY	DY
R1463	DY	DY	DY	DY	DY	DY	DY	DY	ASM	ASM	ASM	ASM
R1464	DY	DY	DY	DY	DY	DY	DY	DY	ASM	ASM	ASM	ASM
U83	DY	DY	DY	DY	DY	DY	DY	DY	ASM	ASM	ASM	ASM
U84	DY	DY	DY	DY	DY	DY	DY	DY	ASM	ASM	ASM	ASM
C1020	DY	DY	DY	DY	DY	DY	DY	DY	ASM	ASM	ASM	ASM
R1466	DY	DY	DY	DY	DY	DY	DY	DY	ASM	ASM	ASM	ASM
R1468	DY	DY	DY	DY	DY	DY	DY	DY	ASM	ASM	ASM	ASM

↑  
Logic

Duplicity	Y	Y	N	N
Battery Authentication	Y	N	Y	N
--> External EEPROM	Y	Y	Y	N

↑  
Logic