

Dasher-1 Block Diagram

LDB-1 91.4KH01.001

Jan. 10, 2011

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

BQ24742 74	
INPUTS	OUTPUTS
DOCK_PWR20	CHARGER_OUT12

System DC/DC

TPS51220ARSN 78	
VINT20	VCC5M
	VCC3M

CPU DC/DC

VT1316/VT1317 79	
VCC5V_OUT	VCCPCUCORE

GMCH GFX CORE

VT1317 81	
VCC5V_OUT	VCCGFXCORE

VCCIR5A

VT357FCX 86	
VCC5V_OUT	VCCIR5A

VCC0R75B

MAX1510 87	
VCCIR5A	VCC0R75B

VCCIR8B

TPS62060 89	
VCC5V_OUT	VCCIR8B

VCCIR05AMT

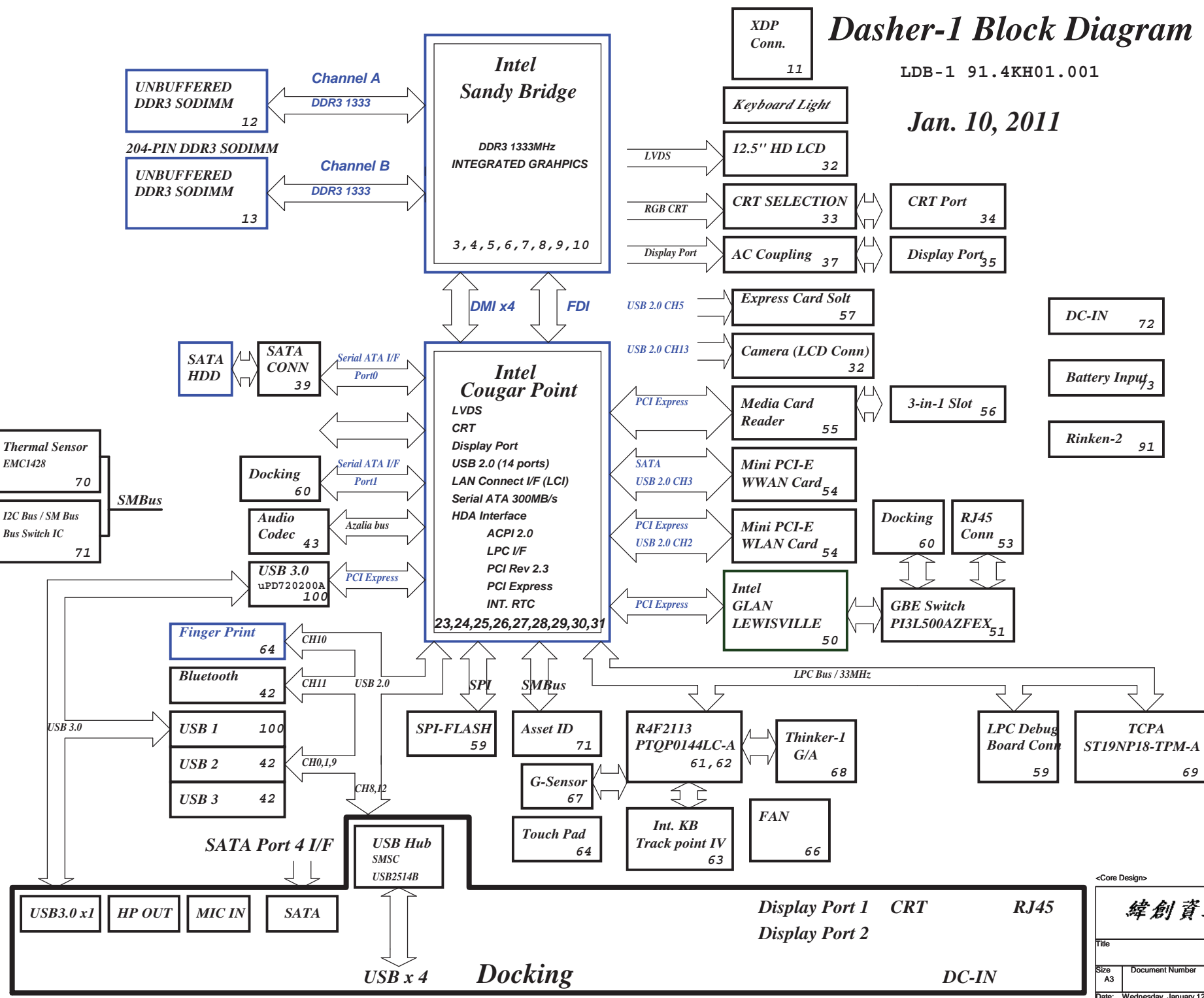
VT356FCX 85	
VCC5V_OUT	VCCIR05LAN

VCCIR05B_VTT

VT357FCX 84	
VCC5V_OUT	VCCIR05B_VTT

VCCSA

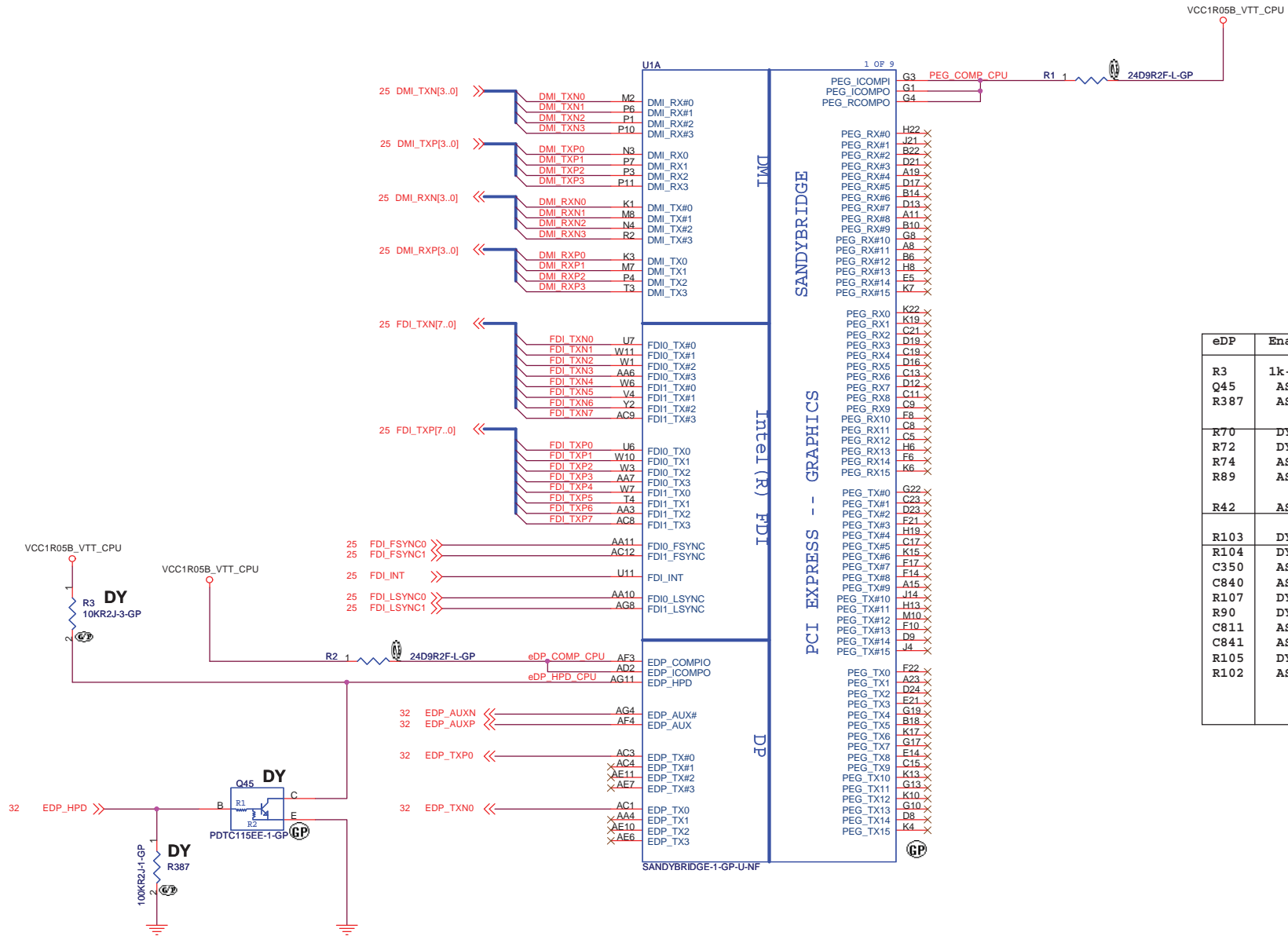
VT355FCX 90	
VCC5V_OUT	VCCSA



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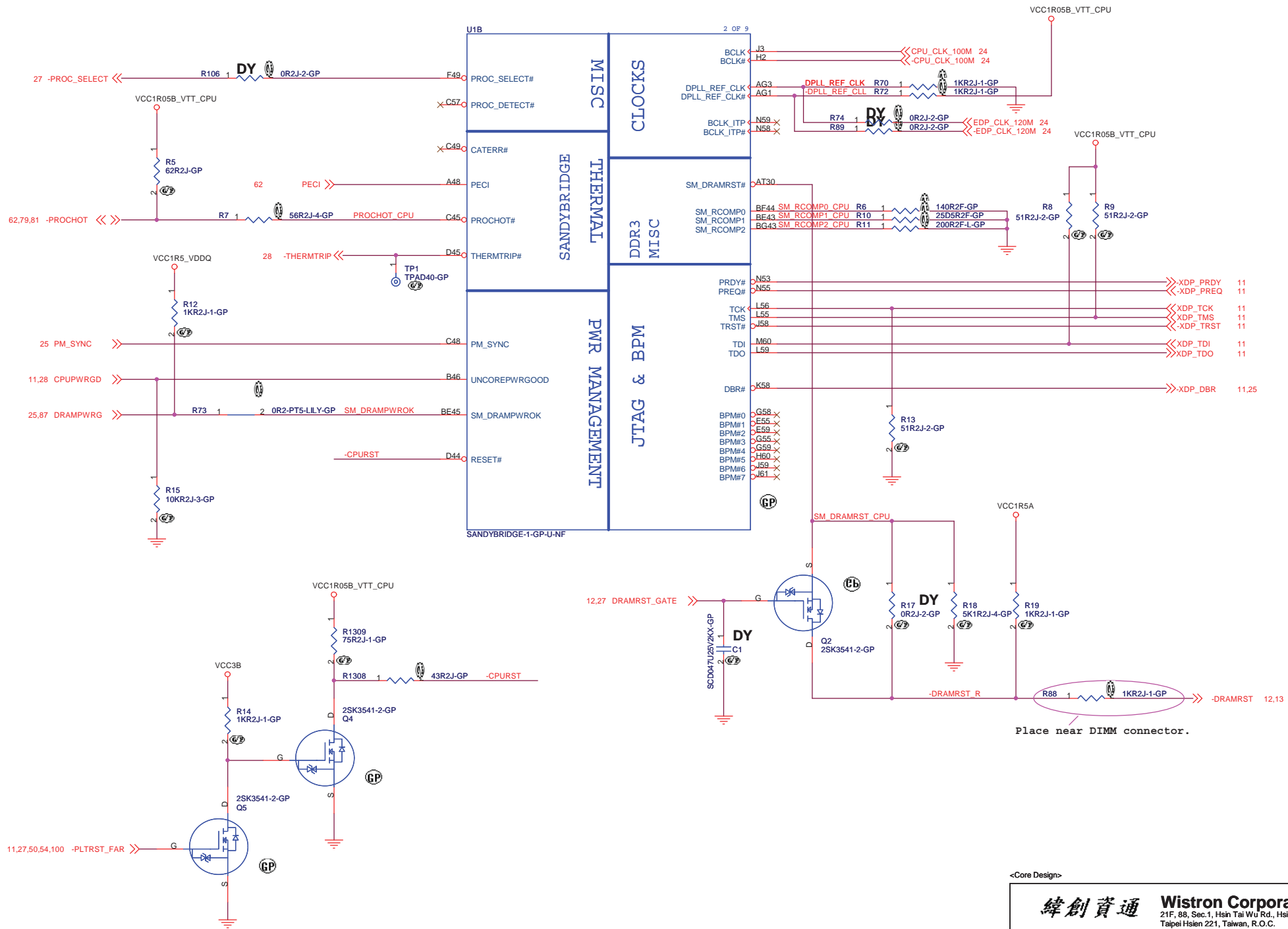
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Block Diagram		
Size A3	Document Number	Rev SD
Date: Wednesday, January 12, 2011		Sheet 1 of 101

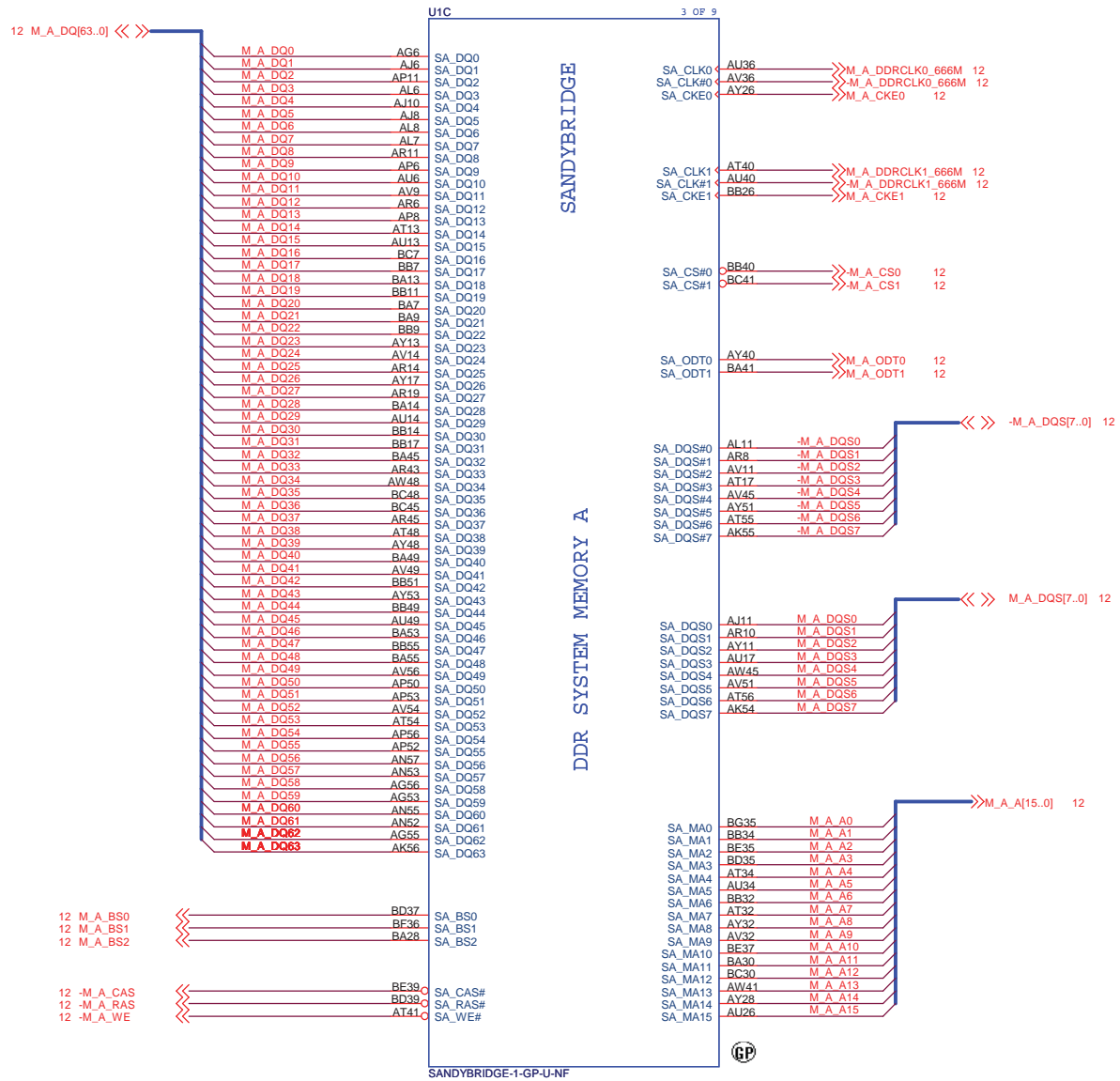


- 1 OF 9
- PEG_ICOMP1
 - PEG_ICOMPO
 - PEG_RCOMP1
 - PEG_RCOMPO
 - PEG_RX#0
 - PEG_RX#1
 - PEG_RX#2
 - PEG_RX#3
 - PEG_RX#4
 - PEG_RX#5
 - PEG_RX#6
 - PEG_RX#7
 - PEG_RX#8
 - PEG_RX#9
 - PEG_RX#10
 - PEG_RX#11
 - PEG_RX#12
 - PEG_RX#13
 - PEG_RX#14
 - PEG_RX#15
 - PEG_RX0
 - PEG_RX1
 - PEG_RX2
 - PEG_RX3
 - PEG_RX4
 - PEG_RX5
 - PEG_RX6
 - PEG_RX7
 - PEG_RX8
 - PEG_RX9
 - PEG_RX10
 - PEG_RX11
 - PEG_RX12
 - PEG_RX13
 - PEG_RX14
 - PEG_RX15
 - PEG_TX#0
 - PEG_TX#1
 - PEG_TX#2
 - PEG_TX#3
 - PEG_TX#4
 - PEG_TX#5
 - PEG_TX#6
 - PEG_TX#7
 - PEG_TX#8
 - PEG_TX#9
 - PEG_TX#10
 - PEG_TX#11
 - PEG_TX#12
 - PEG_TX#13
 - PEG_TX#14
 - PEG_TX#15
 - PEG_TX0
 - PEG_TX1
 - PEG_TX2
 - PEG_TX3
 - PEG_TX4
 - PEG_TX5
 - PEG_TX6
 - PEG_TX7
 - PEG_TX8
 - PEG_TX9
 - PEG_TX10
 - PEG_TX11
 - PEG_TX12
 - PEG_TX13
 - PEG_TX14
 - PEG_TX15
 - EDP_COMP1O
 - EDP_ICOMP1O
 - EDP_HPDI
 - EDP_AUX#
 - EDP_AUX
 - EDP_TX#0
 - EDP_TX#1
 - EDP_TX#2
 - EDP_TX#3
 - EDP_TX0
 - EDP_TX1
 - EDP_TX2
 - EDP_TX3

Logic

eDP	Enable	Disable
R3	1k-ohm	10k-ohm
Q45	ASM	DY
R387	ASM	DY
R70	DY	ASM
R72	DY	ASM
R74	ASM	DY
R89	ASM	DY
R42	ASM	DY
R103	DY	ASM
R104	DY	ASM
C350	ASM	DY
C840	ASM	DY
R107	DY	ASM
R90	DY	ASM
C811	ASM	DY
C841	ASM	DY
R105	DY	ASM
R102	ASM	DY

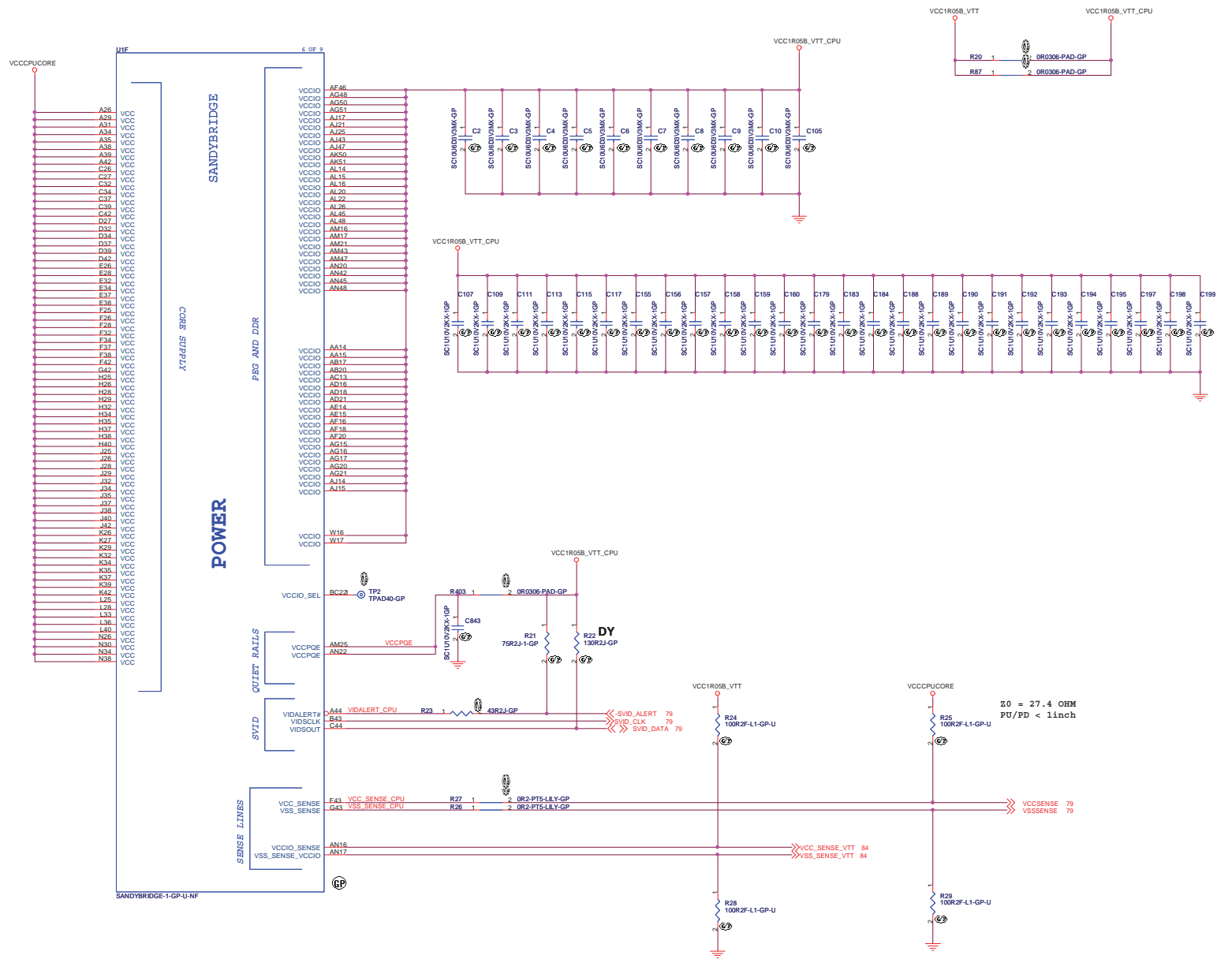


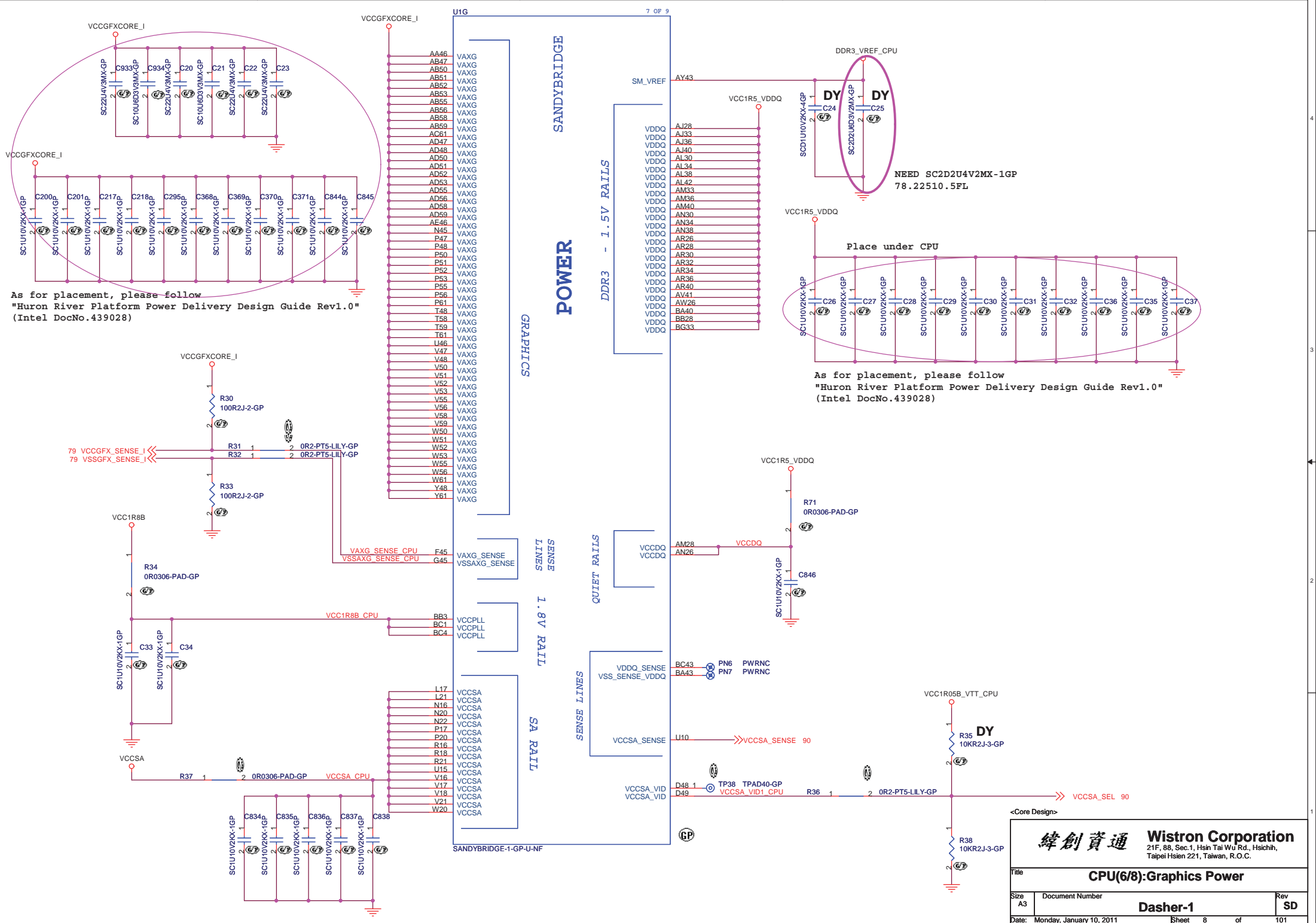


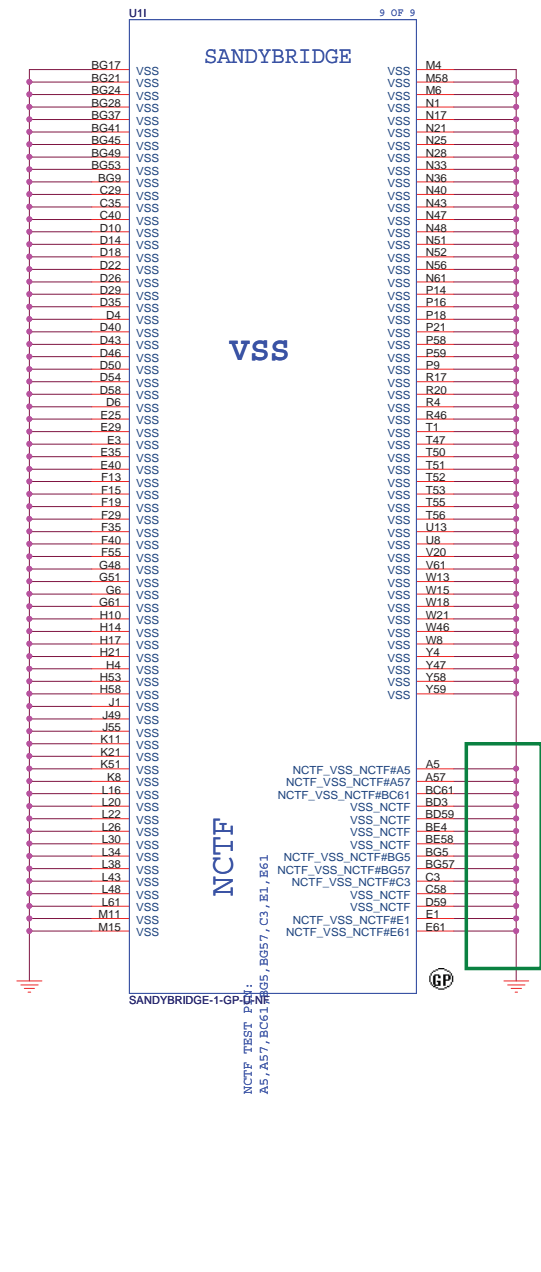
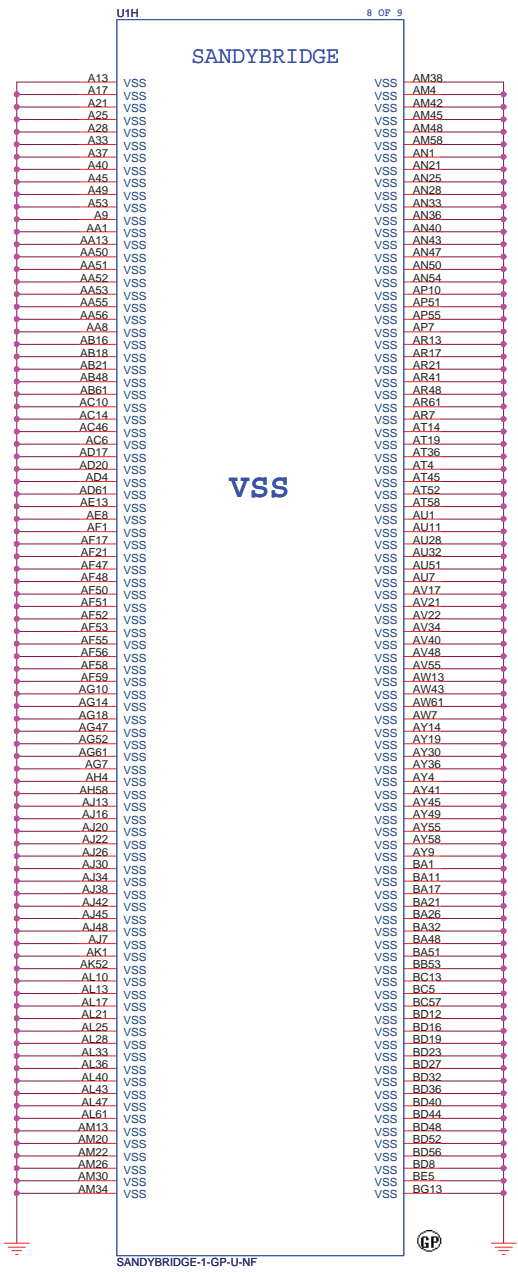
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Title CPU(3/8):DDR3 Channel-A		
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NCTF

NCTF TEST P...
 A5, A57, BG61, BG65, BG57, C3, B1, B61

NCTF_VSS_NCTF#A5
 NCTF_VSS_NCTF#A57
 NCTF_VSS_NCTF#BC61
 VSS_NCTF
 VSS_NCTF
 VSS_NCTF
 VSS_NCTF
 VSS_NCTF
 NCTF_VSS_NCTF#BG5
 NCTF_VSS_NCTF#BG57
 NCTF_VSS_NCTF#C3
 VSS_NCTF
 VSS_NCTF
 NCTF_VSS_NCTF#E1
 NCTF_VSS_NCTF#E61

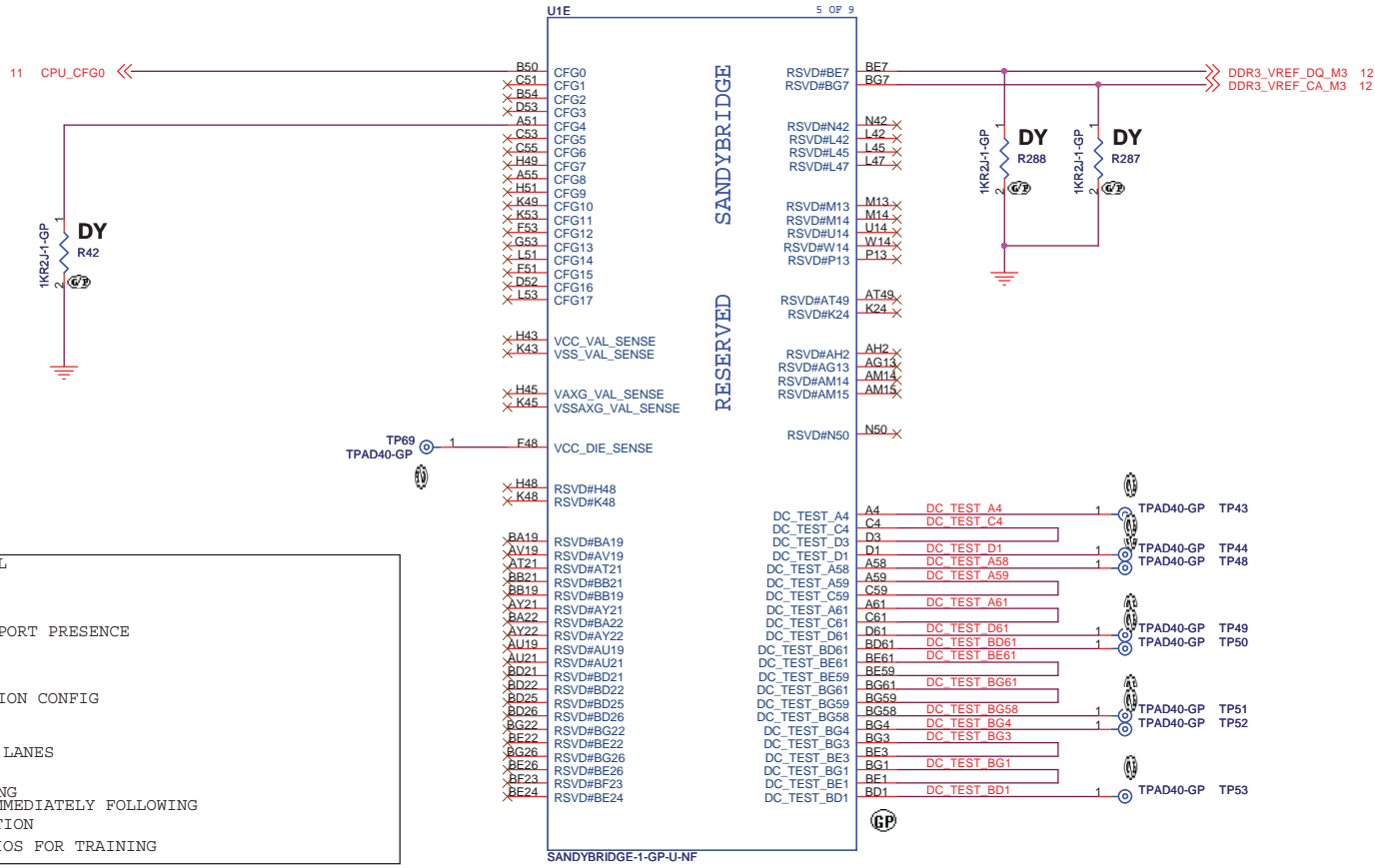


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Title **CPU(7/8):GND**

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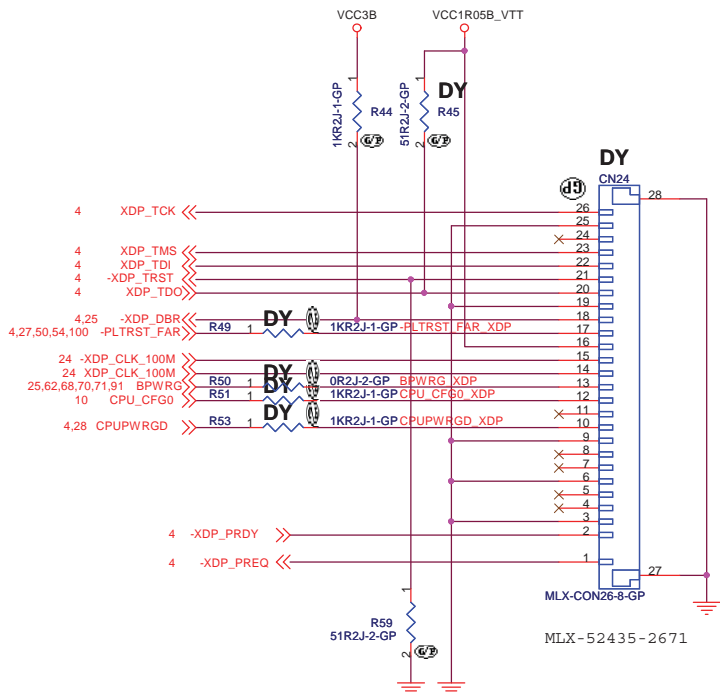


CFG2 PEG LANE REVERSAL
 1 NO-ASM : NORMAL
 0 ASM : REVERSE

CFG4 Embeded DISPLAY PORT PRESENCE
 1 NO-ASM : DISABLE
 0 ASM : ENABLE

CFG[6,5] PEG BIFURCATION CONFIG
 11 SINGLE 16 LANES
 10 2x8 LANES
 01 RESERVED
 00 8 LANES AND 2x4 LANES

CFG7 PEG DEFER TRAINING
 1 NO ASM : TRAIN IMMEDIATELY FOLLOWING
 XXRESETB DEASSERTION
 0 ASM : WAIT FOR BIOS FOR TRAINING

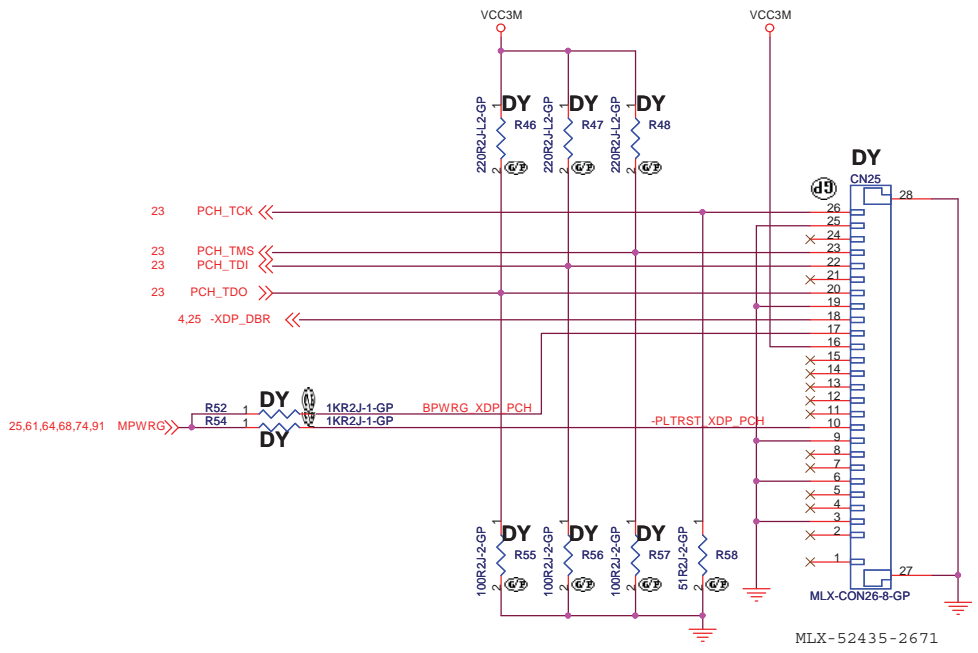


DEBUG Interface for Processor.

XDP1

		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

SIT Logic



DEBUG Interface for PCH.

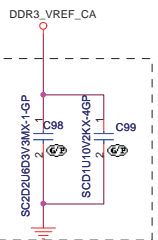
XDP2

		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

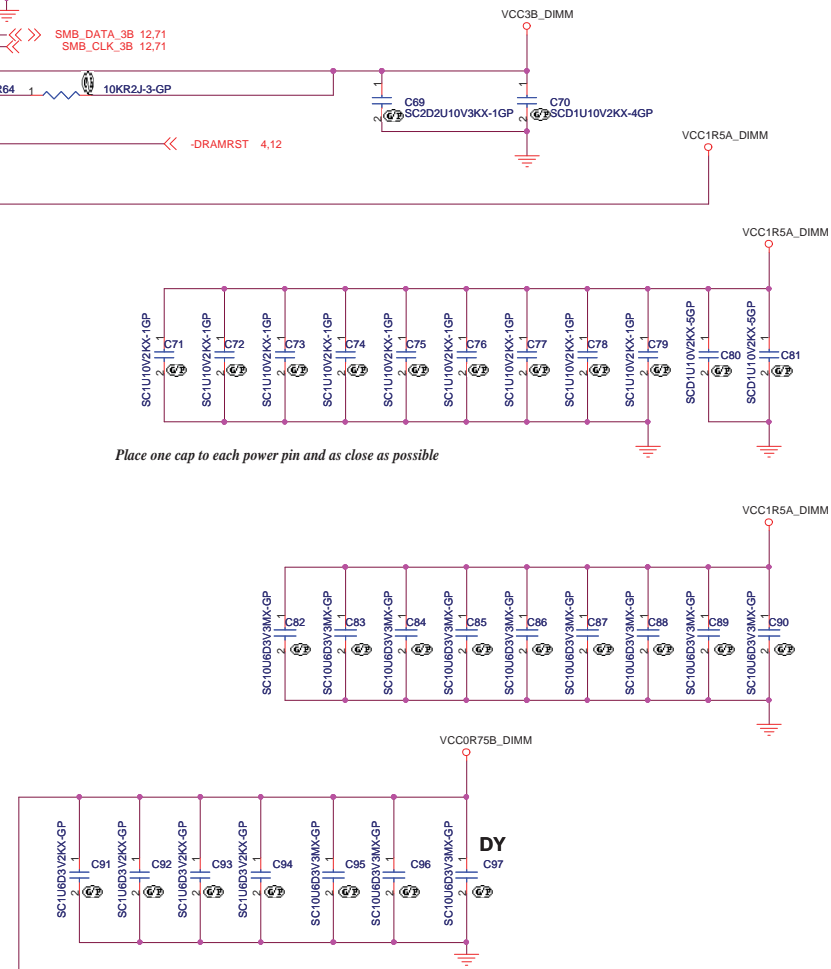
SIT Logic

6 M_B_A[15..0]	DM2	M_B_A0	96	A0	RAS#	110
		M_B_A1	97	A1	WE#	113
		M_B_A2	96	A2	CAS#	115
		M_B_A3	95	A3		
		M_B_A4	92	A4	S0#	114
		M_B_A5	91	A5	S1#	121
		M_B_A6	90	A6		
		M_B_A7	86	A7	CKE0	73
		M_B_A8	89	A8	CKE1	74
		M_B_A9	85	A9		
		M_B_A10	107	A10/AP	CK0	101
		M_B_A11	84	A11	CK0#	103
		M_B_A12	83	A12/BC#		
		M_B_A13	119	A13	CK1	102
		M_B_A14	80	A14	CK1#	104
		M_B_A15	78	A15		
			79	BA2	DM0	11
					DM1	28
					DM2	46
					DM3	63
					DM4	136
					DM5	153
					DM6	170
					DM7	187
					SDA	200
					SCL	202
					VDDSPD	199
					SA0	197
					SA1	201
					EVENT#	198
					RESET#	30
					TEST	125
					VDD	75
					VDD	76
					VDD	81
					VDD	82
					VDD	87
					VDD	88
					VDD	93
					VDD	94
					VDD	99
					VDD	100
					VDD	105
					VDD	106
					VDD	111
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					VDD	118
					VDD	123
					VDD	124
					VSS	3
					VSS	8
					VSS	9
					VSS	13
					VSS	14
					VSS	15
					VSS	20
					VSS	25
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					VSS	178
					VSS	179
					VSS	184
					VSS	185
					VSS	189
					VSS	190
					VSS	195
					VSS	196
					VSS	203
					VSS	204
					VSS	205
					VSS	NP1
					VSS	NP2
					VREFDO	126
					VREFCA	127
					VSS	77
					NC	122
					NC	206
					GND	NP1
					GND	NP2
					DDR3-204P-15-GP-U	

REVERSE TYPE



6 M_B_ODT0
6 M_B_ODT1



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Title	DDR3 SODIMM-B	
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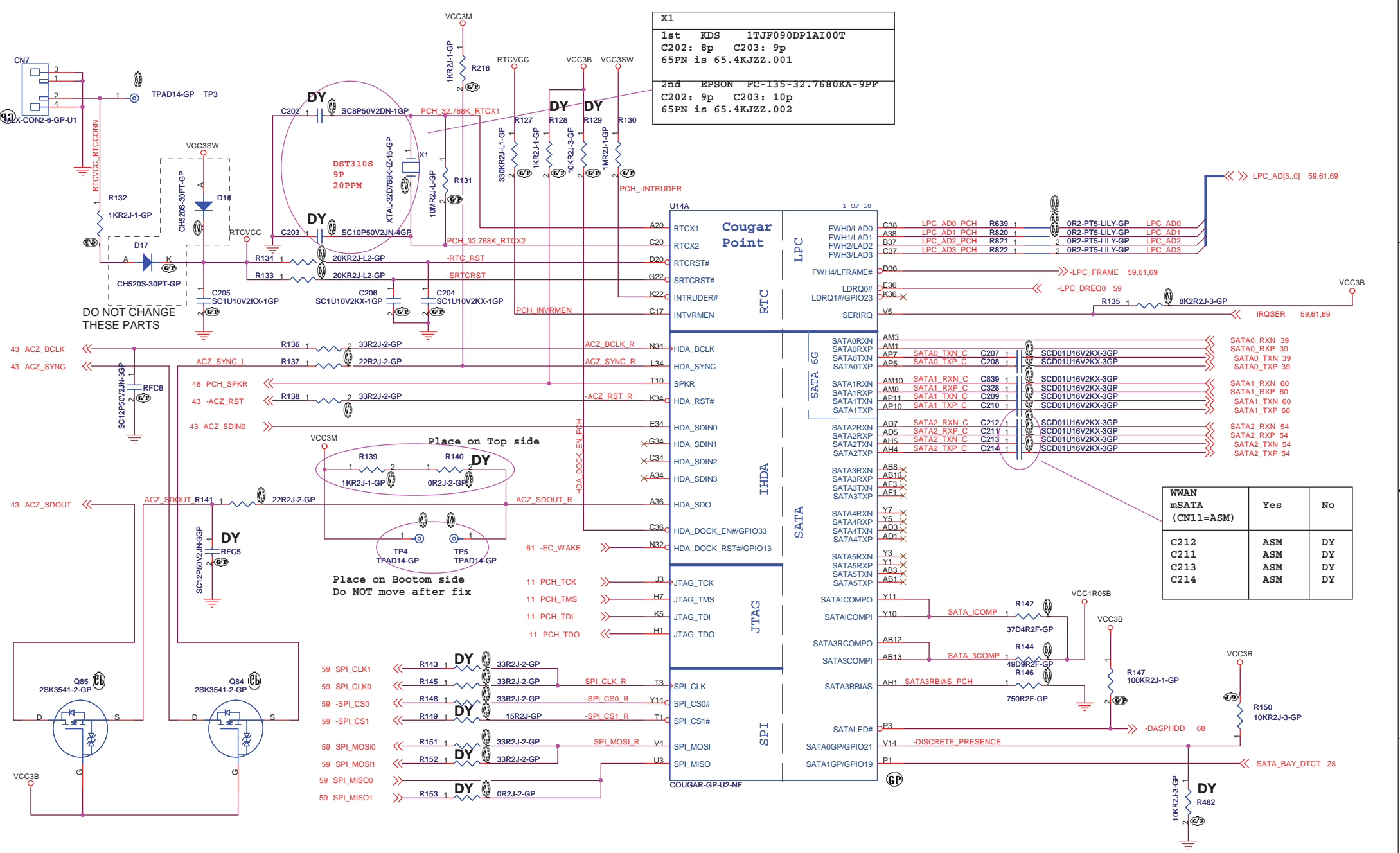
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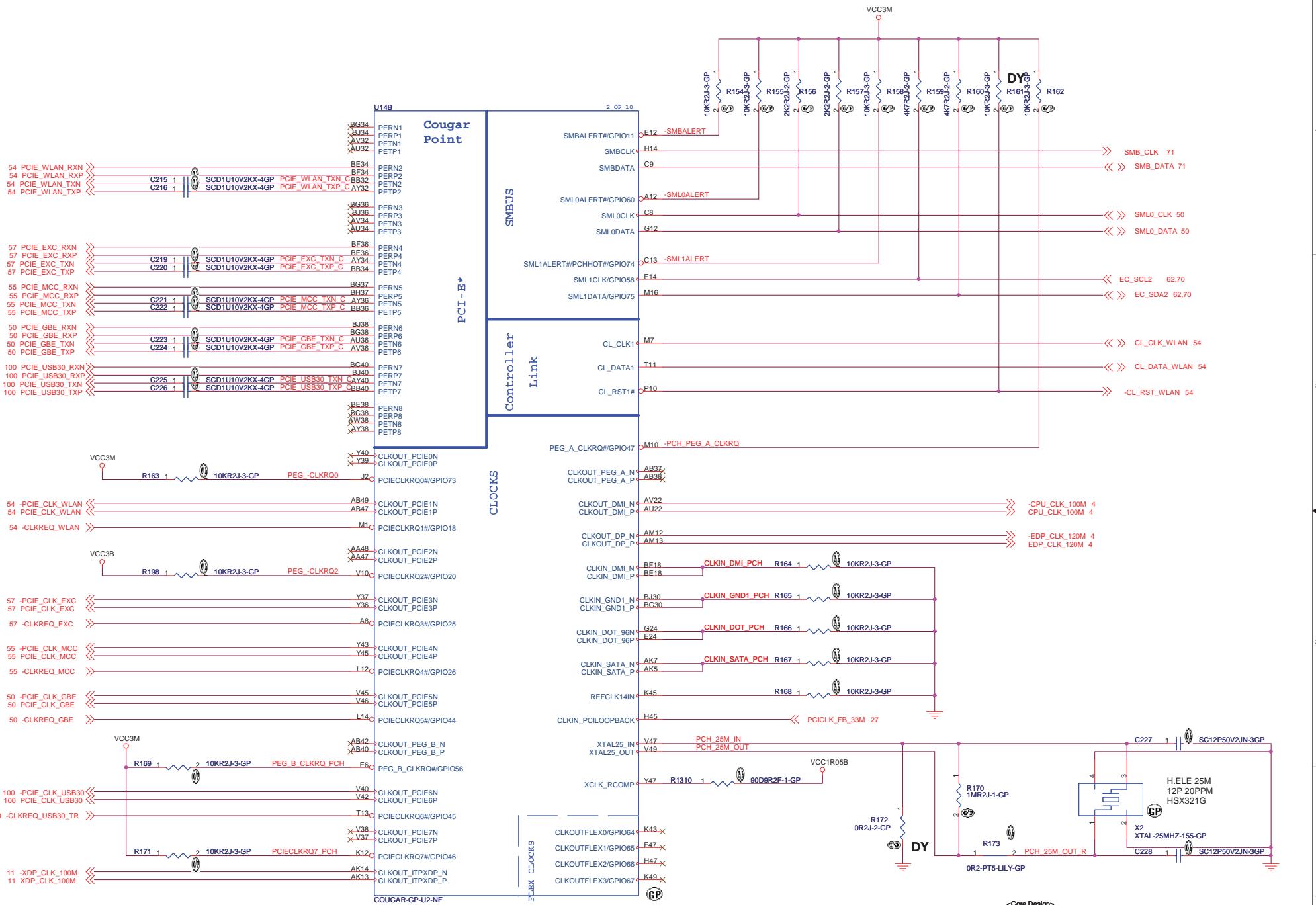


WWAN mSATA (CN11=ASM)	Yes	No
C212	ASM	DY
C211	ASM	DY
C213	ASM	DY
C214	ASM	DY

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PCH(1/9):HDA/JTAG/SPI/SATA		
Title		
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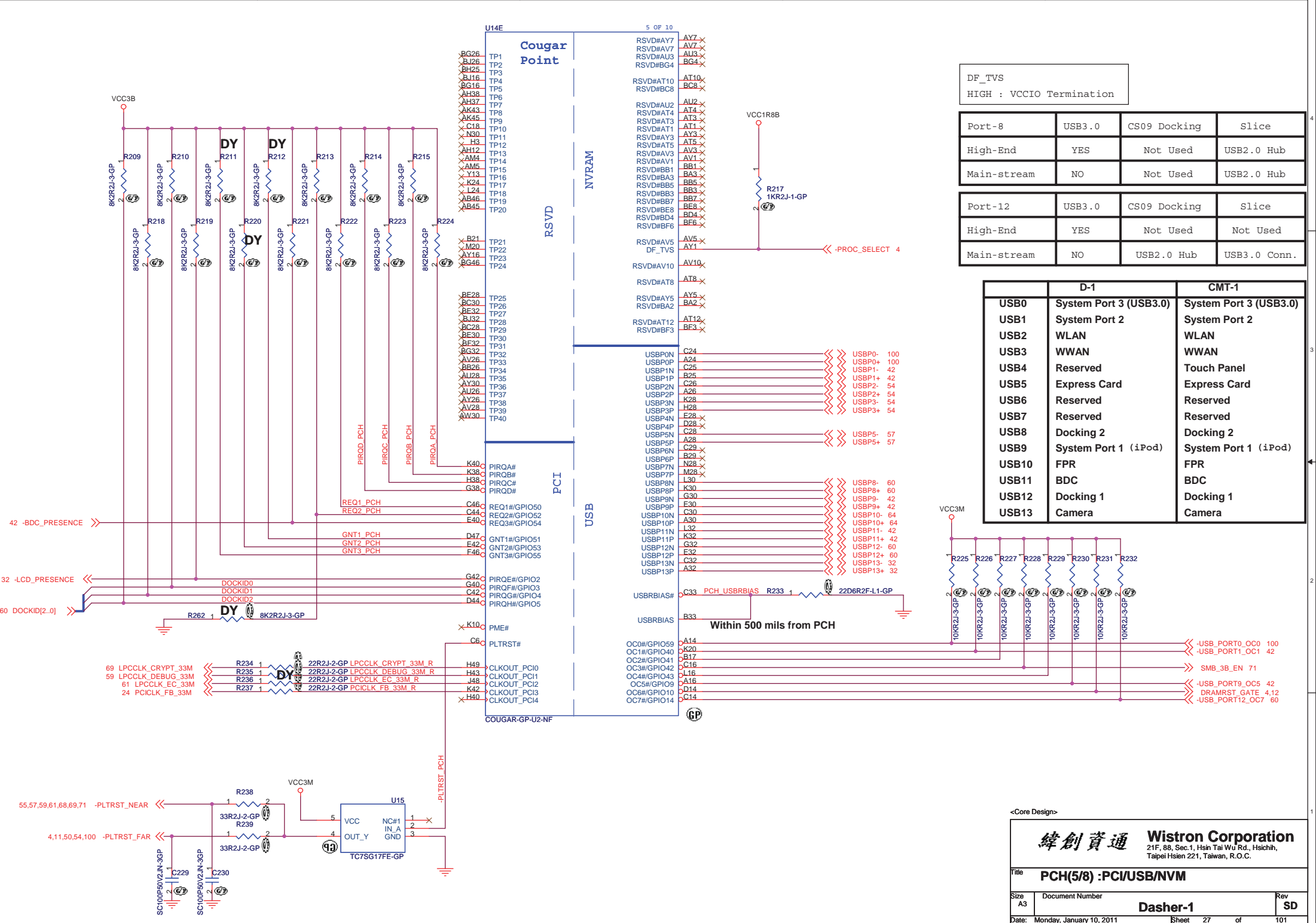
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Title: **PCH(2/9):PCI-E/SMBUS/CLK**

Size: Custom Document Number: **Dasher-1** Rev: SD

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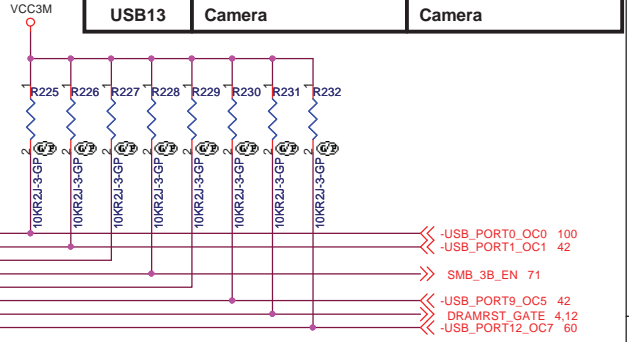


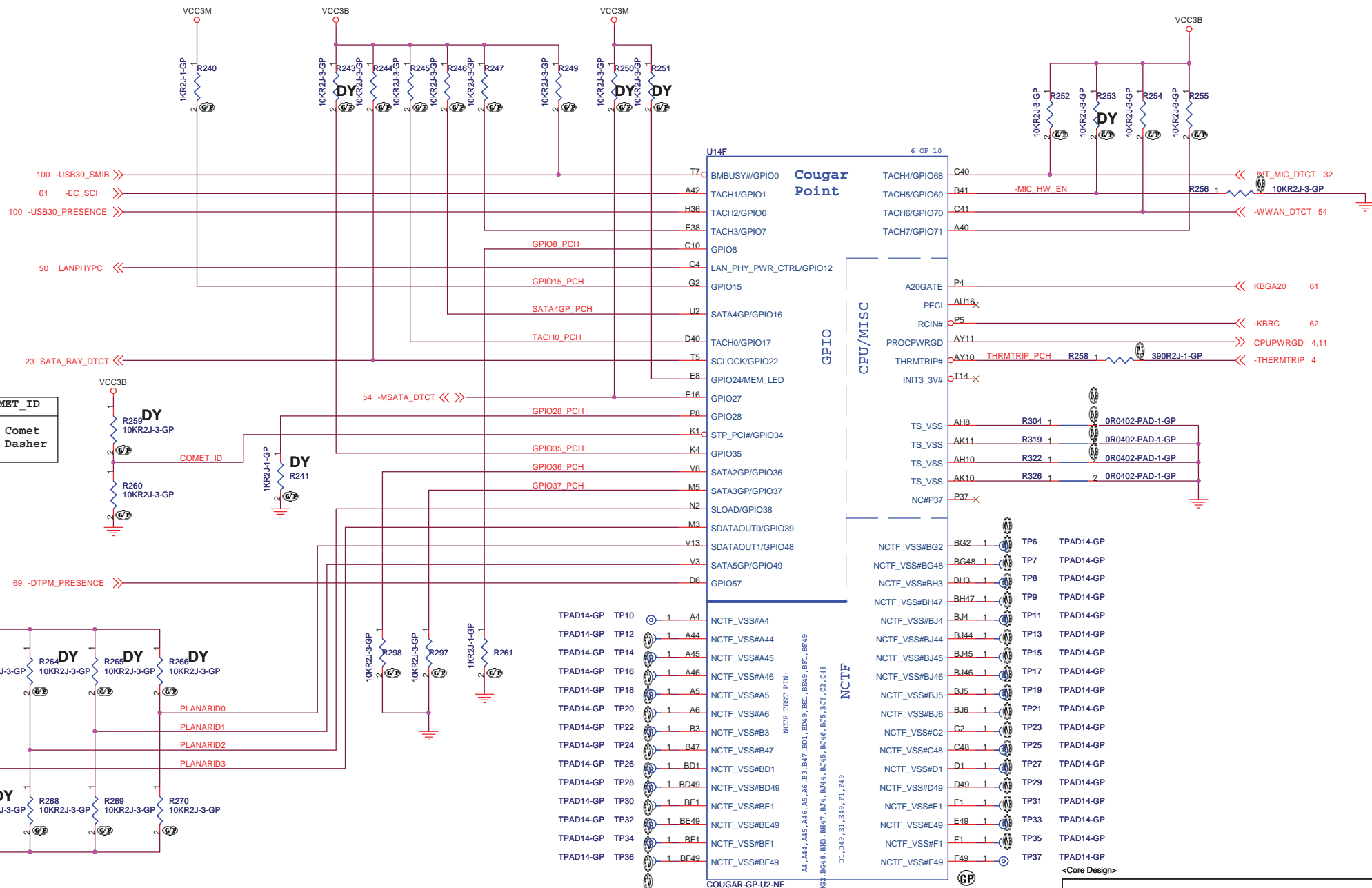
DF_TVS
HIGH : VCCIO Termination

Port-8	USB3.0	CS09 Docking	Slice
High-End	YES	Not Used	USB2.0 Hub
Main-stream	NO	Not Used	USB2.0 Hub

Port-12	USB3.0	CS09 Docking	Slice
High-End	YES	Not Used	Not Used
Main-stream	NO	USB2.0 Hub	USB3.0 Conn.

	D-1	CMT-1
USB0	System Port 3 (USB3.0)	System Port 3 (USB3.0)
USB1	System Port 2	System Port 2
USB2	WLAN	WLAN
USB3	WWAN	WWAN
USB4	Reserved	Touch Panel
USB5	Express Card	Express Card
USB6	Reserved	Reserved
USB7	Reserved	Reserved
USB8	Docking 2	Docking 2
USB9	System Port 1 (iPod)	System Port 1 (iPod)
USB10	FPR	FPR
USB11	BDC	BDC
USB12	Docking 1	Docking 1
USB13	Camera	Camera





COMET_ID	
1:	Comet
0:	Dasher

PLANAR ID: 1000 for SVT

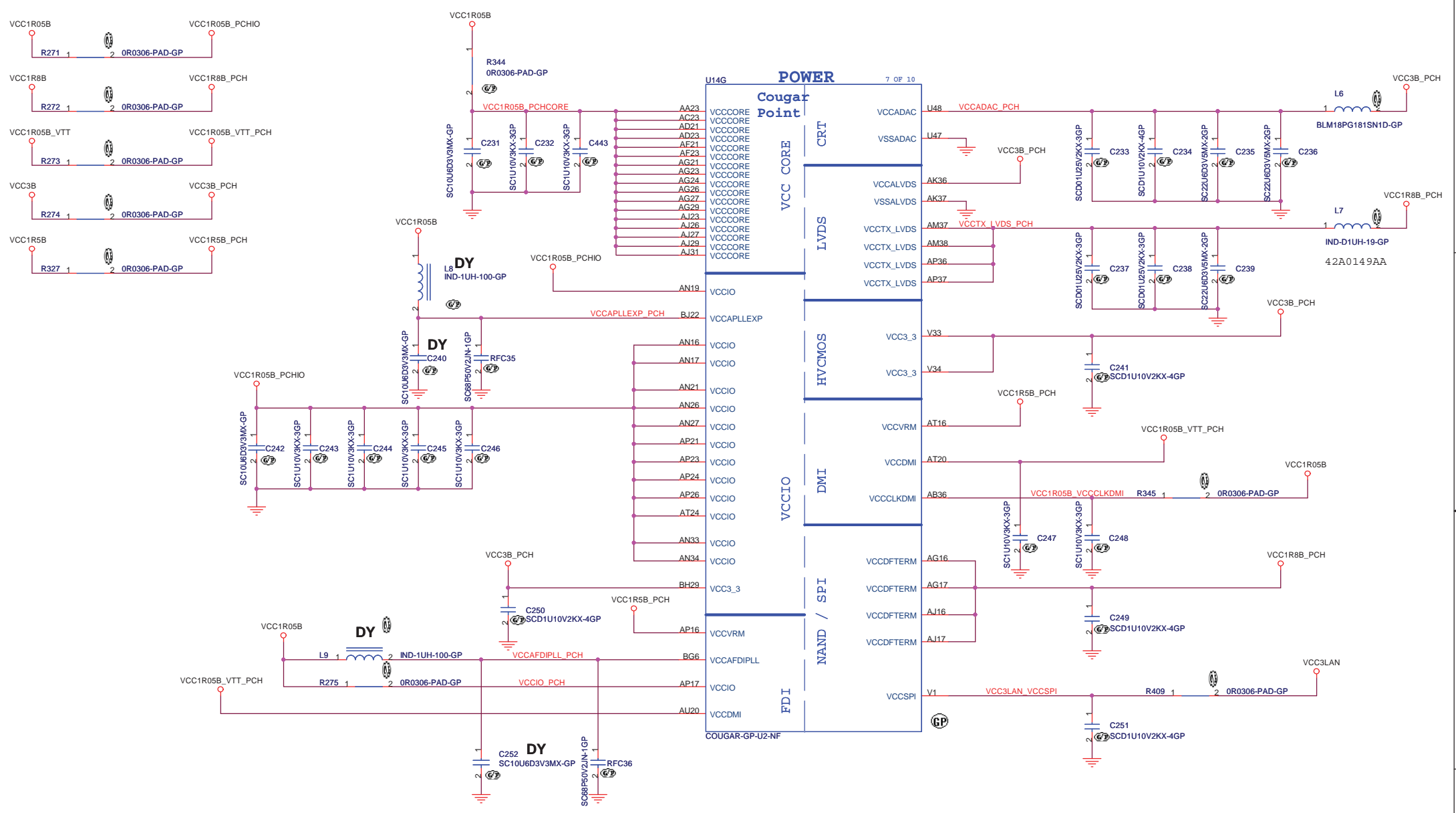
U14F Pin	Signal Name	Value / Component	U14F Pin	Signal Name	Value / Component
TT_C	BMBUSY#/GPIO0		C40	TACH4/GPIO68	
A42	TACH1/GPIO1		B41	TACH5/GPIO69	
H36	TACH2/GPIO6		C41	TACH6/GPIO70	
E38	TACH3/GPIO7		A40	TACH7/GPIO71	
C10	GPIO8				
C4	LAN_PHY_PWR_CTRL#/GPIO12				
G2	GPIO15		P4	A20GATE	KBGA20 61
U2	SATA4GP/GPIO16		AU16	PECI	
D40	TACH0/GPIO17		P5	RCIN#	KBRC 62
T5	SCLOCK#/GPIO22		AY11	PROCPWRGD	CPUPWRGD 4,11
E8	GPIO24/MEM_LED		AY10	THRMRTRIP#	THRMRTRIP_PCH 4
E16	GPIO27		T14	INIT3_3V#	
P8	GPIO28		AH8	TS_VSS	R304 1 0R0402-PAD-1-GP
K1	STP_PCH#/GPIO34		AK11	TS_VSS	R319 1 0R0402-PAD-1-GP
K4	GPIO35		AH10	TS_VSS	R322 1 0R0402-PAD-1-GP
V8	SATA2GP/GPIO36		AK10	TS_VSS	R326 1 0R0402-PAD-1-GP
M5	SATA3GP/GPIO37		P37	NC#P37	
N2	SLOAD#/GPIO38				
M3	SDATAOUT0/GPIO39		BG2	NCTF_VSS#BG2	TP6 TPAD14-GP
V13	SDATAOUT1/GPIO48		BG48	NCTF_VSS#BG48	TP7 TPAD14-GP
V3	SATA5GP/GPIO49		BH3	NCTF_VSS#BH3	TP8 TPAD14-GP
D6	GPIO57		BH47	NCTF_VSS#BH47	TP9 TPAD14-GP
			BJ4	NCTF_VSS#BJ4	TP11 TPAD14-GP
			BJ44	NCTF_VSS#BJ44	TP13 TPAD14-GP
			BJ45	NCTF_VSS#BJ45	TP15 TPAD14-GP
			BJ46	NCTF_VSS#BJ46	TP17 TPAD14-GP
			BJ5	NCTF_VSS#BJ5	TP19 TPAD14-GP
			BJ6	NCTF_VSS#BJ6	TP21 TPAD14-GP
			C2	NCTF_VSS#C2	TP23 TPAD14-GP
			C48	NCTF_VSS#C48	TP25 TPAD14-GP
			D1	NCTF_VSS#D1	TP27 TPAD14-GP
			D49	NCTF_VSS#D49	TP29 TPAD14-GP
			E1	NCTF_VSS#E1	TP31 TPAD14-GP
			E49	NCTF_VSS#E49	TP33 TPAD14-GP
			F1	NCTF_VSS#F1	TP35 TPAD14-GP
			F49	NCTF_VSS#F49	TP37 TPAD14-GP

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Title: **PCH(6/9):GPIO/NCTF/RSVD**

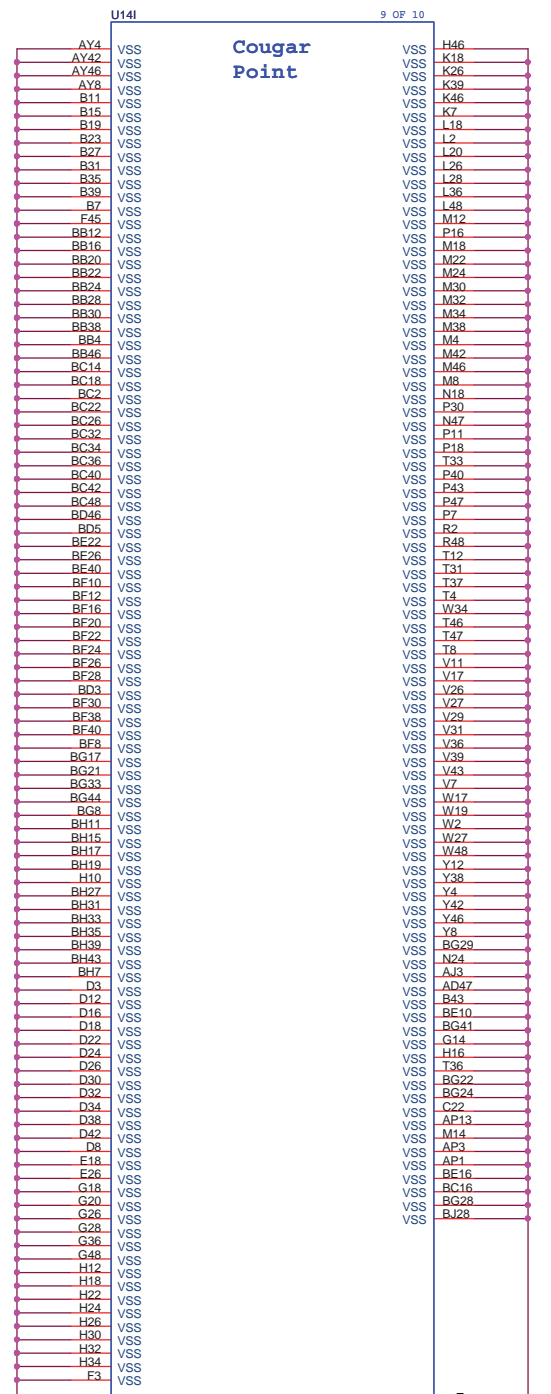
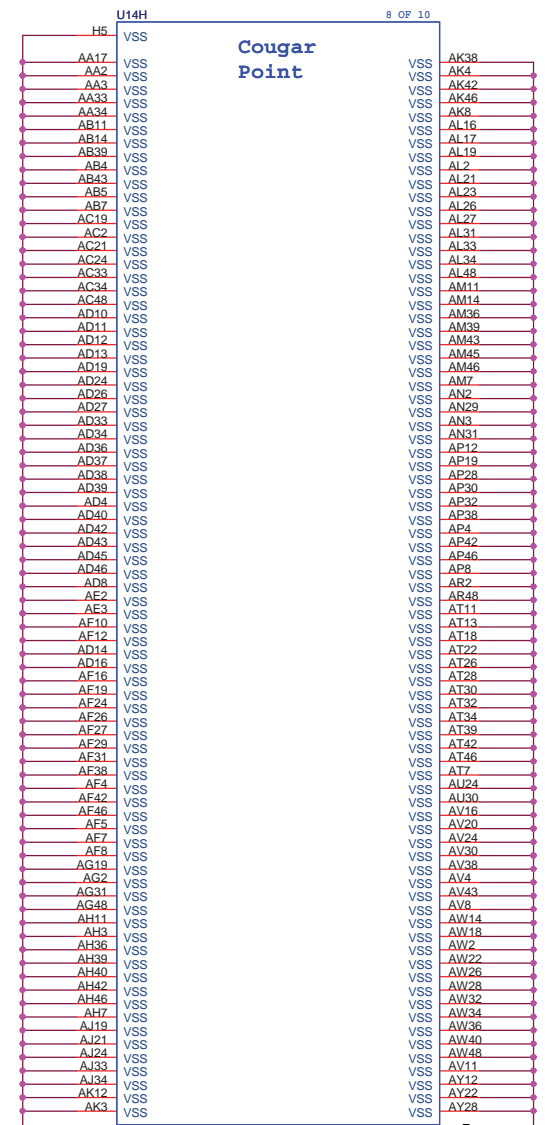
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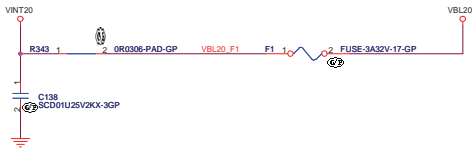


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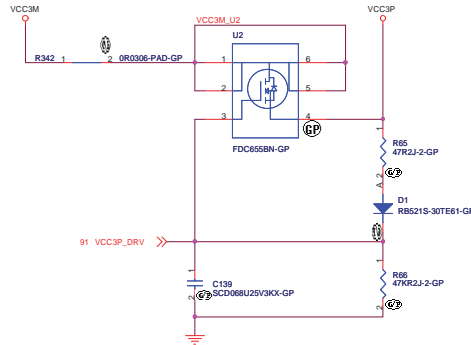
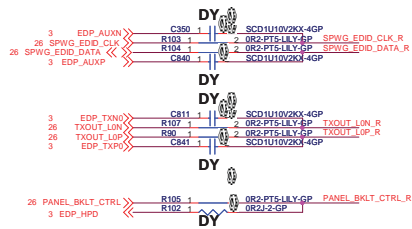
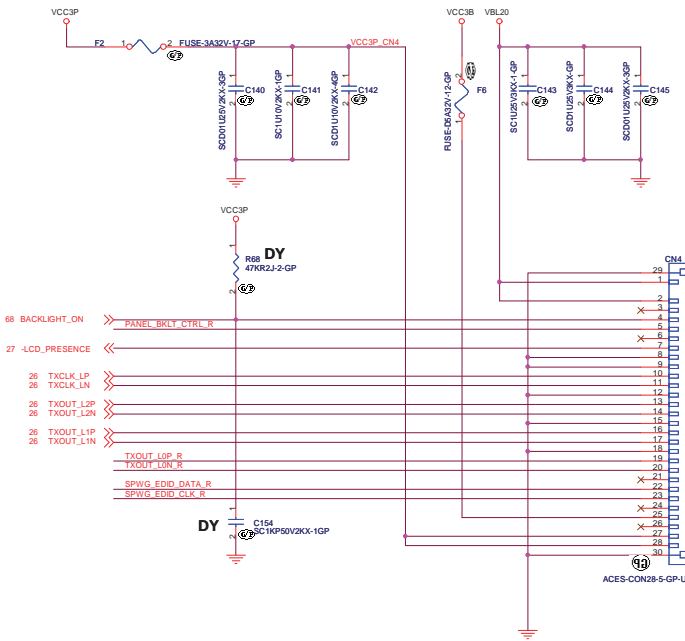
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: **PCH (9/9):GND**

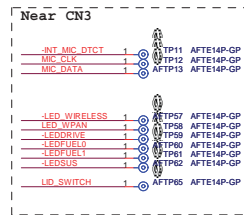
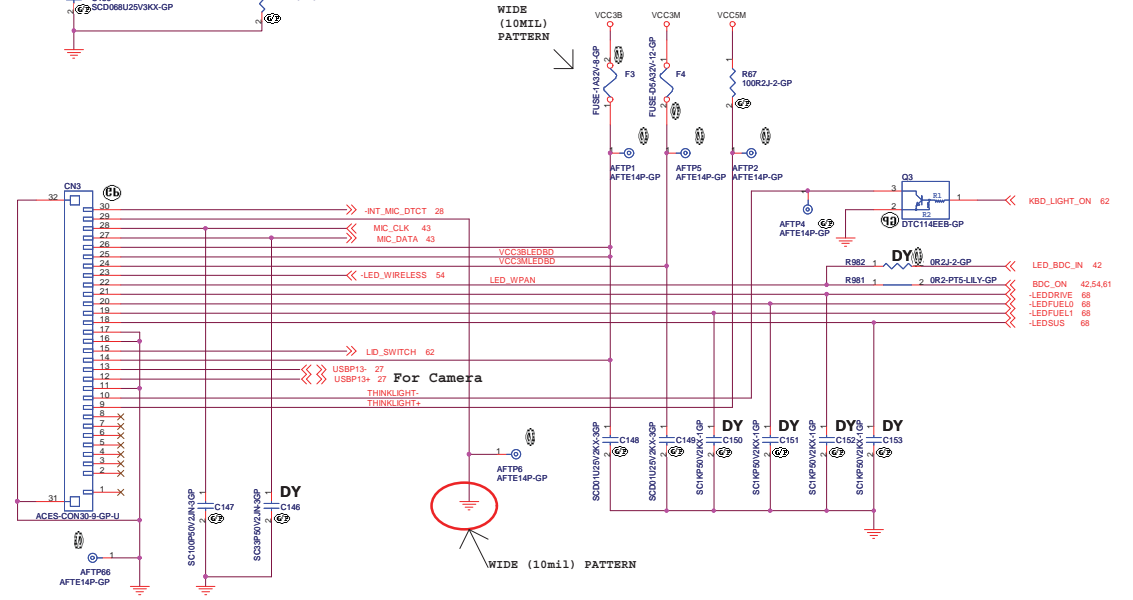
Size: A3	Document Number: Dasher-1	Rev: SD
Date: Monday, January 10, 2011	Sheet: 31 of 101	

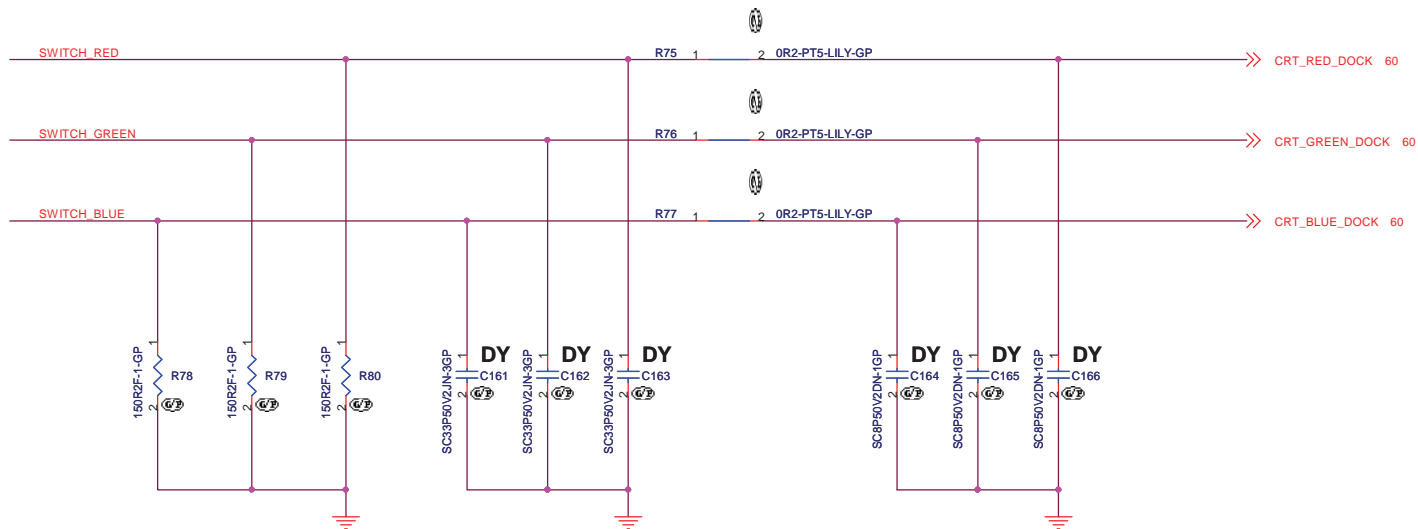
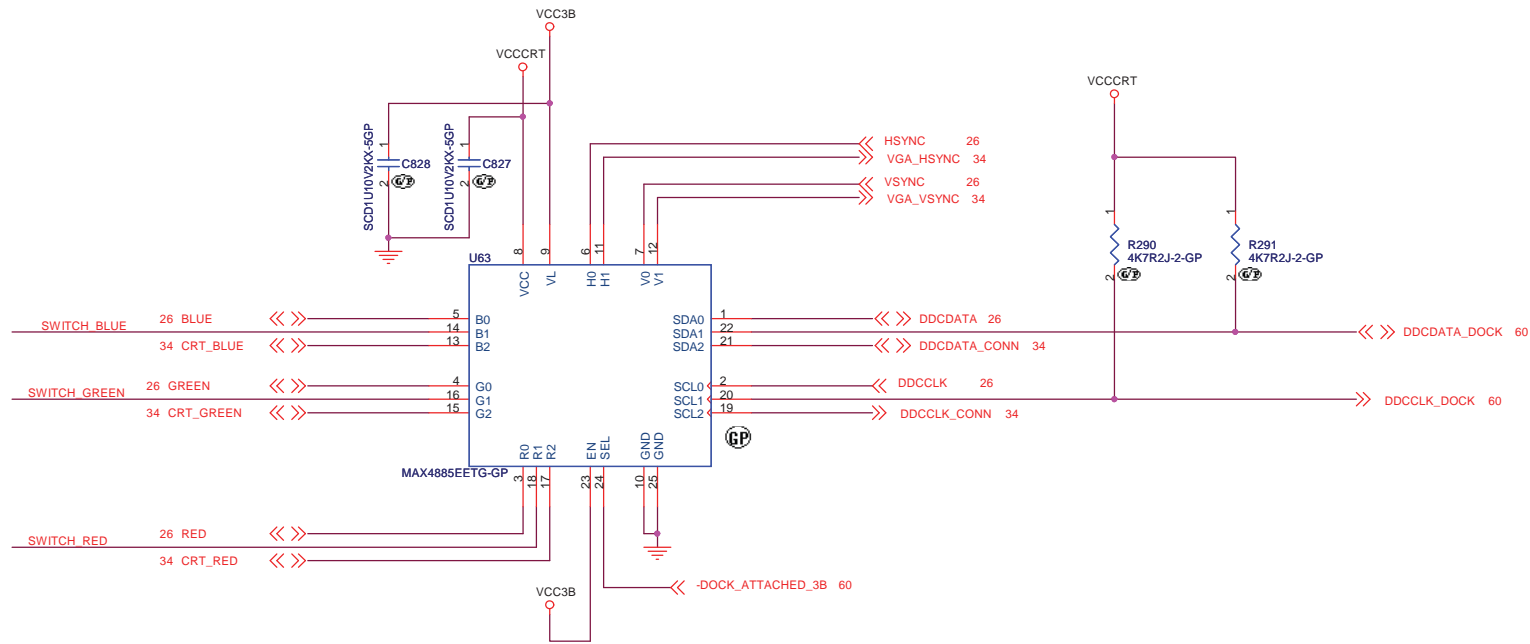


LCD Connector




PolySW

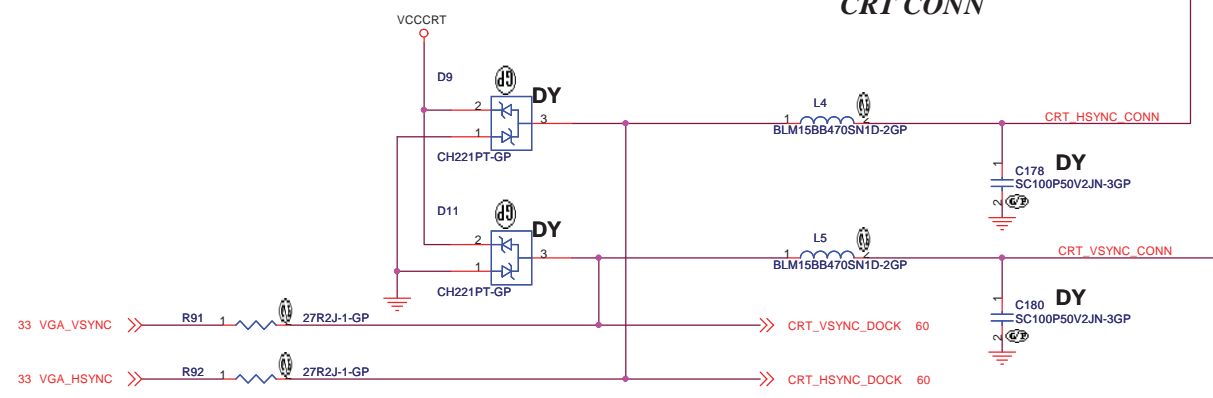
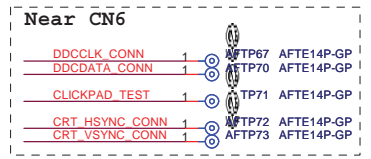
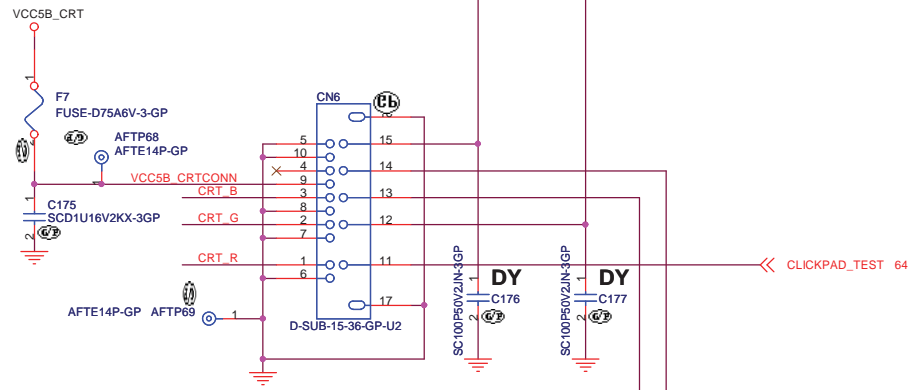
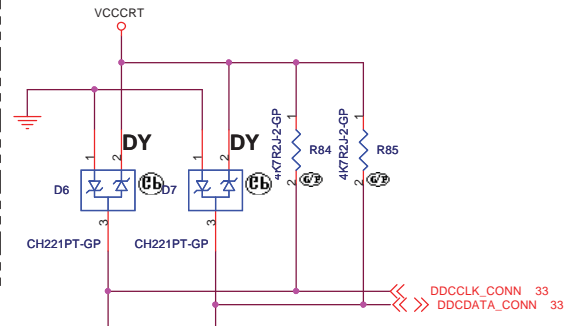
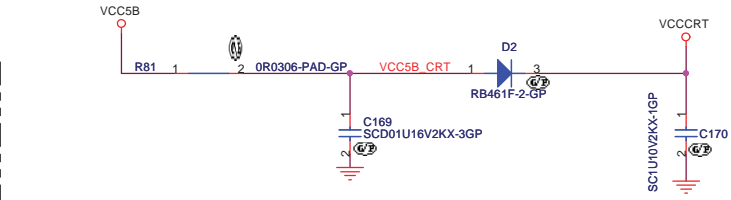
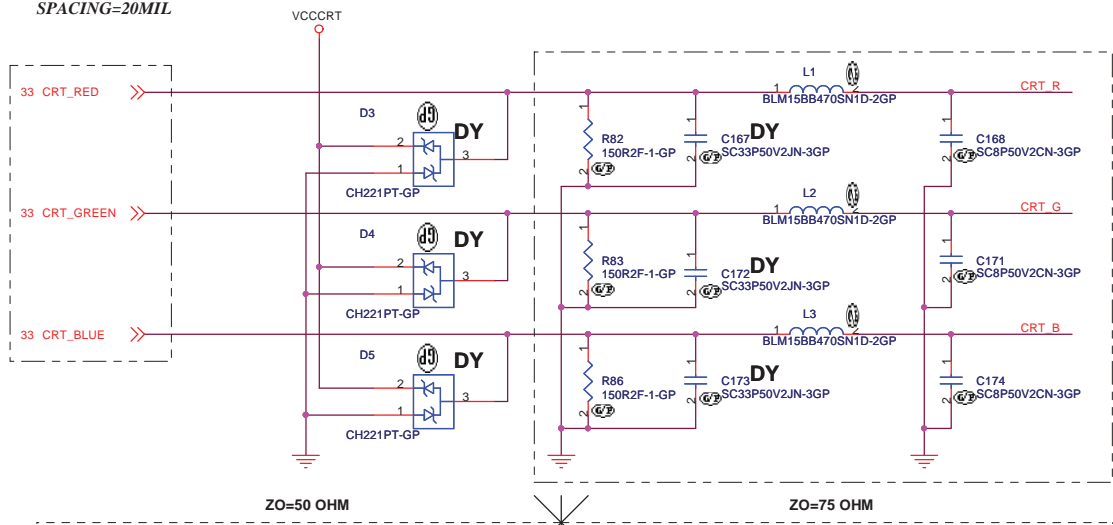




<Core Design>

 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
CRT SELECTOR		
Size A3	Document Number Dasher-1	Rev SD
Date: Monday, January 10, 2011	Sheet 33 of	101

GND GUARDING
 EACH SIGNAL WIDTH DEPENDS ON ZO(TRACE IMPEDANCE)
 SPACING=20MIL

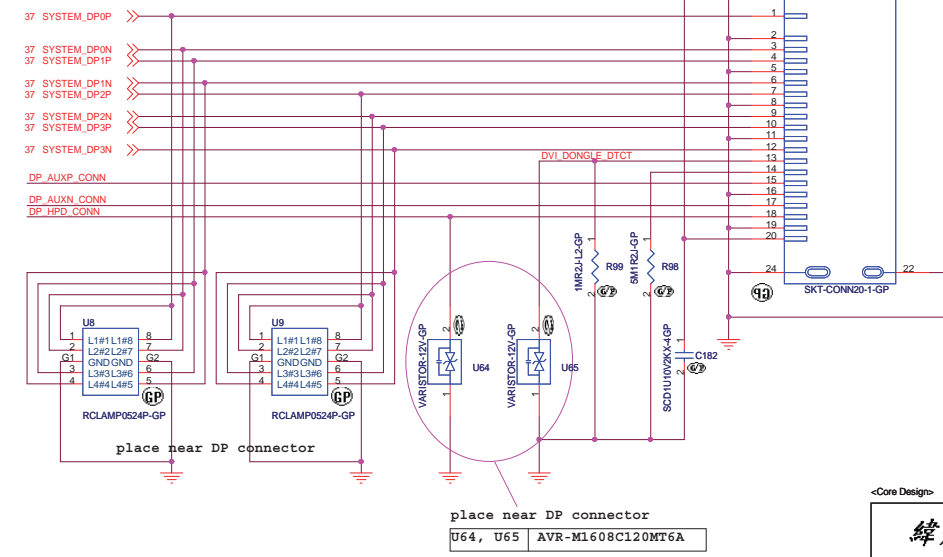
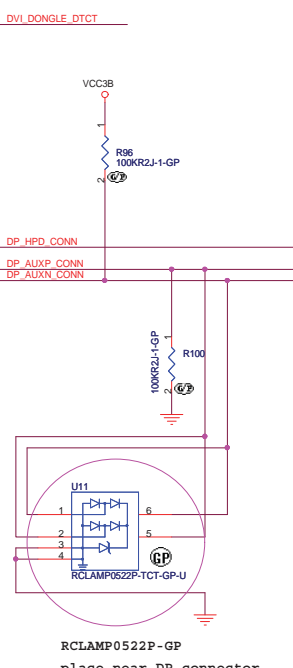
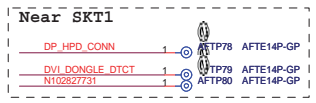
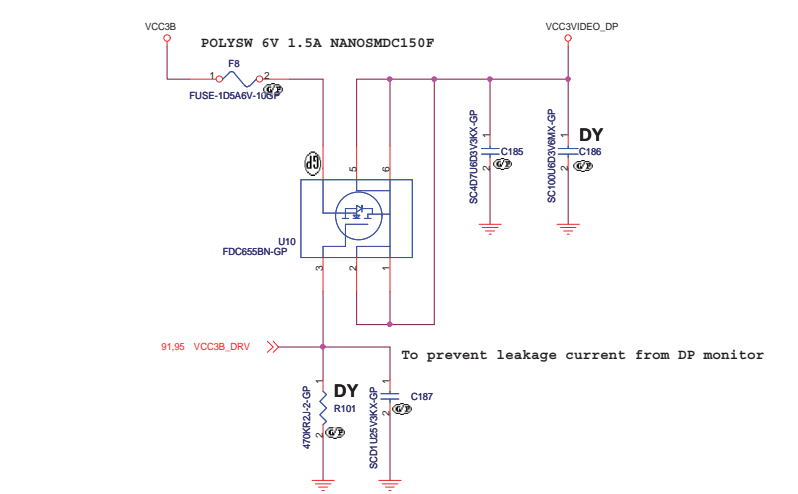
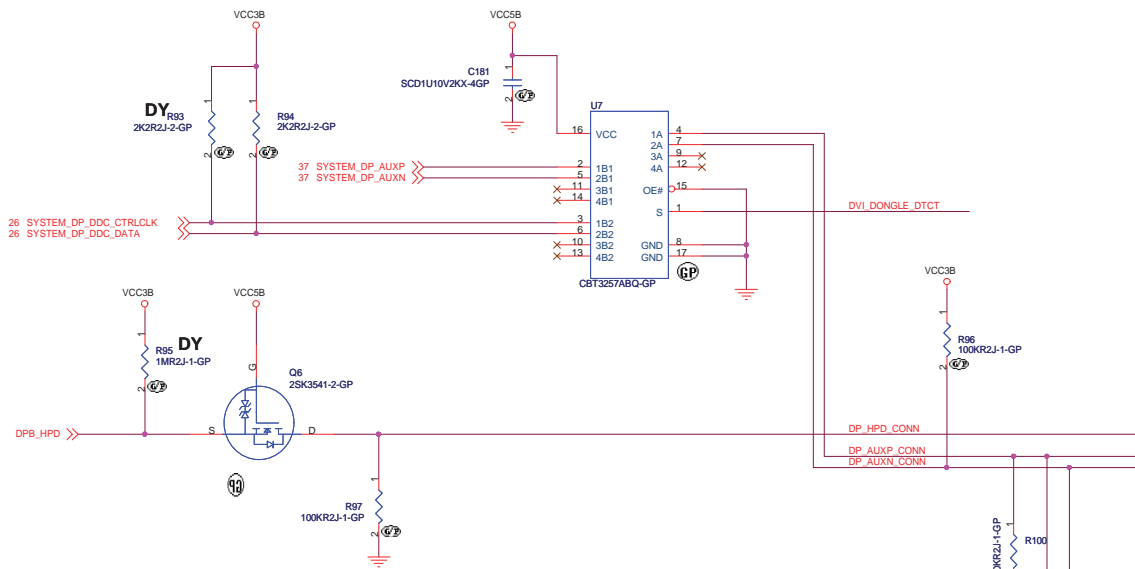


-Core Design-

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

Title: **Ext CRT Interface**

Size A3	Document Number	Rev SD
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B
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<Core Design>

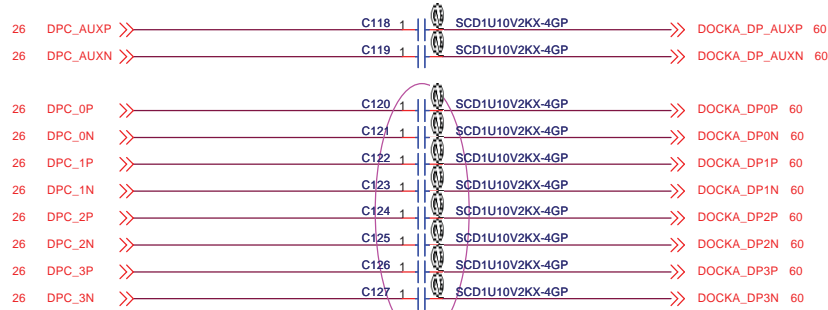
緯創資通 **Wistron Corporation**
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title BLANK		
Size A3	Document Number Dasher-1	Rev SD
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System DP Connector

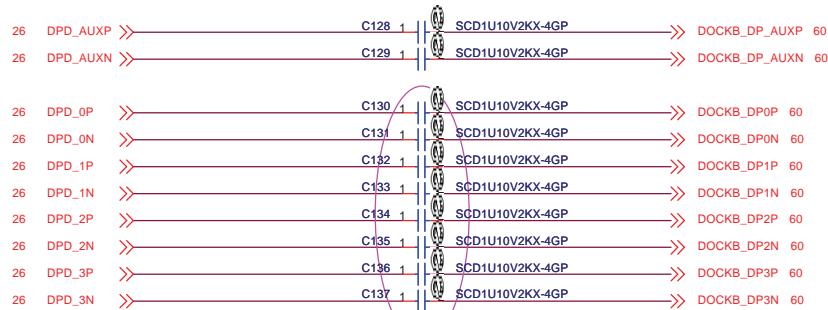


Docking DP Connector A



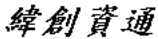
Place Near Docking Connector

Docking DP Connector B



Place Near Docking Connector

<Core Design>

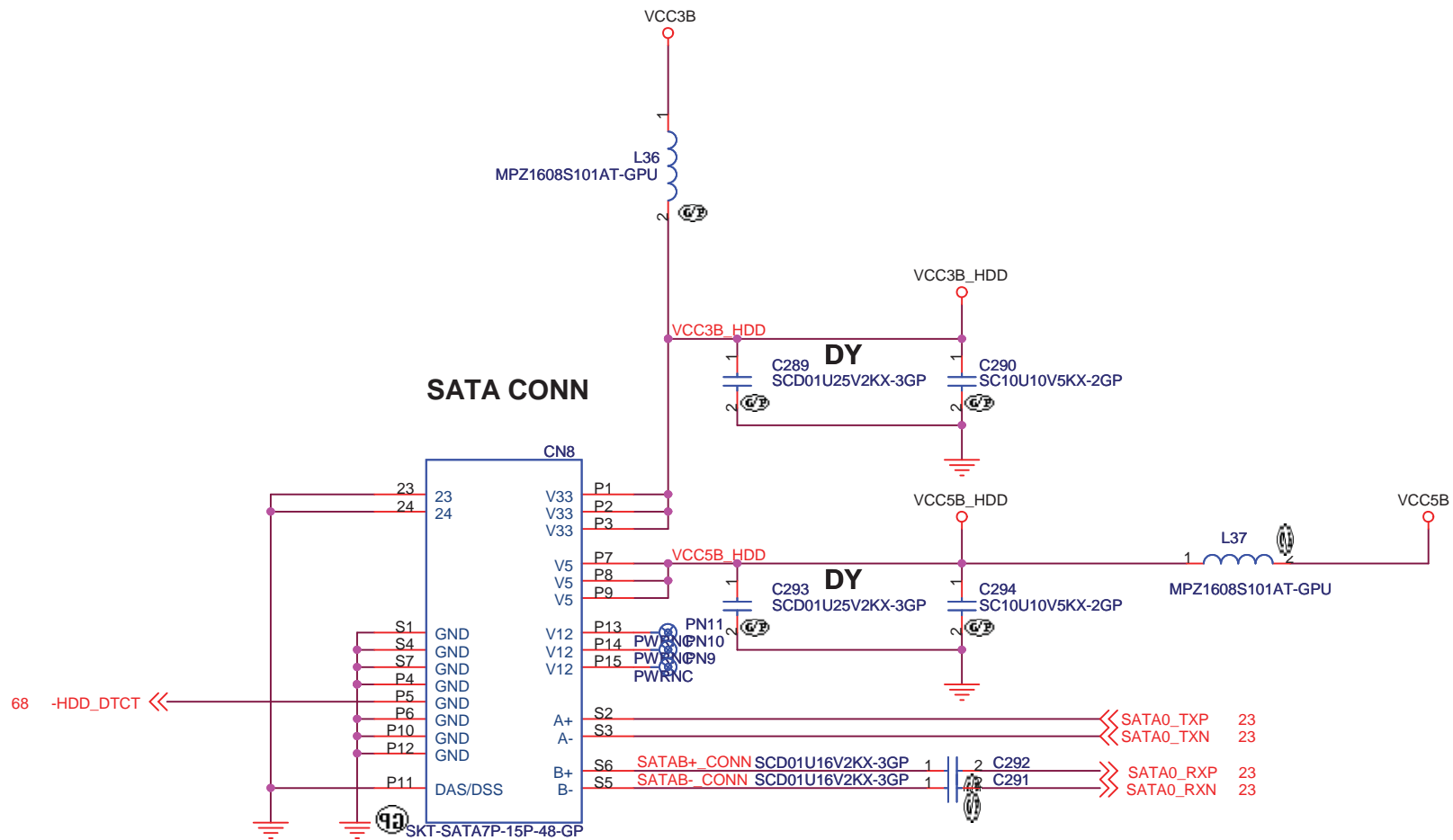
 Wistron Corporation 21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Display Port AC Coupling	
Title Size A3	Document Number Dasher-1
Date: Monday, January 10, 2011	Rev SD
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<Core Design>

緯創資通 **Wistron Corporation**
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
A3	Dasher-1	SD
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<Core Design>

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

Title **SATA Connector**

Size A4	Document Number Dasher-1	Rev SD
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<Core Design>

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	Document Number	Rev	SD
A3	Dasher-1		
Date: Monday, January 10, 2011	Sheet 40	of	101

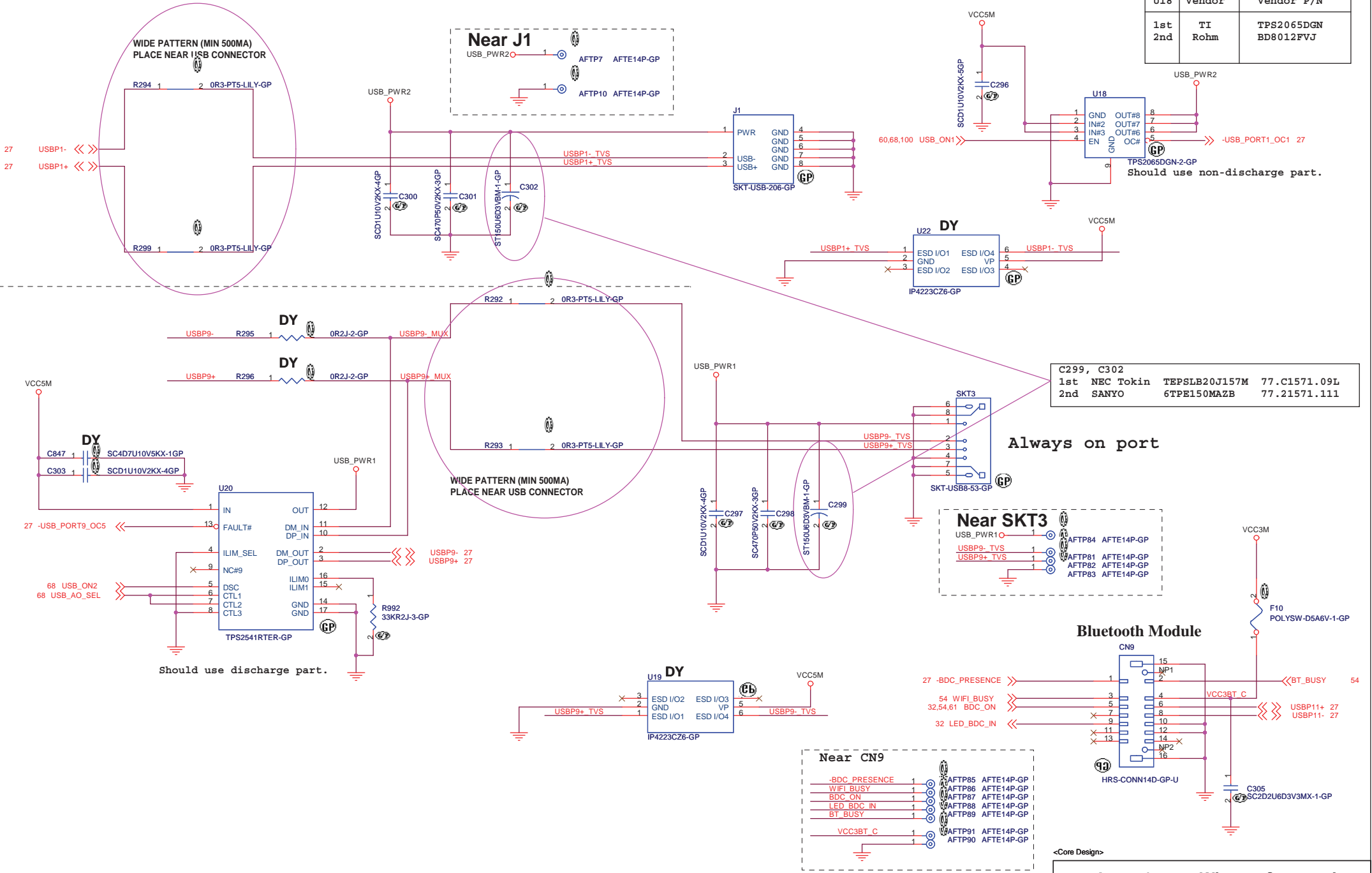
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緯創資通 **Wistron Corporation**
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title BLANK		
Size A3	Document Number Dasher-1	Rev SD
Date: Monday, January 10, 2011	Sheet 41 of	101

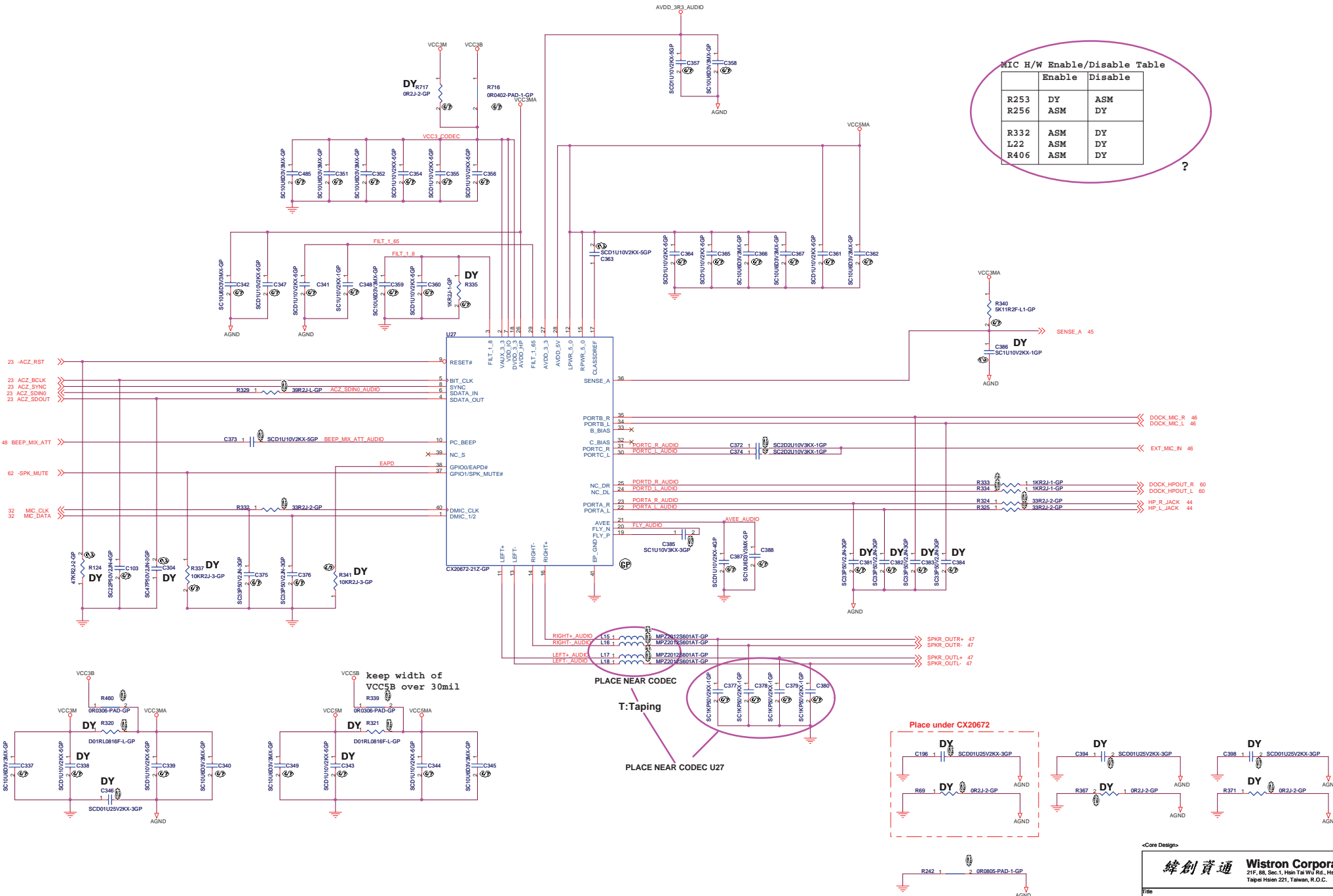
U18	Vendor	Vendor P/N
1st	TI	TPS2065DGN
2nd	Rohm	BD8012FVJ



<Core Design>

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Title			
USB Connector			
Size	Document Number		Rev
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MIC H/W Enable/Disable Table

	Enable	Disable
R253	DY	ASM
R256	ASM	DY
R332	ASM	DY
L22	ASM	DY
R406	ASM	DY

?

keep width of VCC3B over 30mil

PLACE NEAR CODEC

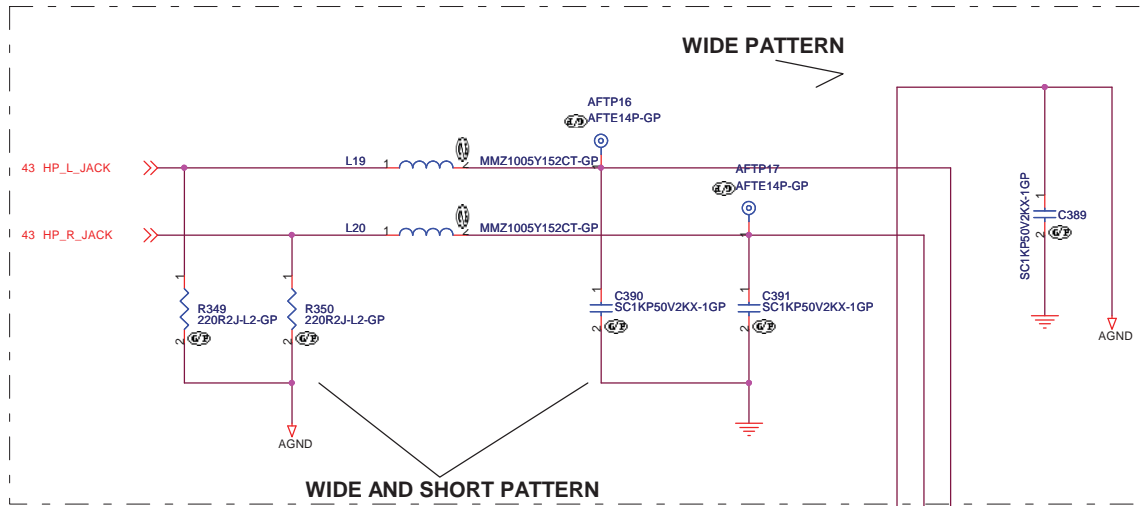
T:Taping

PLACE NEAR CODEC U27

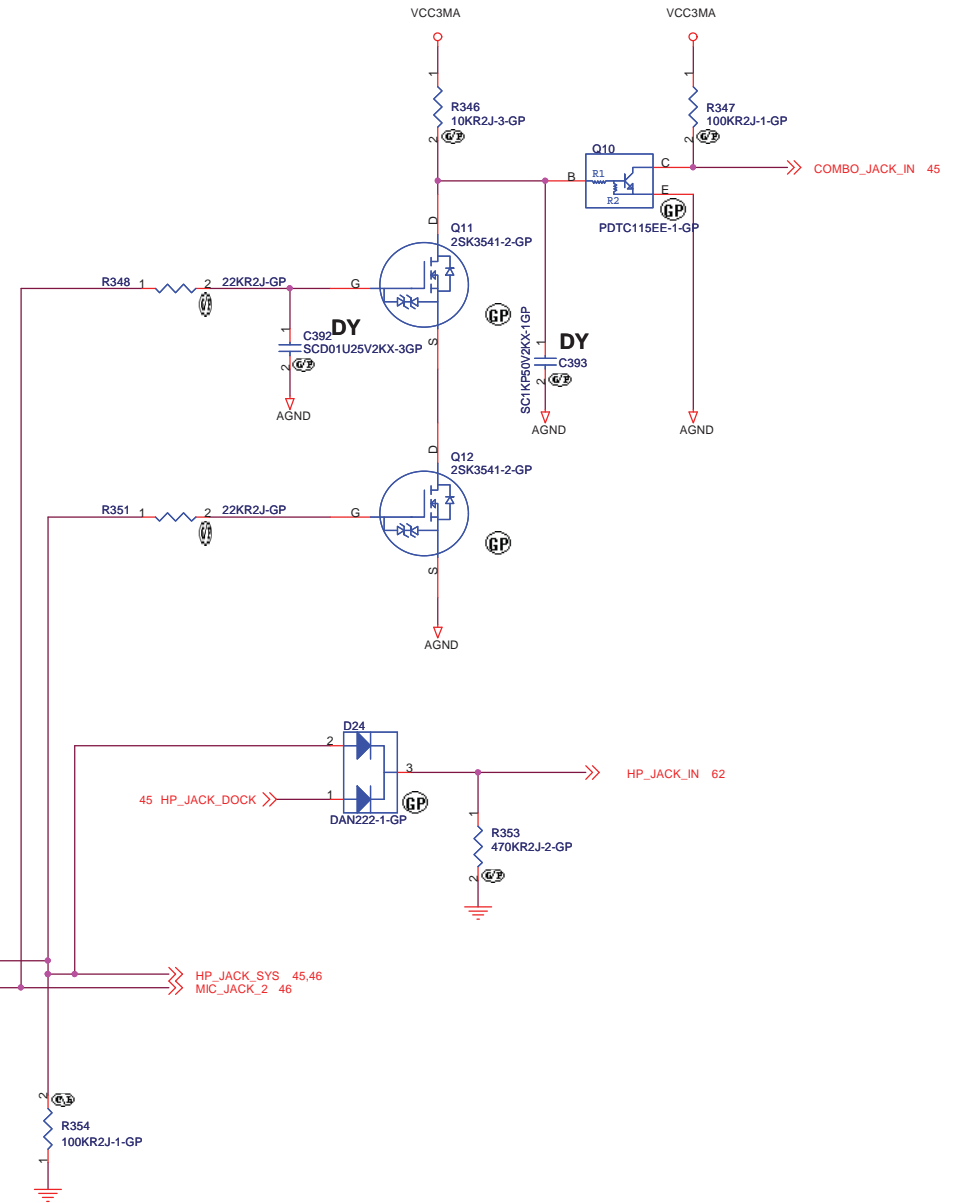
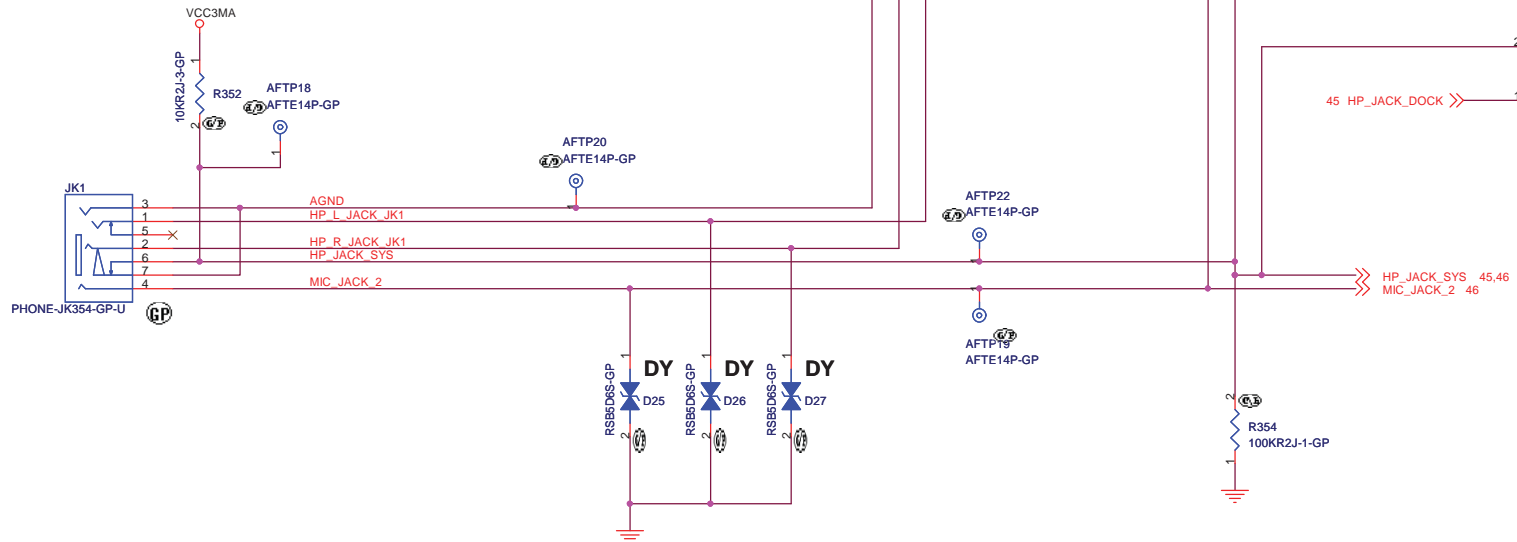
Place under CX20672

NEAR HEADPHONE CONN

WIDE PATTERN

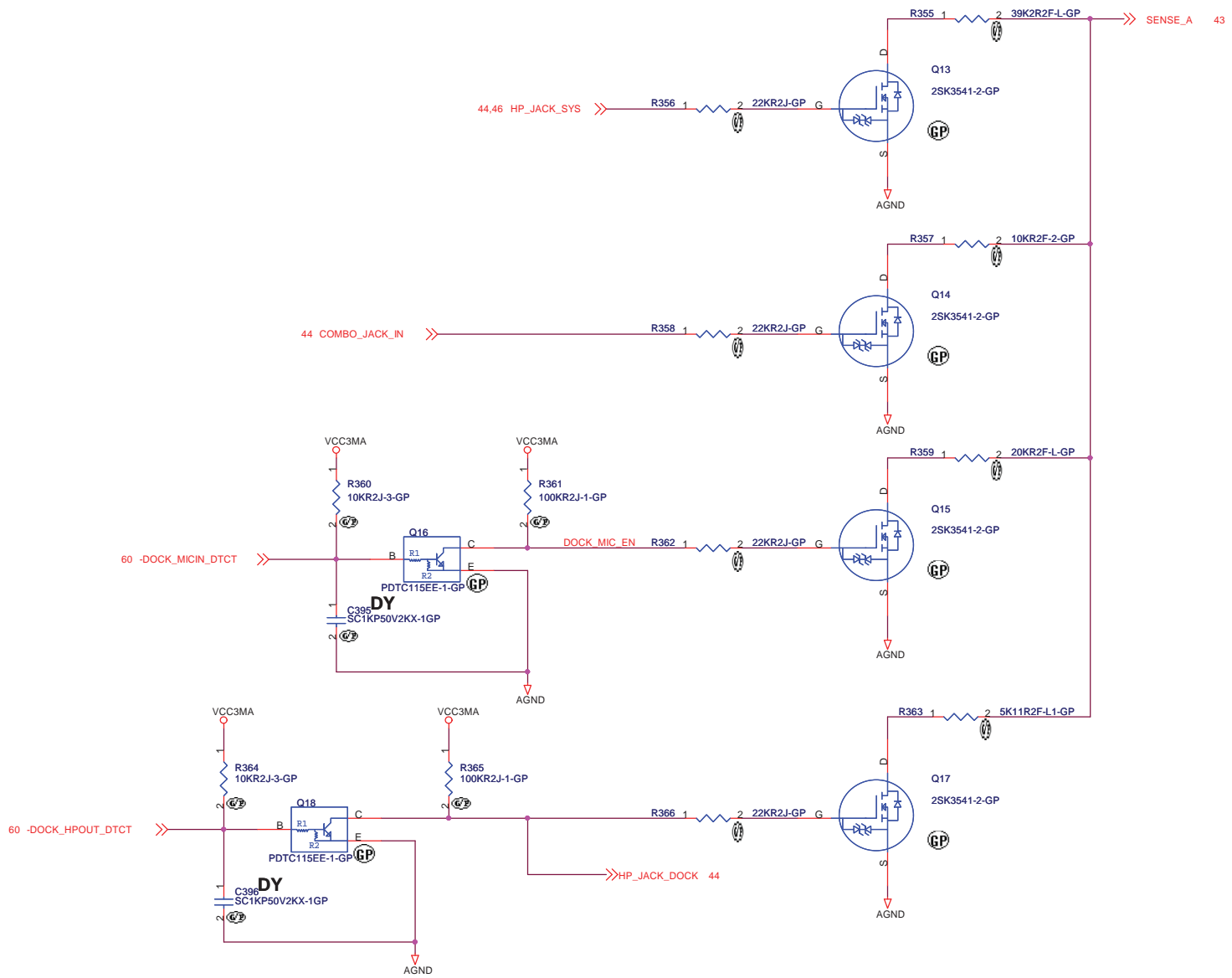


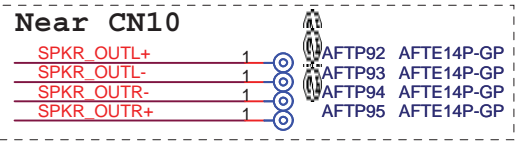
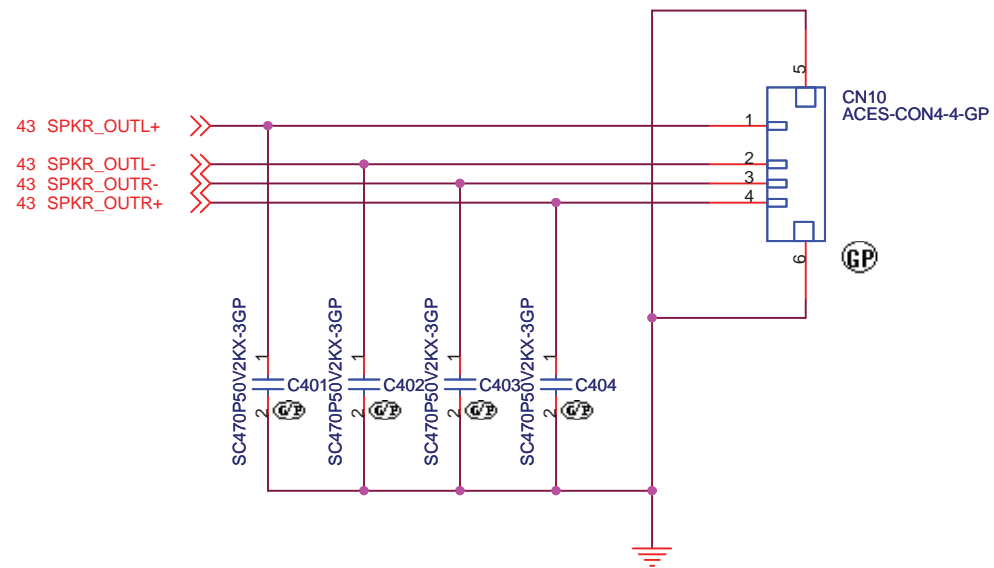
WIDE AND SHORT PATTERN



<Core Design>

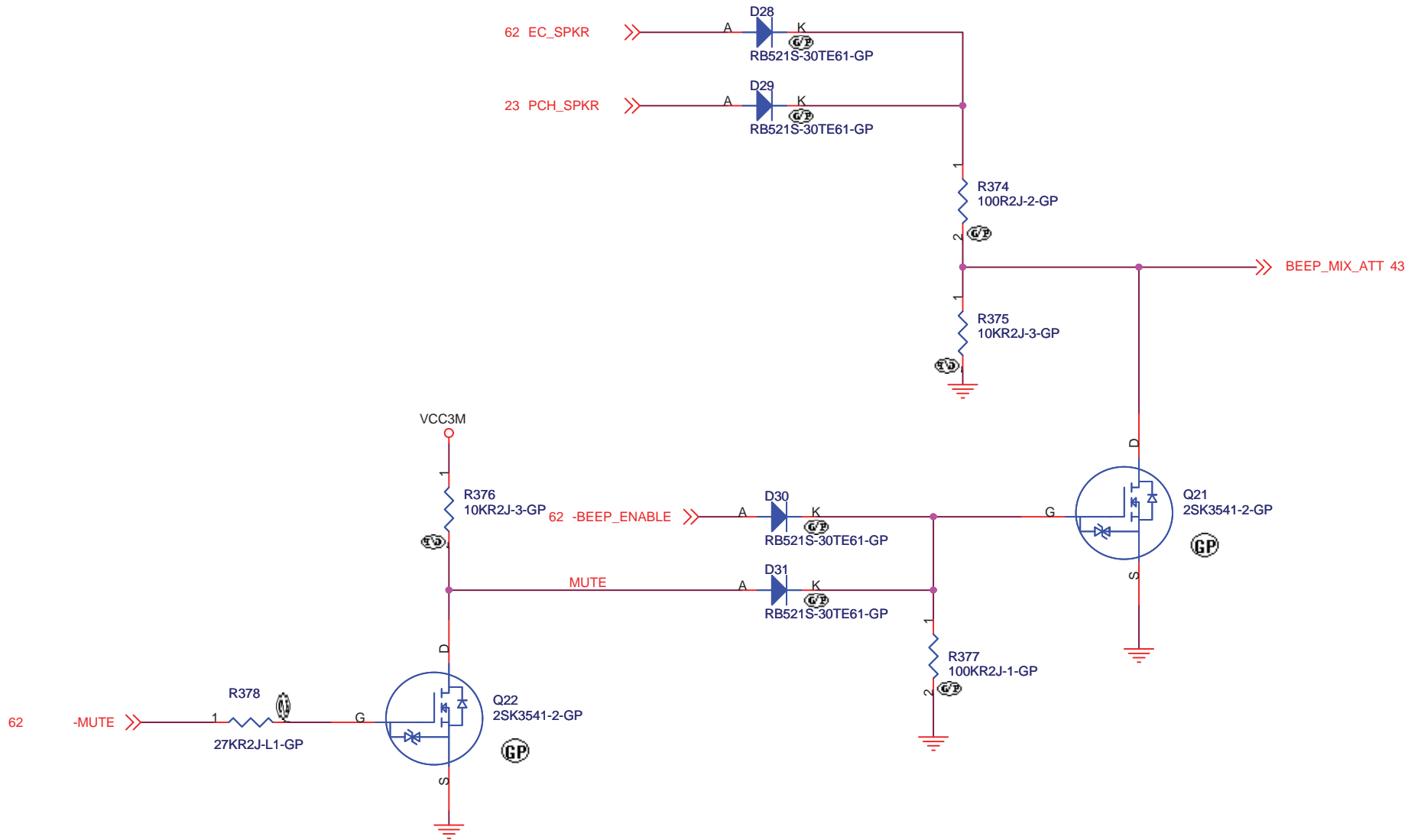
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<p>Title Audio Connector</p>		
Size A3	Document Number Dasher-1	Rev SD
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<Core Design>

緯創資通		Wistron Corporation	
		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
AUDIO SPEAKER			
Size	Document Number		Rev
A4	Dasher-1		SD
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<Core Design>

 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Audio BEEP		
Size A4	Document Number Dasher-1	Rev SD
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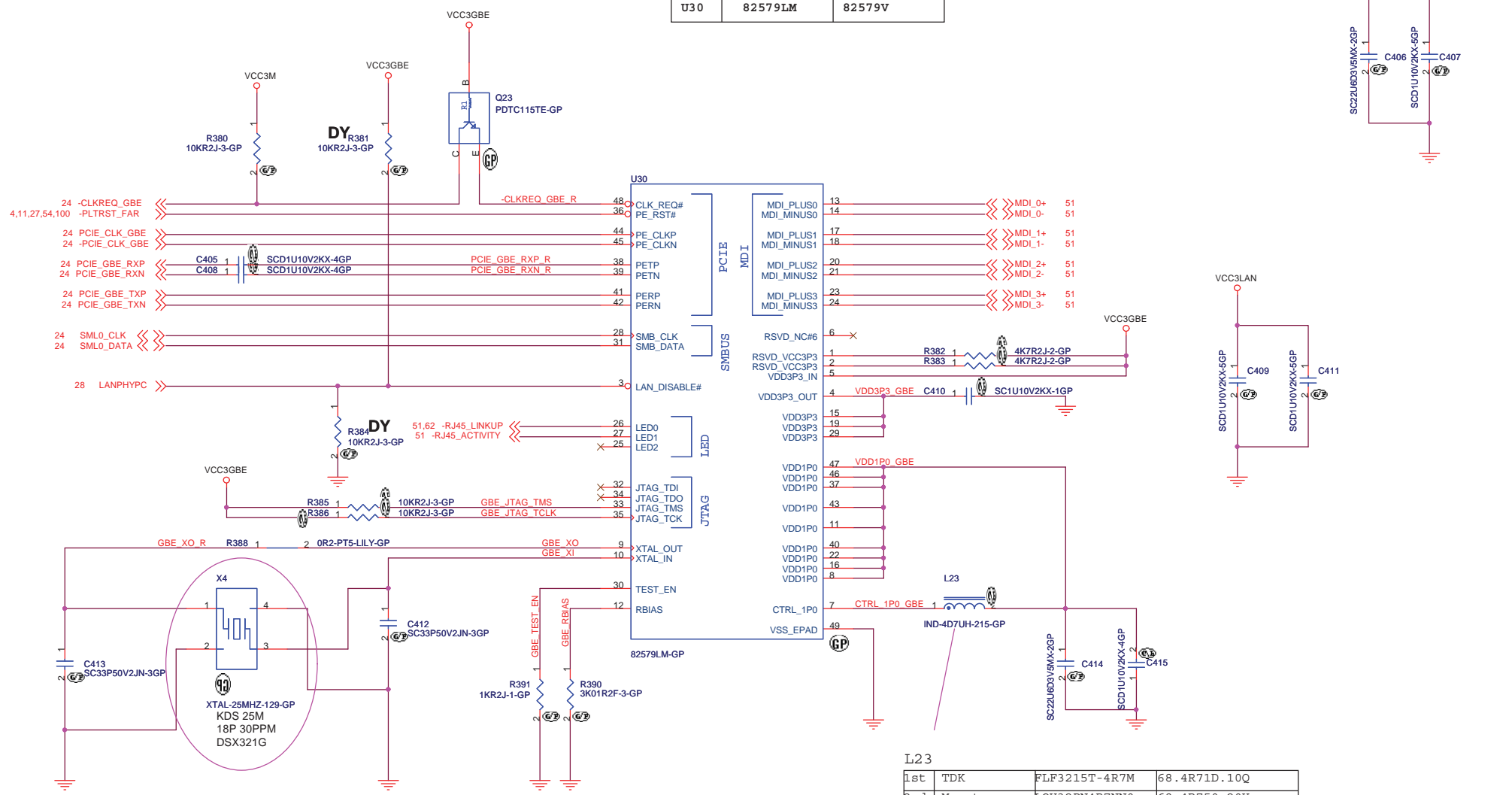
B
L
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<Core Design>

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 A3	Document Number Dasher-1	Rev SD
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AMT	YES	NO
U30	82579LM	82579V



X4

1st	KDS	DSX321G 25M 18P 30PPM	82.30020.B11
2nd	H.LEB	HSX321S 25M 18P 30PPM	82.30020.B21
3rd	TXC	7V25020001 25M 18P 30PPM	41U6141AA

L23

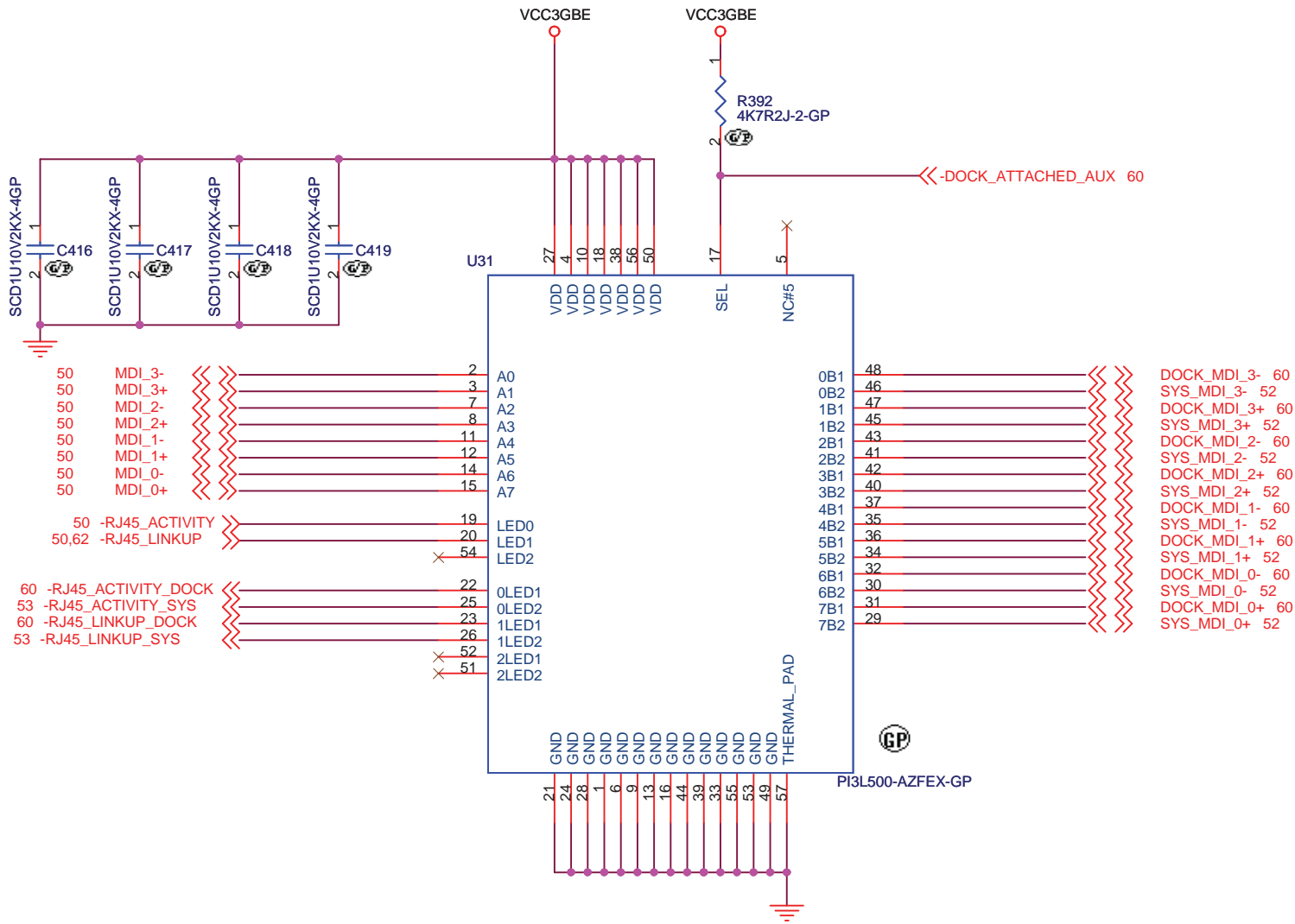
1st	TDK	FLF3215T-4R7M	68.4R71D.10Q
2nd	Murata	LQH32PN4R7NN0	68.4R750.20H
3rd	Taiyo Yuden	BRL3225T4R7M	68.4R71E.10I

<Core Design>

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

Title: **GBE Lewisville**

Size A3	Document Number	Dasher-1	Rev SD
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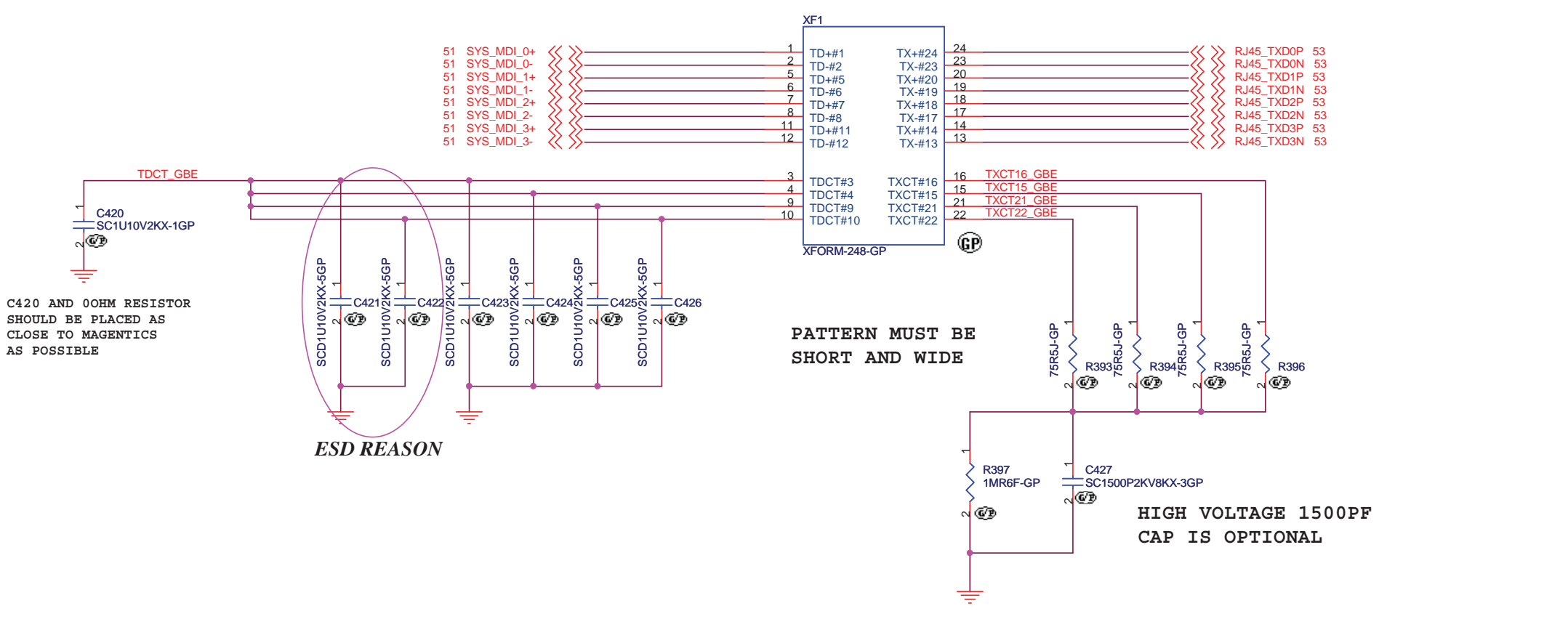
		Vendor P/N	Wistron P/N
1st	Pericom	PI3L500AZFEX	73.3L500.003
2nd	TI	TS3L500AERHUR	73.3L500.A0V
3rd	OnSemi	NS3L500	73.03500.003

<Core Design>


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

GBE LAN Switch

Size A4	Document Number Dasher-1	Rev SD
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C420 AND 0OHM RESISTOR SHOULD BE PLACED AS CLOSE TO MAGNETICS AS POSSIBLE

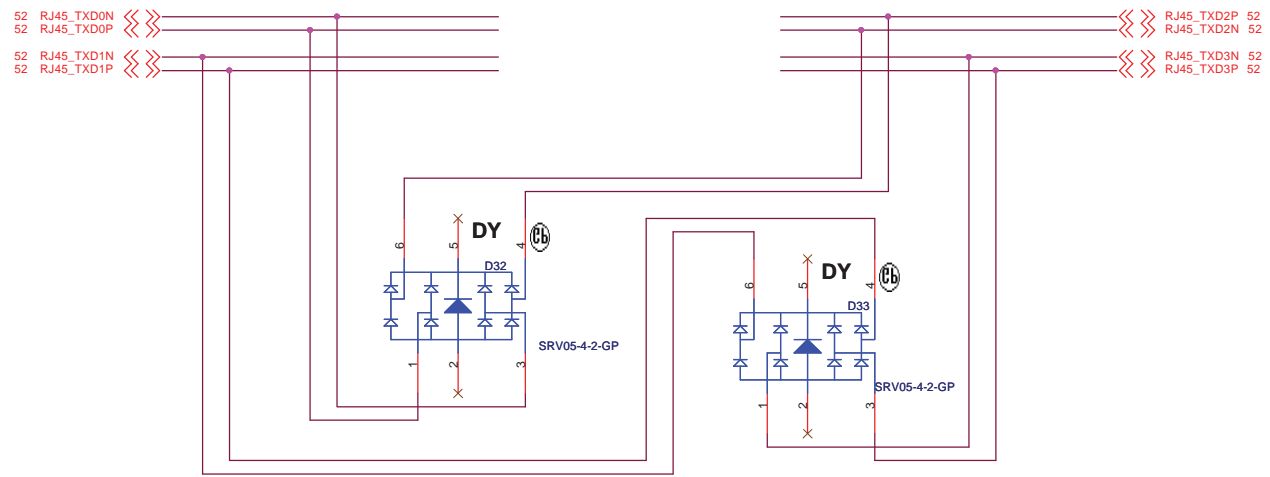
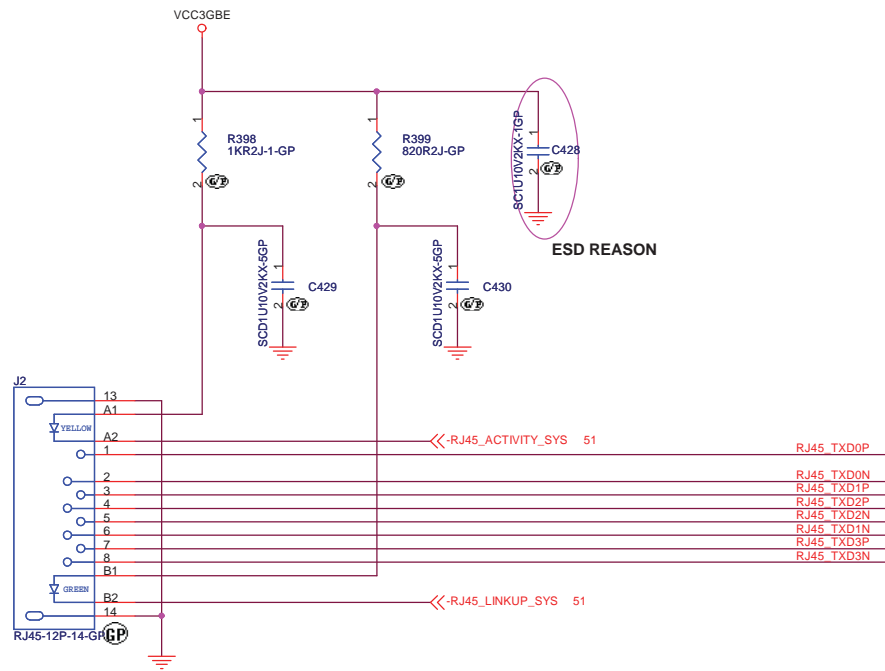
ESD REASON

PATTERN MUST BE SHORT AND WIDE

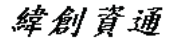
HIGH VOLTAGE 1500PF CAP IS OPTIONAL

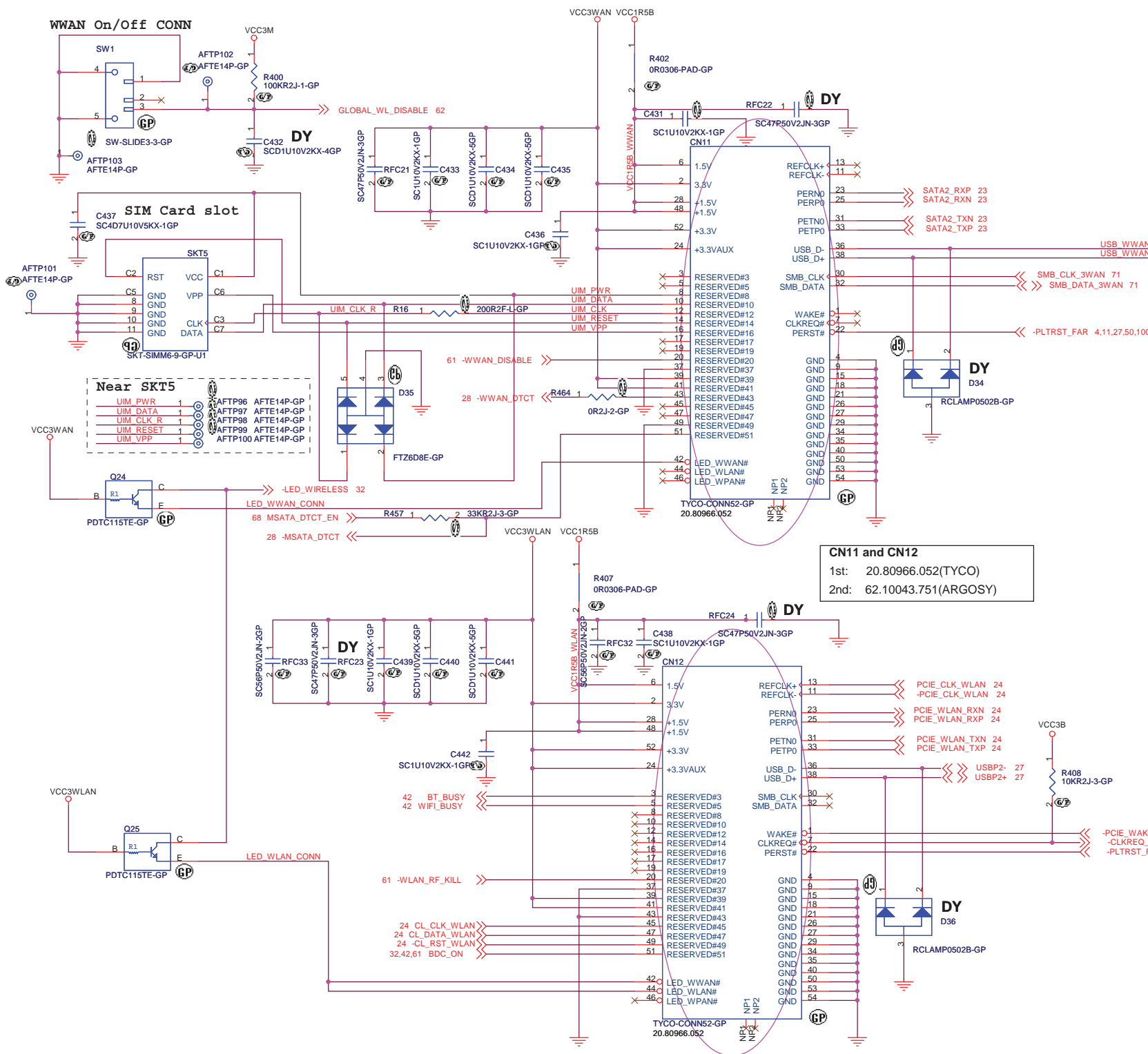
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		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
GBE MAGNETICS			
Title		Rev	
Size Custom		SD	
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<Core Design>

 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title		
RJ45 CONNECTOR		
Size	Document Number	Rev
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CN11 and CN12
 1st: 20.80966.052(TYCO)
 2nd: 62.10043.751(ARGOSY)

WWAN/mSATA CONTROL TABLE

WWAN mSATA	YES	NO
CN11	ASM	DY
SKT5	ASM	DY
C433	ASM	DY
C434	ASM	DY
C435	ASM	DY
C437	ASM	DY
D35	ASM	DY
C431	ASM	DY
C436	ASM	DY
R404	ASM	DY
R405	ASM	DY
R436	ASM	DY
Q24	ASM	DY
RFC21	ASM	DY
R457	ASM	DY

<Core Design>

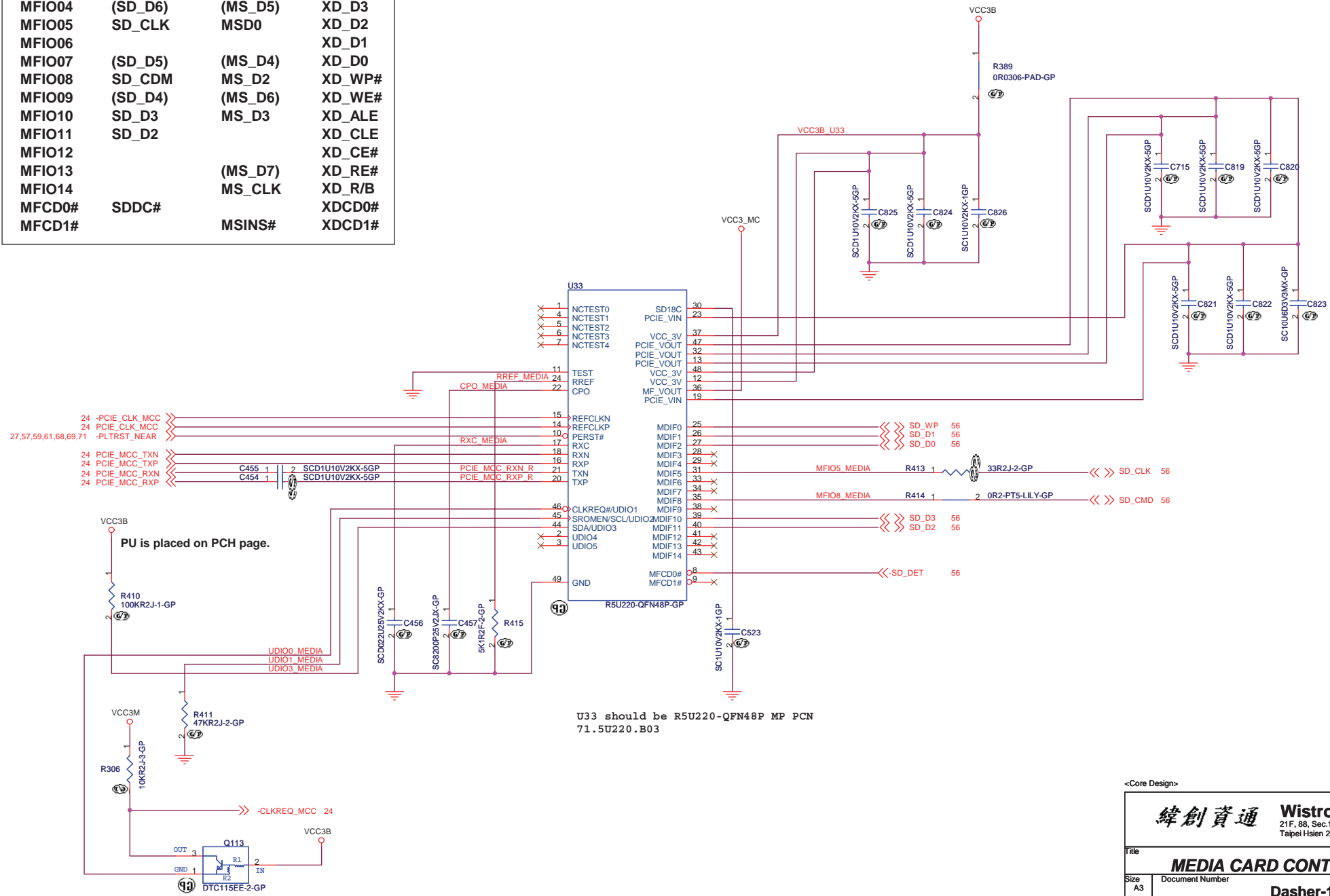
緯創資通 Wistron Corporation
 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
 Taipei Hsien 221, Taiwan, R.O.C.

MINI CARD SLOT

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File: **Dasher-1** Rev: **SD**

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#



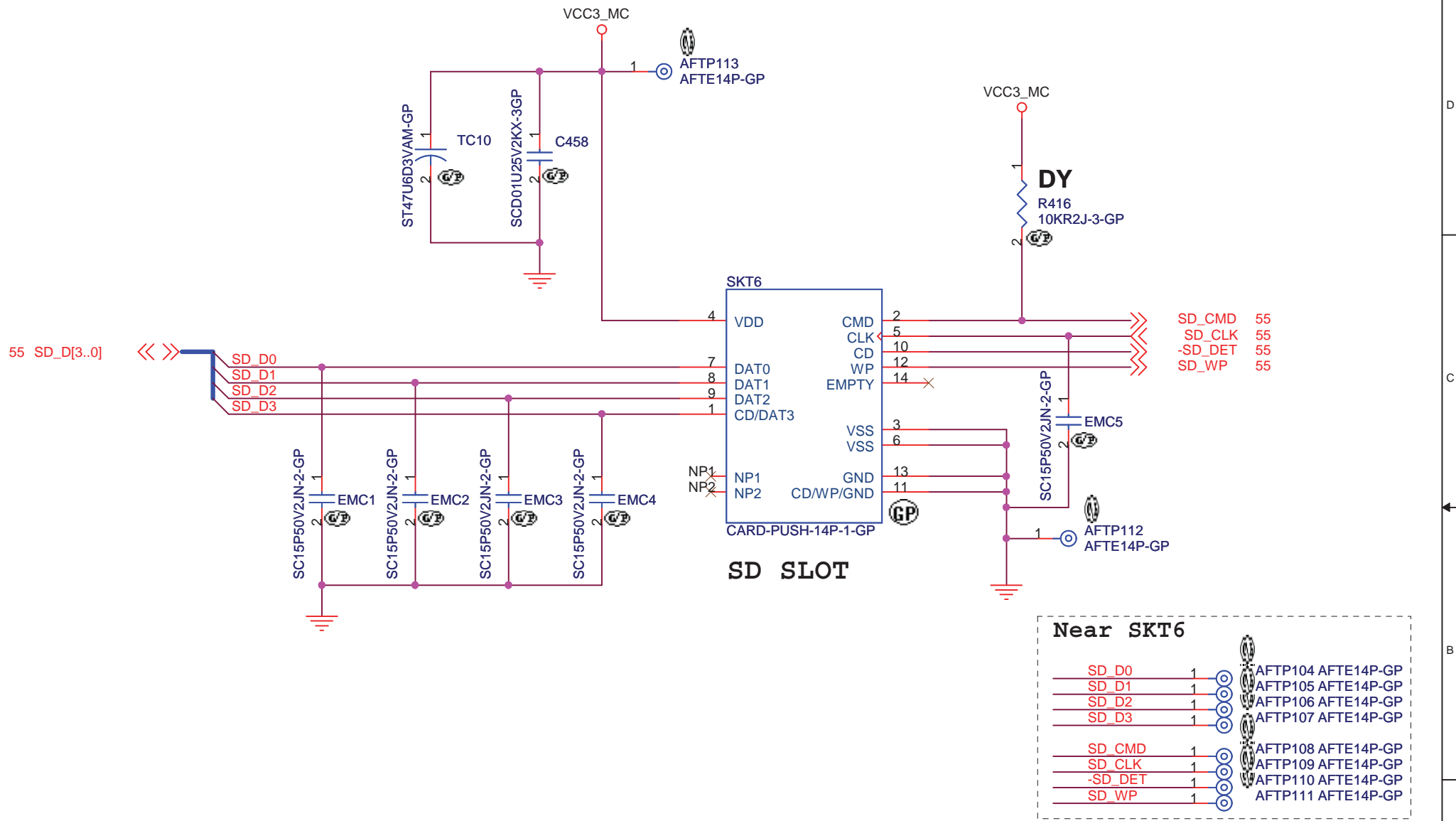
<Core Design>

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


Title: **MEDIA CARD CONTROLLER**

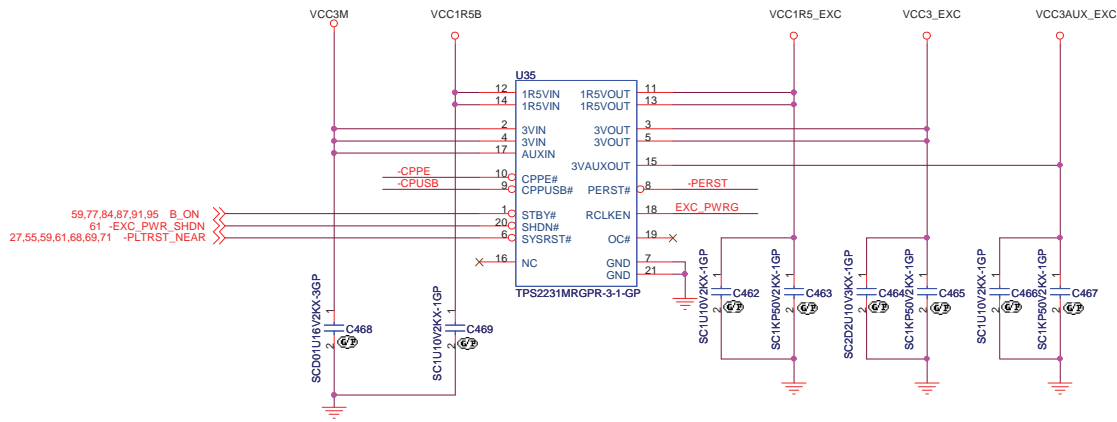
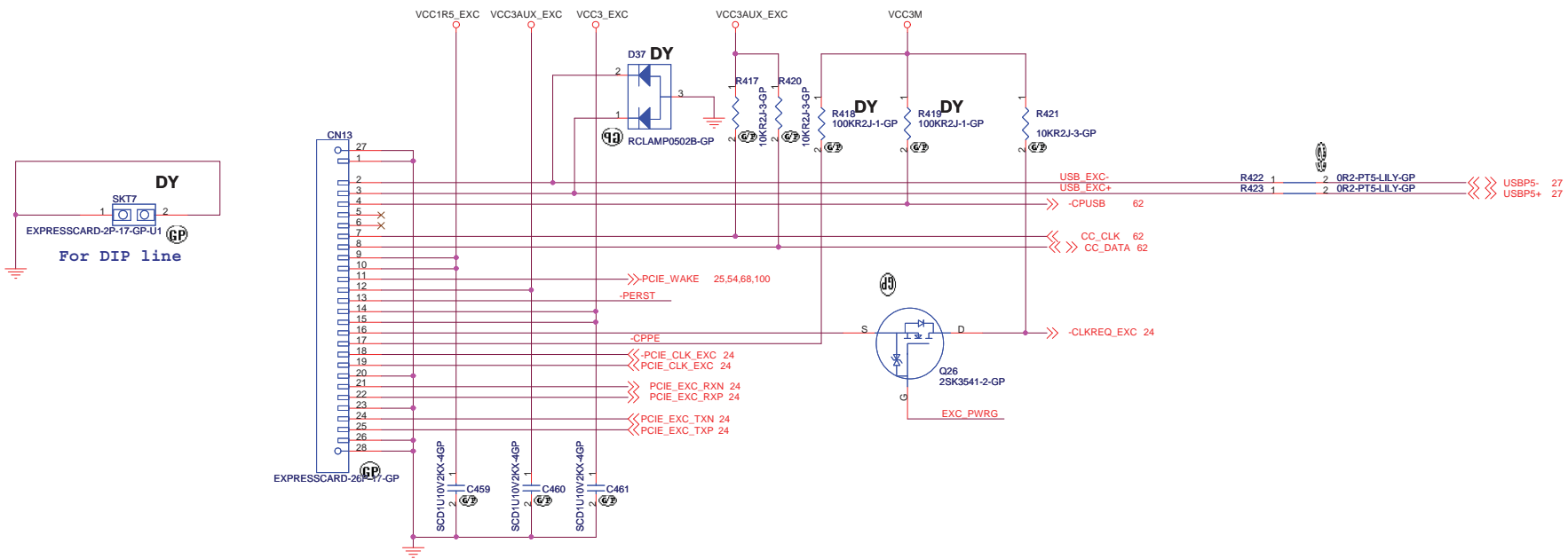
Size: A3 Document Number: **Dasher-1** Rev: **SD**

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<Core Design>

 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Media Card Slot		
Title Size A	Document Number <p style="text-align: center; font-size: 1.2em;">Dasher-1</p>	Rev <p style="text-align: center; font-size: 1.2em;">SD</p>
Date: Monday, January 10, 2011		Sheet 56 of 101



U35	TI	TPS2231MRGP-3	45K0234BA
	Rohm	BD4156MUV-E2	74.04156.07T
	Rohm	BD4157MUV-E2	74.04157.073

<Core Design>

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

Express Card Connector

Size	Document Number	Rev
Custom	Dasher-1	SD
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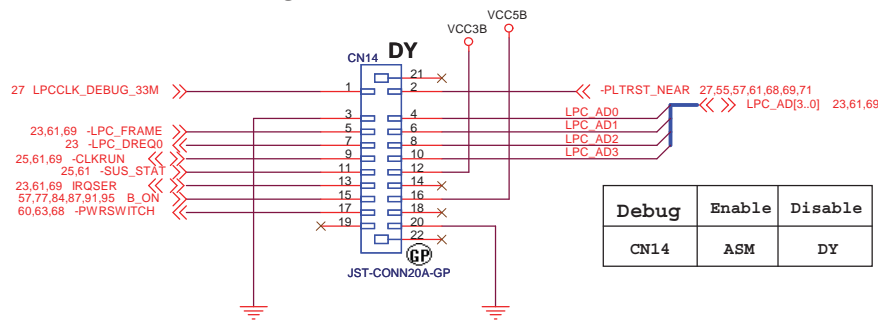
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<Core Design>

緯創資通		Wistron Corporation	
		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
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Golden Finger for Debug Board

Debug card connector



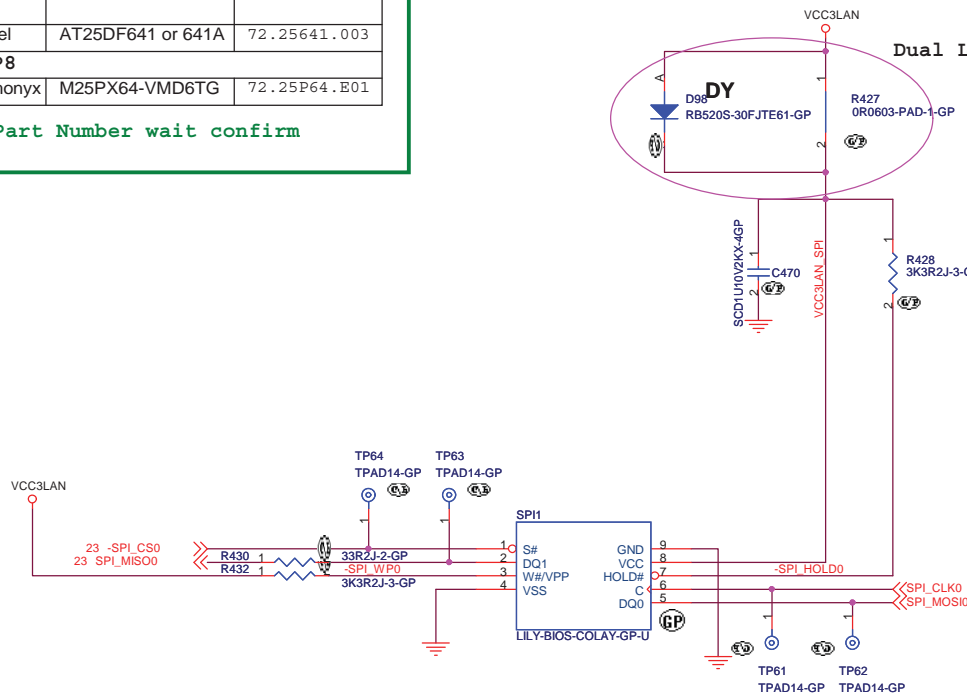
Put "easy-to -access" place

64Mbit SPI FLASH (for vPRO model)

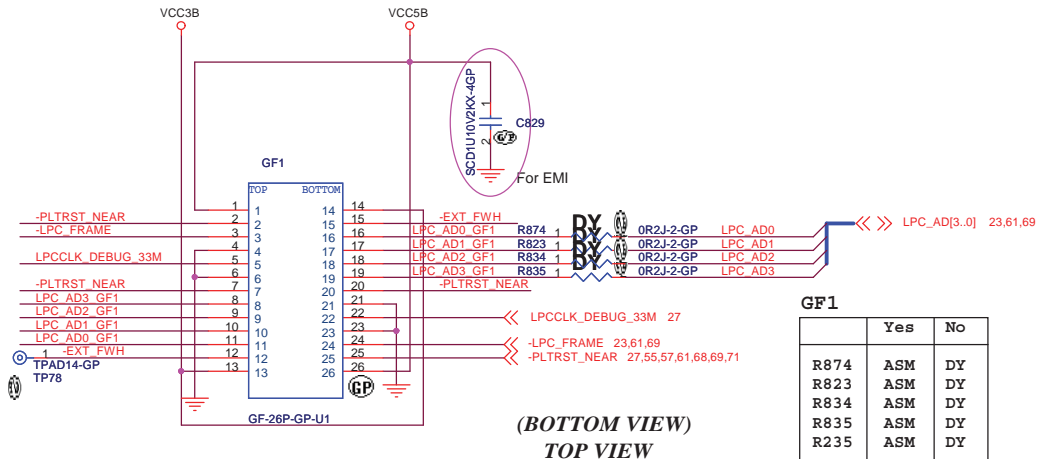
SO8		
Marconix	MX25L6436EM2I-10G	72.25643.001
Marconix	MX25L6406EM2I-10G	
Winbond	W25Q64CVSSIG	72.25Q64.B01
Atmel	AT25DF641 or 641A	72.25641.003
MLP8		
Numonyx	M25PX64-VMD6TG	72.25P64.E01

Part Number wait confirm

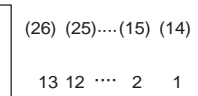
Dual Layout



SO8 and WSON8 are both supported!

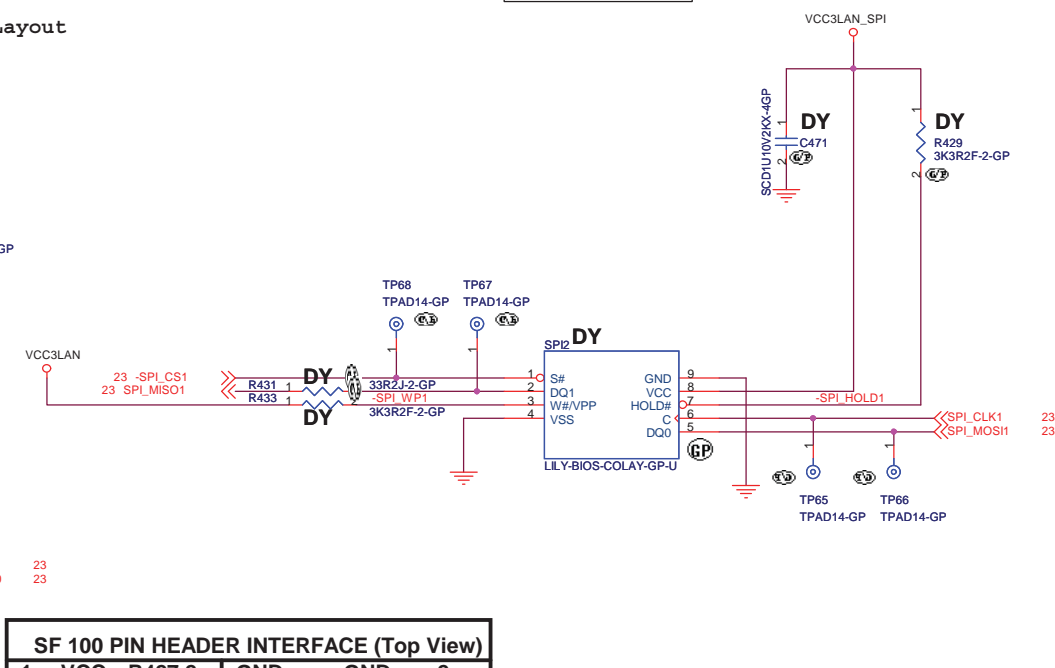


(BOTTOM VIEW)
TOP VIEW



GF1	Yes	No
R874	ASM	DY
R823	ASM	DY
R834	ASM	DY
R835	ASM	DY
R235	ASM	DY

SVT Logic



SF 100 PIN HEADER INTERFACE (Top View)							
1	VCC	R427.2	GND	GND	2		
3	CS#	R148.1	R145.1	CLK	4		
5	MISO	R430.2	R151.1	MOSI	6		
7	(KEY)	N/A	N/A	(RESET)	8		

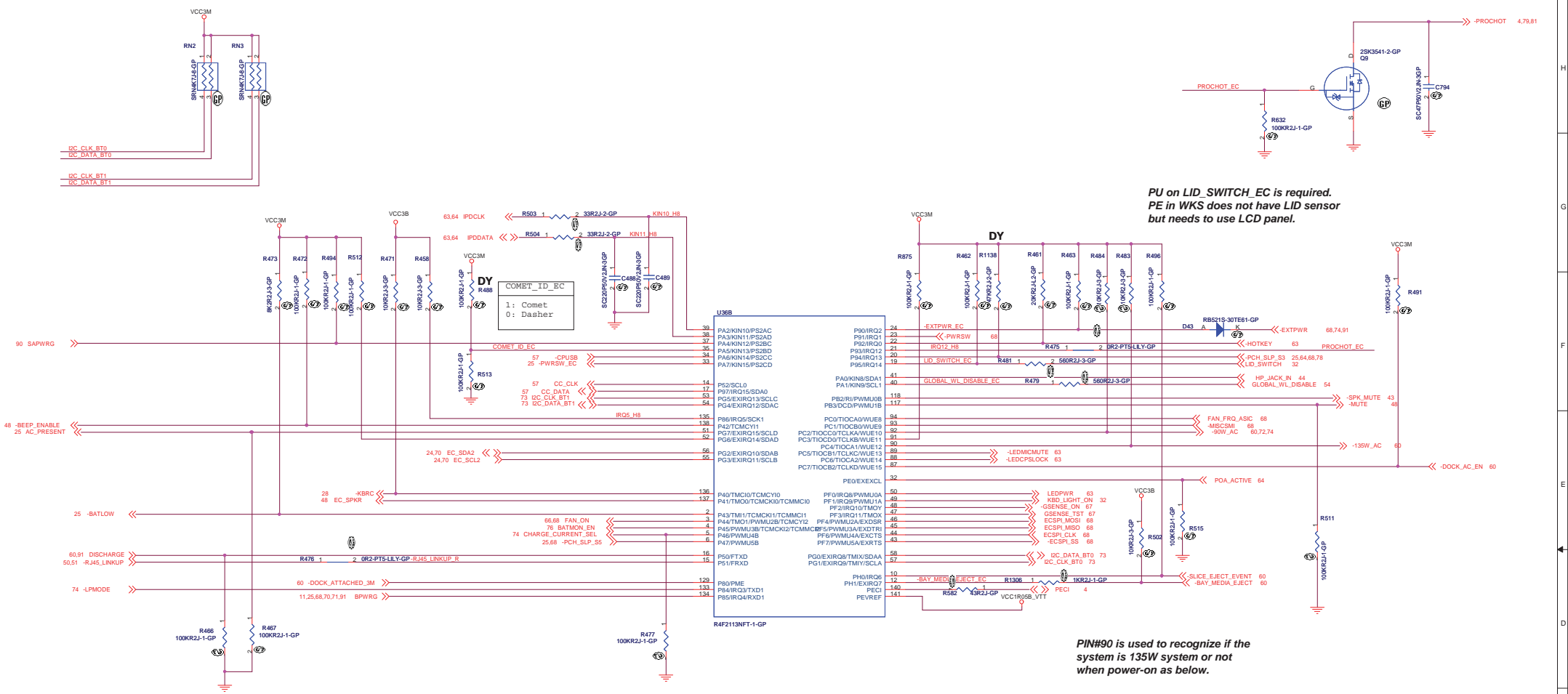
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緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: **SPI&LPC debug card**

Size: A3 Document Number: **Dasher-1** Rev: **SD**

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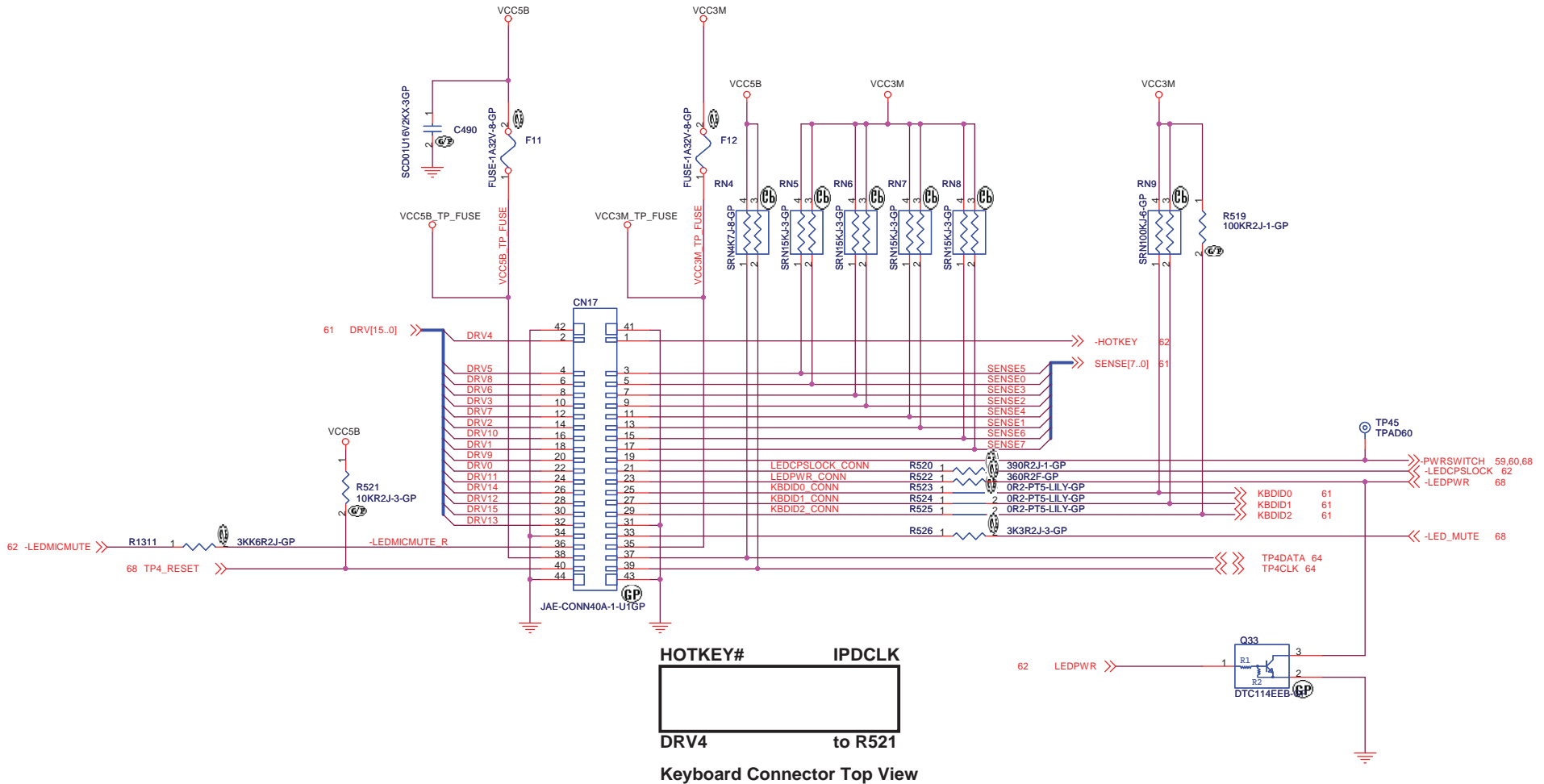


PU on LID_SWITCH_EC is required.
PE in WKS does not have LID sensor
but needs to use LCD panel.

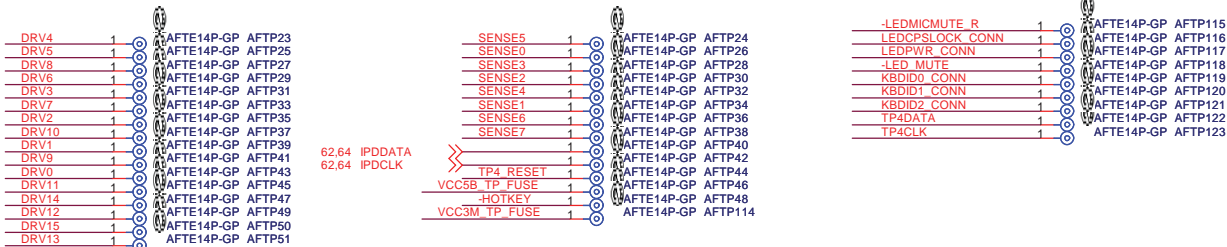
PIN#90 is used to recognize if the
system is 135W system or not
when power-on as below.

EIO#	DEBUG I/F	ENABLE	DISABLE
R506		NO_ASM	ASM
R515		NO_ASM	ASM
D47		ASM	NO_ASM
D48		ASM	NO_ASM
R499		ASM	ASM
R513		ASM	NO_ASM
R514		ASM	NO_ASM
R97		ASM	NO_ASM
R511		NO_ASM	ASM
R960		ASM	NO_ASM
R509		NO_ASM	ASM
R967		NO_ASM	ASM
R968		NO_ASM	ASM
R969		NO_ASM	ASM

Keyboard Connector



Near CN17

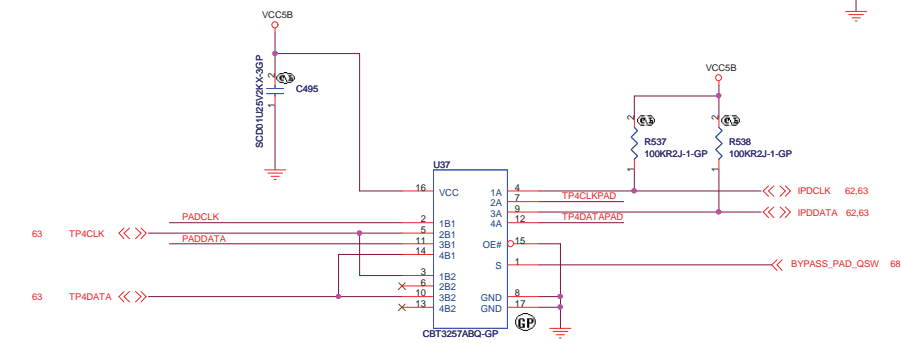
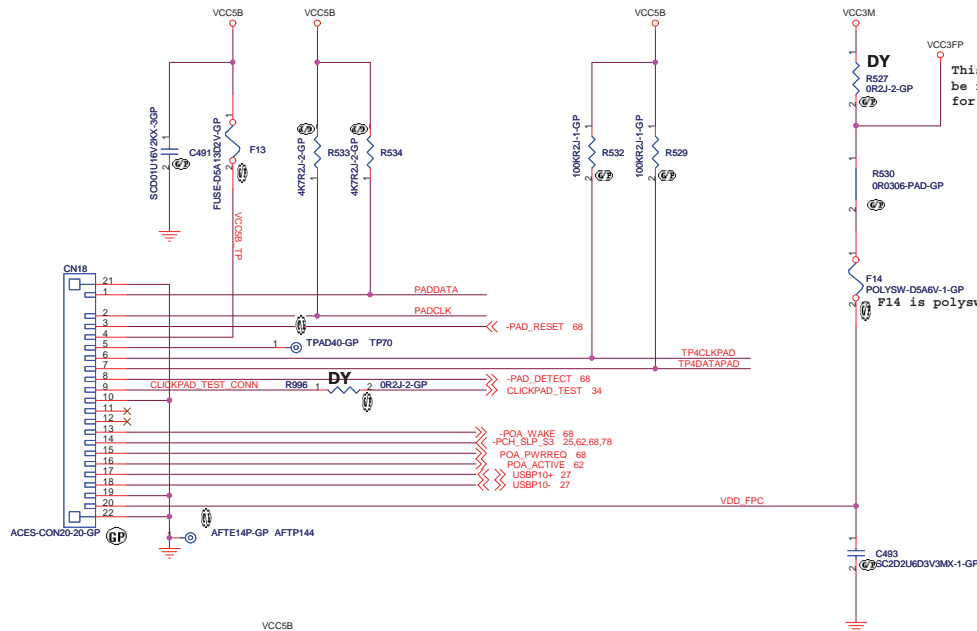


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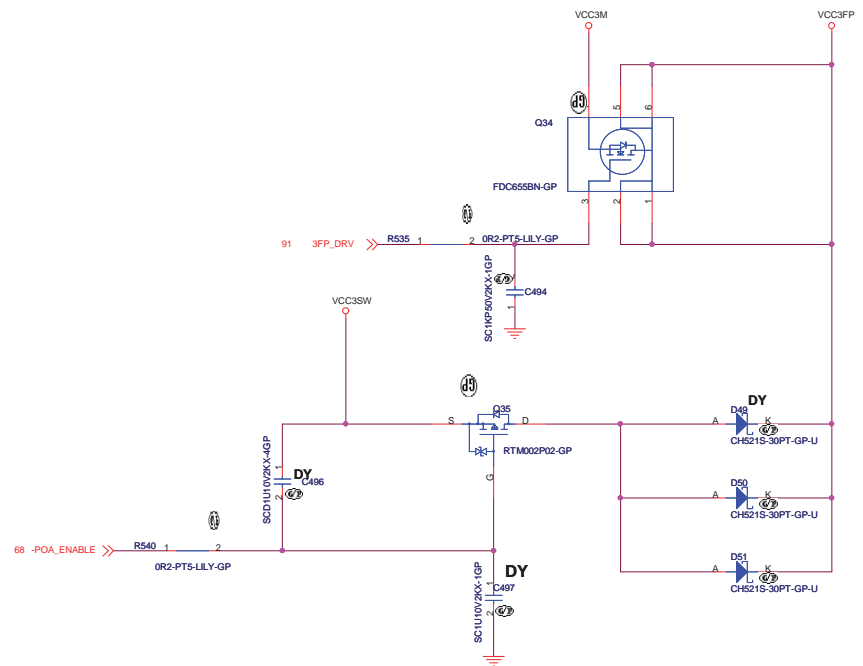
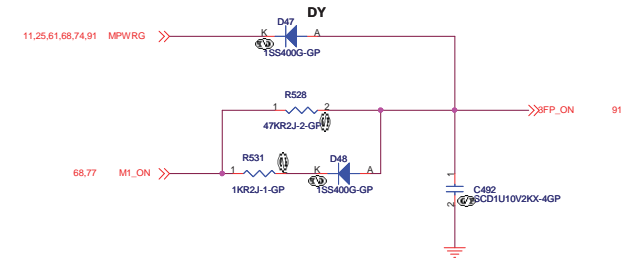
File			KEYBOARD CONNECTOR
Size	Document Number	Rev	
A3		SD	
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Fingerprint Reader / Touch PAD



Near CN18

PADDATA	1	AFTF14P-GP	AFTP124
PADCLK	1	AFTF14P-GP	AFTP125
-PAD_RESET	1	AFTF14P-GP	AFTP126
VCC5B_TP	1	AFTF14P-GP	AFTP127
TP4CLKPAD	1	AFTF14P-GP	AFTP128
TP4DATAPAD	1	AFTF14P-GP	AFTP129
-PAD_DETECT	1	AFTF14P-GP	AFTP130
CLICKPAD_TEST_CONN	1	AFTF14P-GP	AFTP131
-POA_WAKE	1	AFTF14P-GP	AFTP132
-PCH_SLP_S3	1	AFTF14P-GP	AFTP133
POA_PWRREQ	1	AFTF14P-GP	AFTP134
POA_ACTIVE	1	AFTF14P-GP	AFTP135
VDD_FPC	1	AFTF14P-GP	AFTP136



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File			
TOUCH PAD CONNECTOR			
Size	Document Number	Rev	
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Title

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Size

A

Document Number

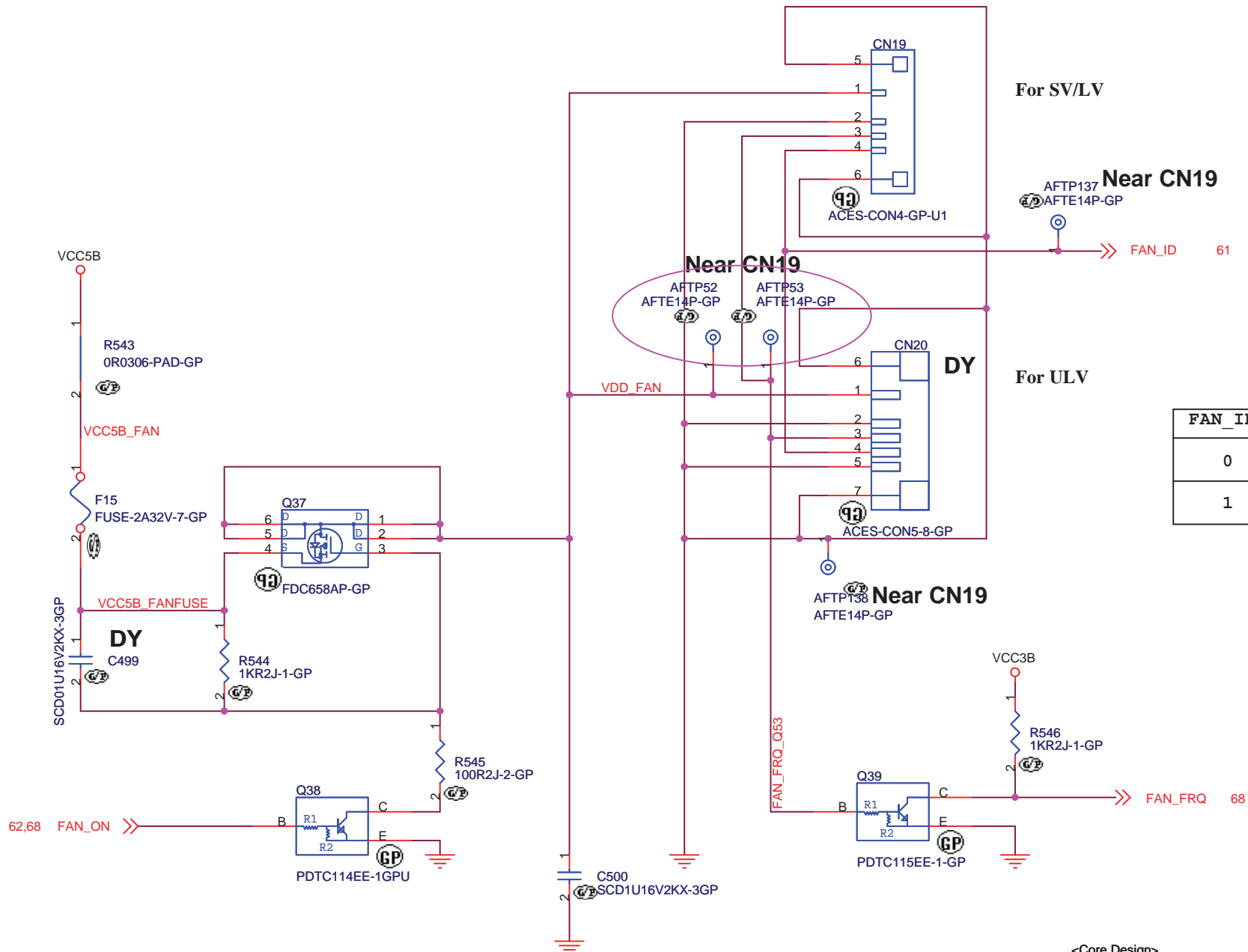
Dasher-1

Rev

SD

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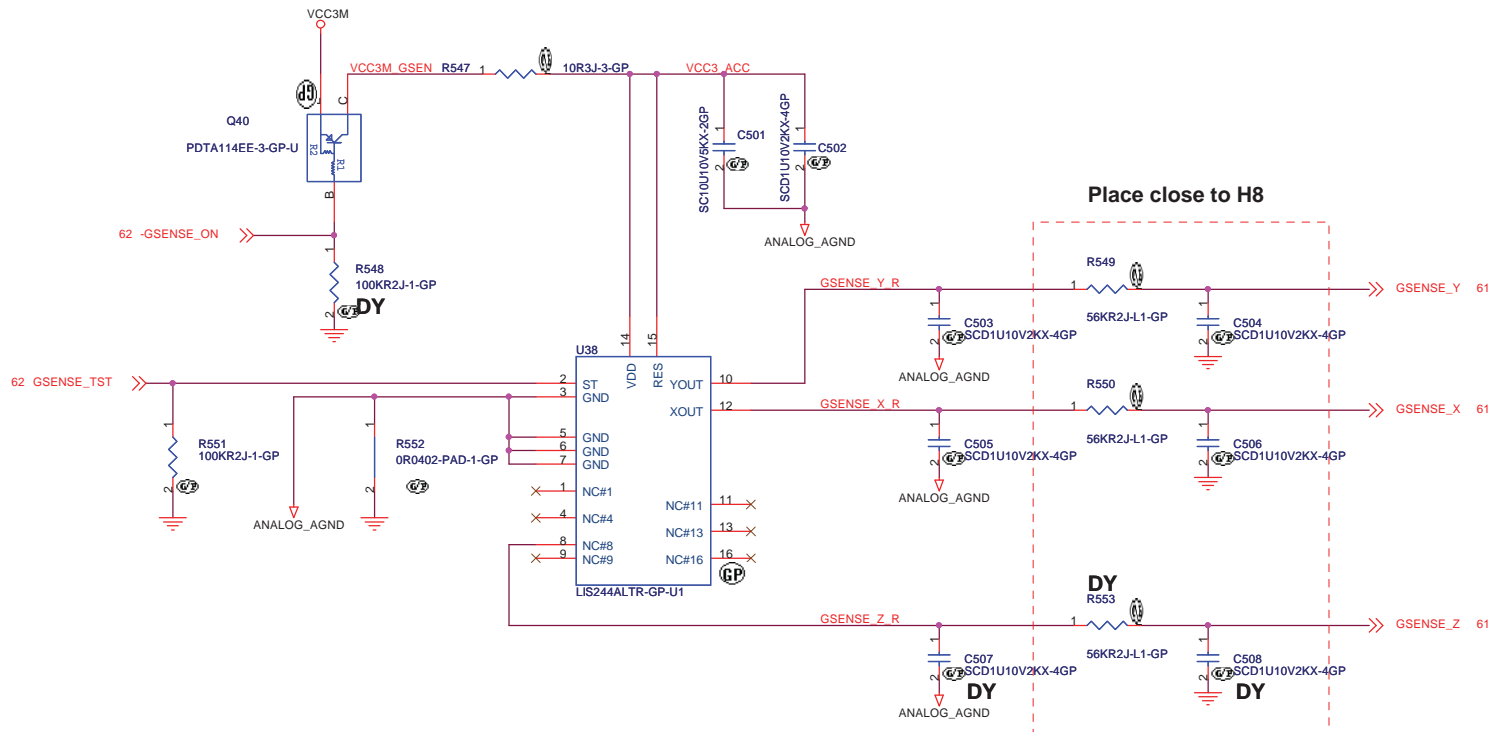
For SV/LV

For ULV

FAN_ID	Thermal module
0	THT
1	AVC or DELTA

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FAN Control		
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	LIS244AL LIS34AL	No Accel
R548	DY	ASM
R551	ASM	ASM
U38	ASM	DY
Q40	ASM	DY
R547	ASM	DY
C501	ASM	DY
C502	ASM	DY
R552	ASM	DY
C503	ASM	DY
R549	ASM	DY
C504	ASM	DY
C505	ASM	DY
R550	ASM	DY
C506	ASM	DY
C507	DY	DY
R553		
C508		

U38

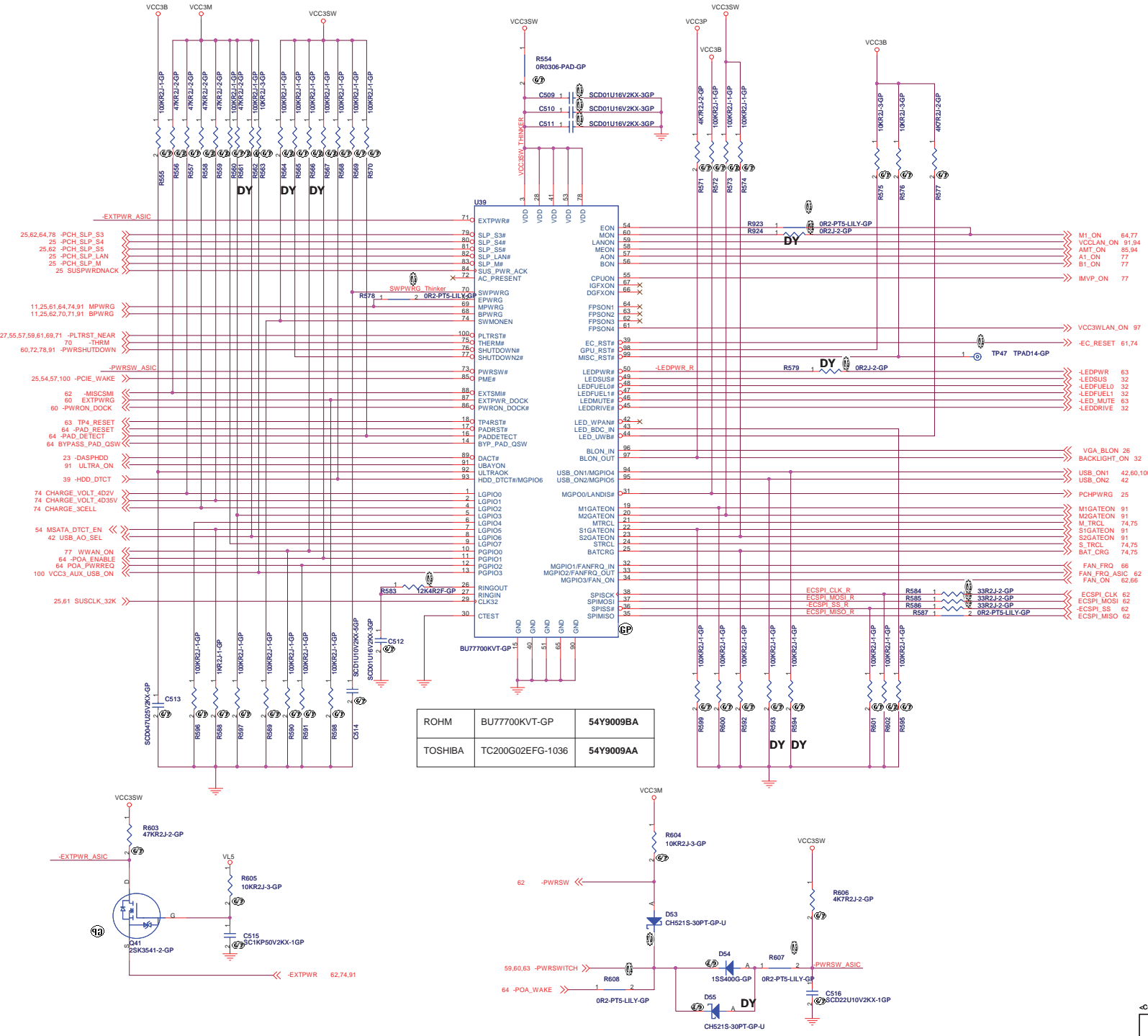
Primary	STMicro LIS244AL	74.00244.0BZ
Second	STMicro LIS34AL	74.00034.0BZ
Third	Kionix KXTC8-2850	74.KXTC8.0BZ

Layout Comment :

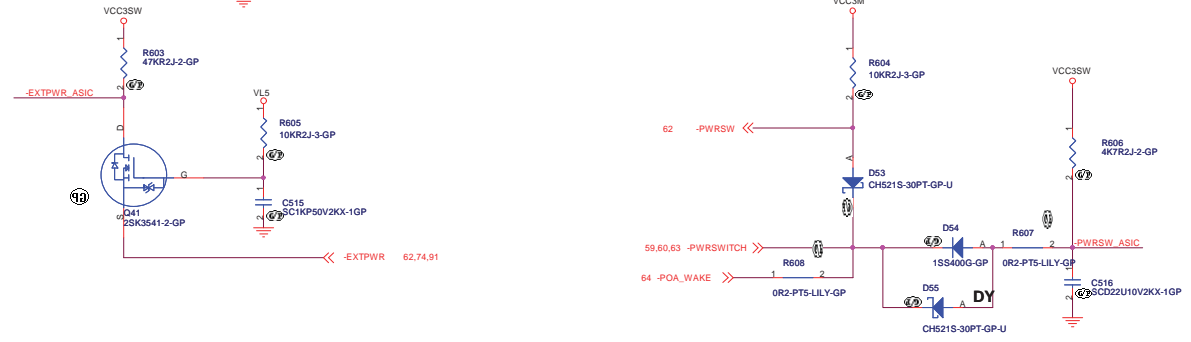
- (1) Place C475,C476,Q64,R572,R580 C464,C472,R564,R569 close to U26 ?
- (2) Avoid routing under DCDC switching area.

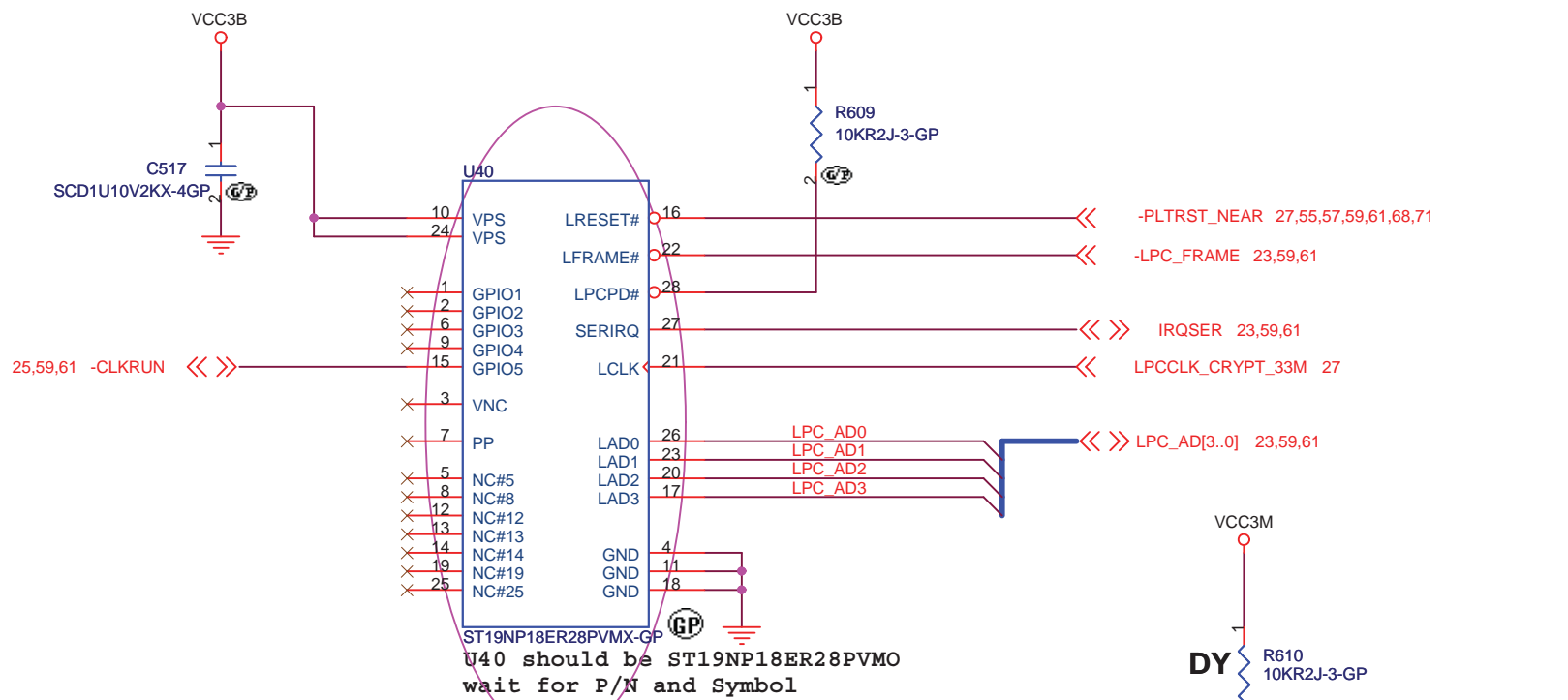
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		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
G-SENSOR		
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ROHM	BU77700KVT-GP	54Y9009BA
TOSHIBA	TC200G02EFG-1036	54Y9009AA

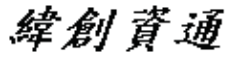


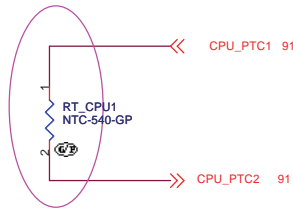


U40 should be ST19NP18ER28PVM0
wait for P/N and Symbol

	NO TPM	ST Micro ST19NP18ER28PVM0
U40	DY	ASM
C517	DY	ASM
R609	DY	ASM
R610	ASM	DY
R611	DY	ASM

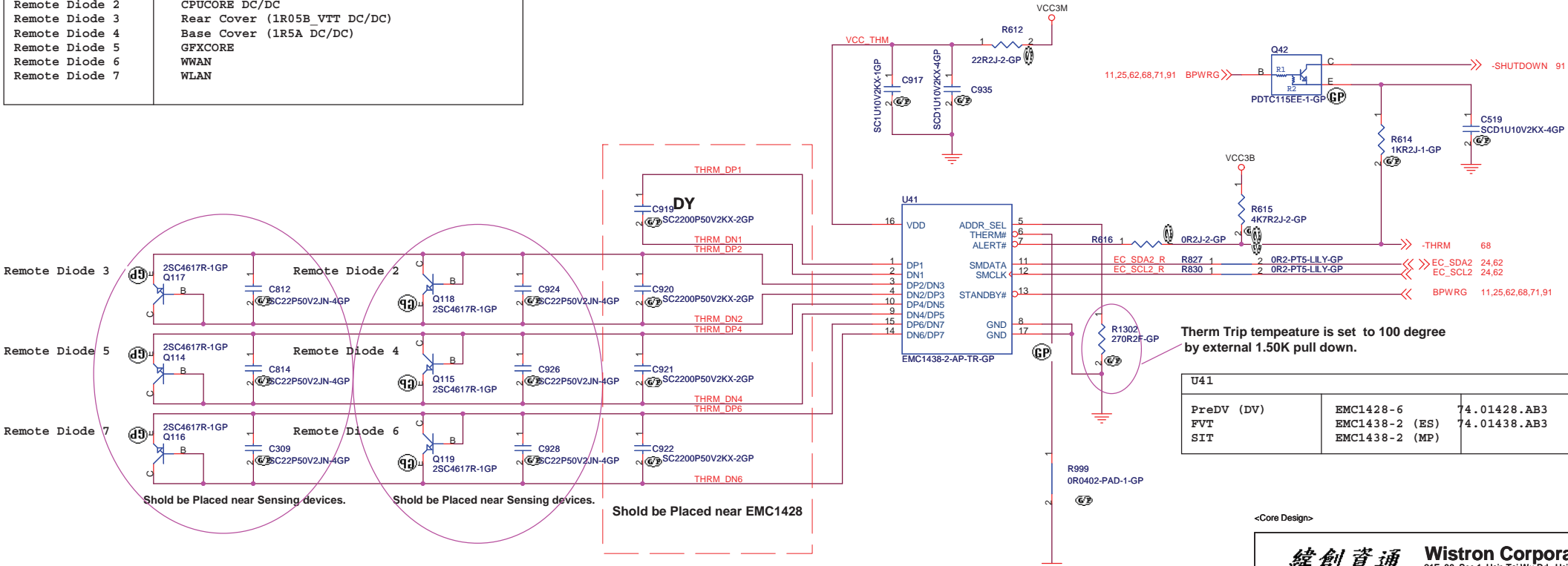
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Title TPM		
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It should be arranged near CPU instead of CPU thermal sensor

Channel	Location
Local	MEMORY
Remote Diode 2	CPUCORE DC/DC
Remote Diode 3	Rear Cover (1R05B VTT DC/DC)
Remote Diode 4	Base Cover (1R5A DC/DC)
Remote Diode 5	GFXCORE
Remote Diode 6	WWAN
Remote Diode 7	WLAN



Therm Trip temperature is set to 100 degree by external 1.50K pull down.

U41		
PreDV (DV)	EMC1428-6	74.01428.AB3
FVT	EMC1438-2 (ES)	74.01438.AB3
SIT	EMC1438-2 (MP)	

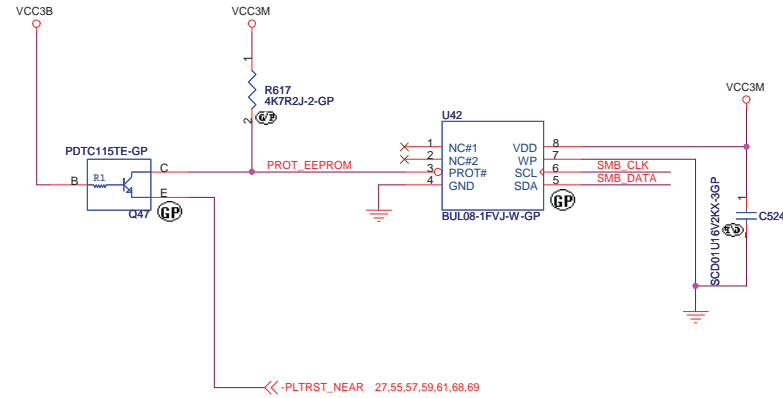
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Title: **Thermal Sensor**

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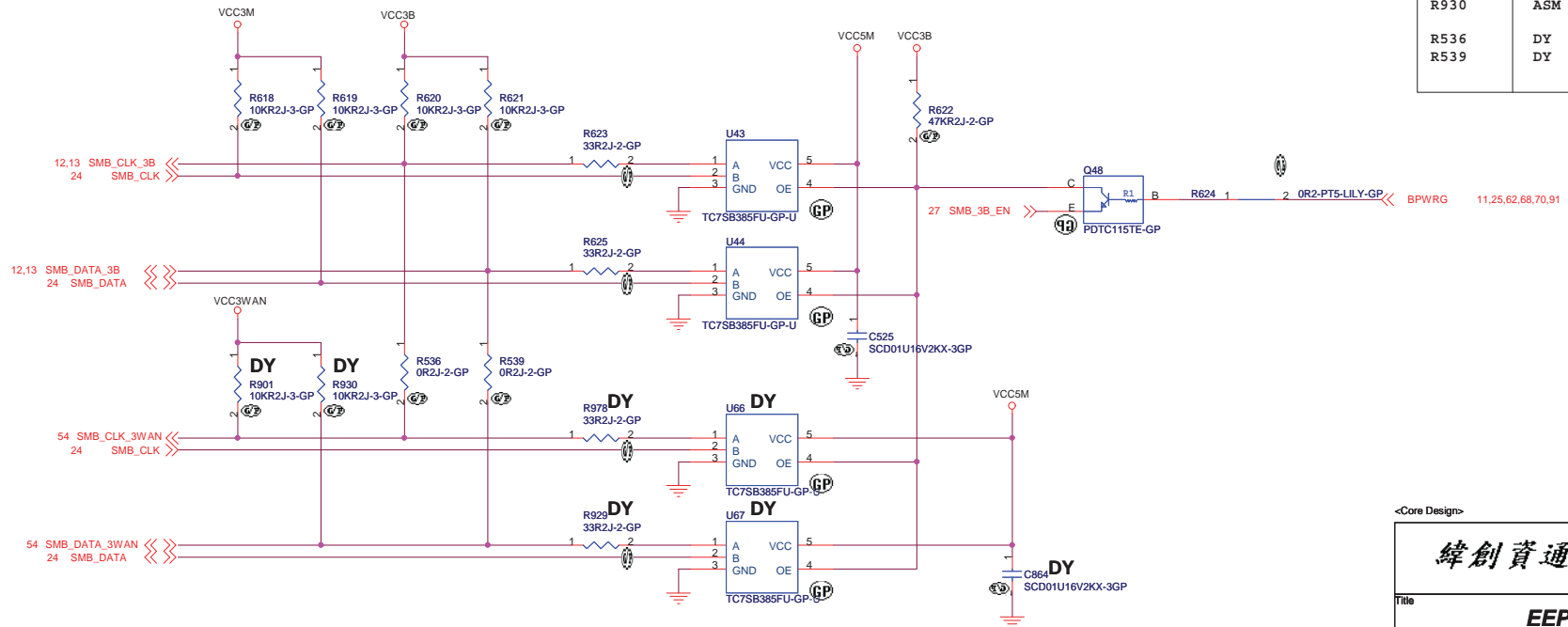
EEPROM



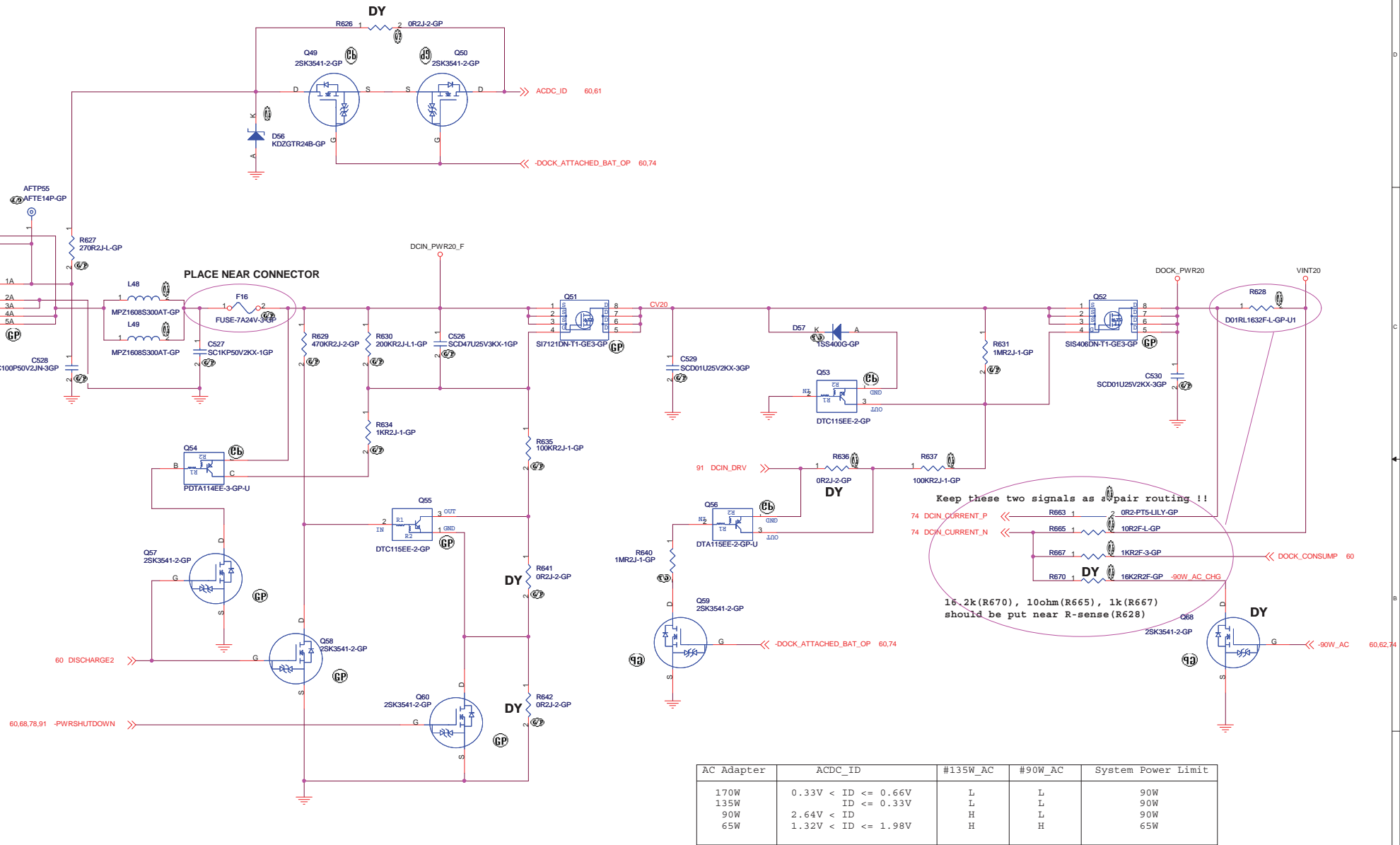
	Vendor	U42	Part Number
1st	ROHM	BUL08-1FVJ-W	72.BUL08.00Q
2nd	PHILIPS	PCA24S08ADP	72.24S08.A0Q
3rd	Sanyo	LE26CAP08TT	72.26C08.00R

CONSTANT SECURE	YES	NO
U66	ASM	DY
U67	ASM	DY
C864	ASM	DY
R978	ASM	DY
R929	ASM	DY
R901	ASM	DY
R930	ASM	DY
R536	DY	ASM
R539	DY	ASM

Logic



<Core Design>



Keep these two signals as a pair routing !!

74 DCIN_CURRENT_P <<< R663 1 0R2-PTS-LILY-GP

74 DCIN_CURRENT_N <<< R665 1 10R2F-L-GP

74 DCIN_CURRENT_N <<< R667 1 1KR2F-3-GP

74 DCIN_CURRENT_N <<< R670 1 18KR2F-GP -90W AC CHG

15.2k(R670), 10ohm(R665), 1k(R667) should be put near R-sense(R628)

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

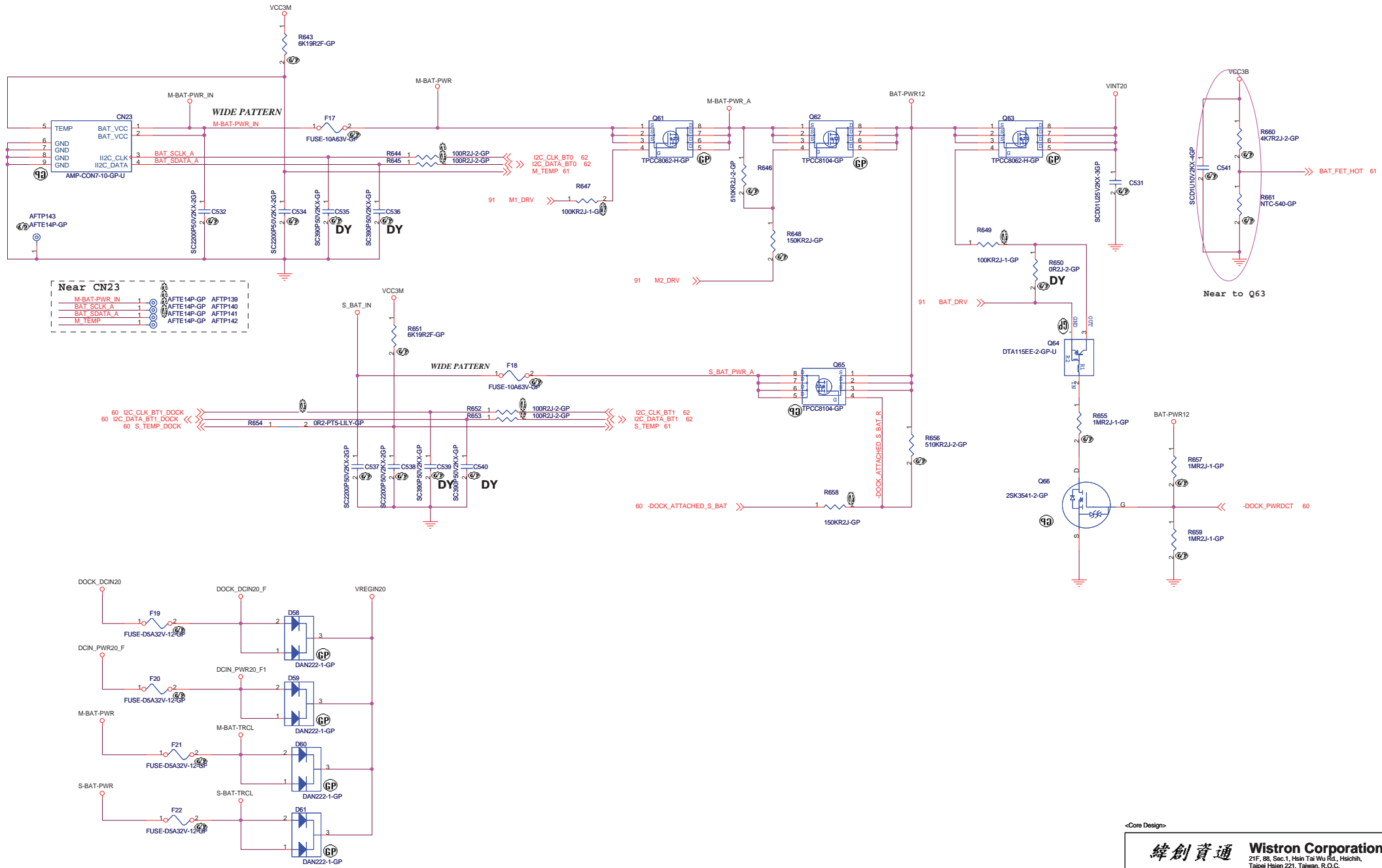
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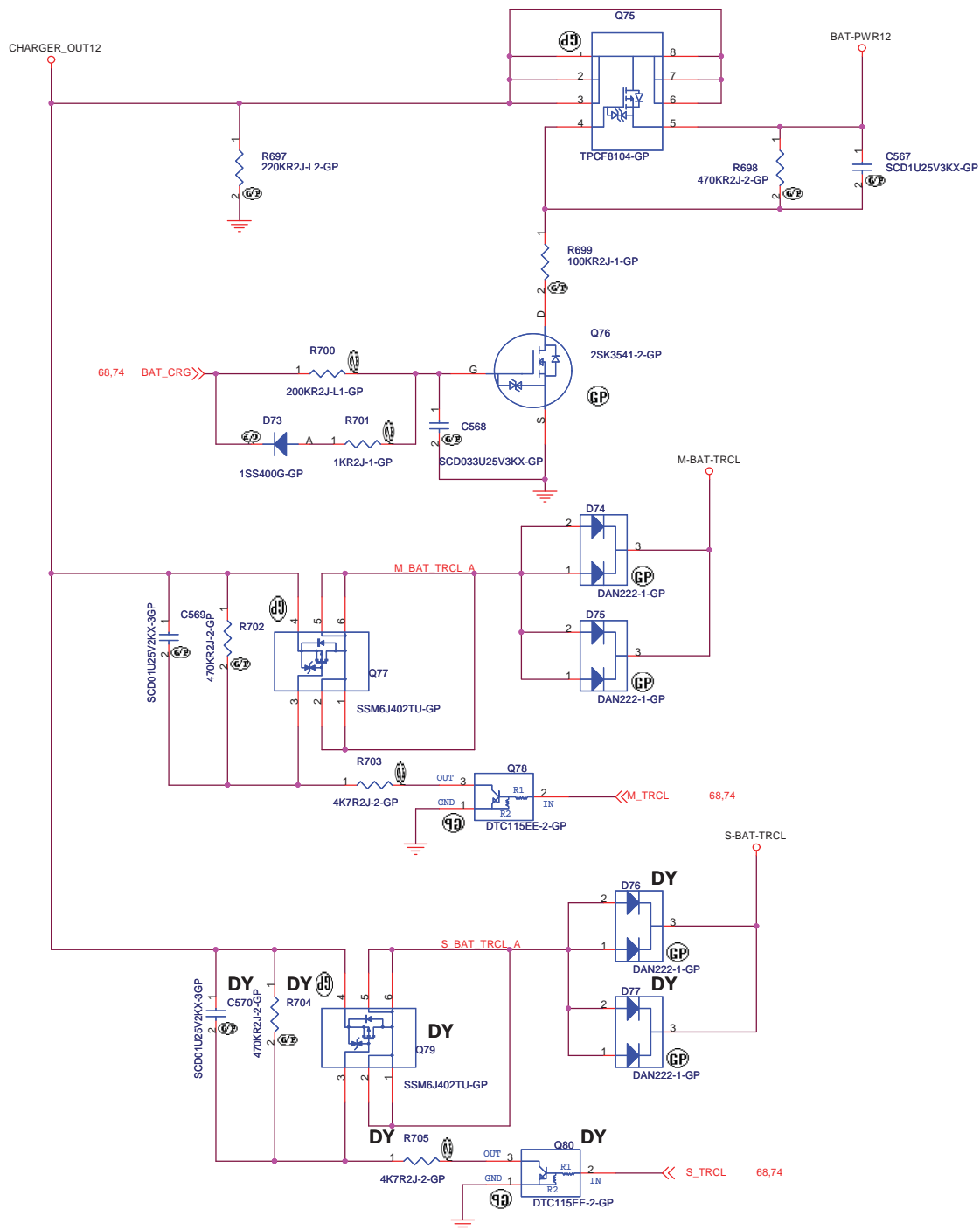
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Title: **DC-IN**

Size: Custom Document Number: **Dasher-1** Rev: SD

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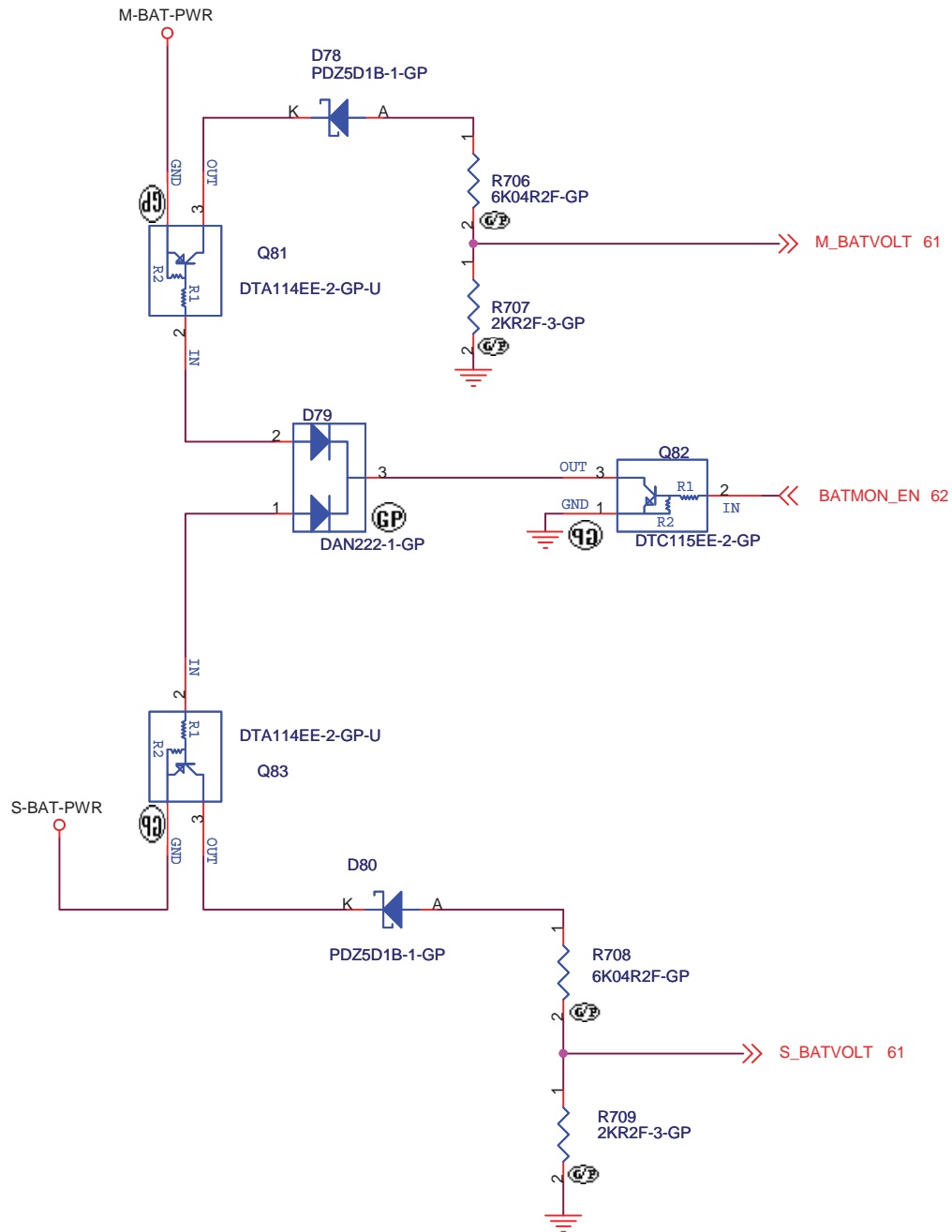


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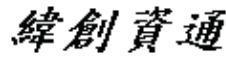
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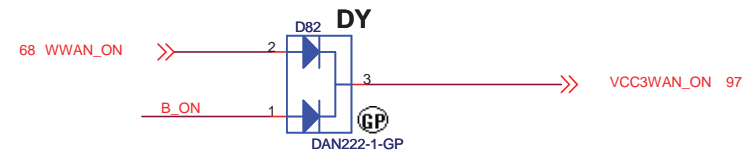
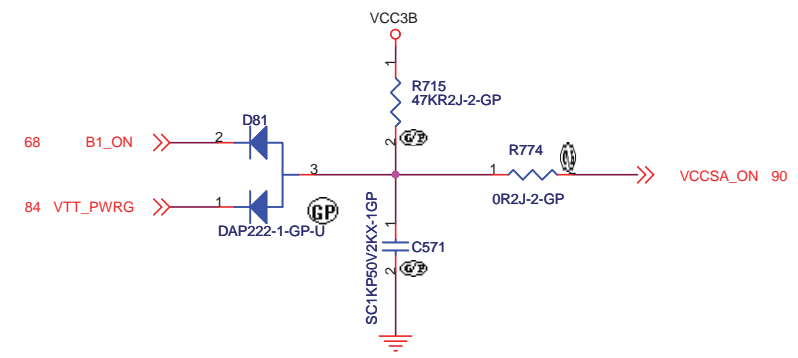
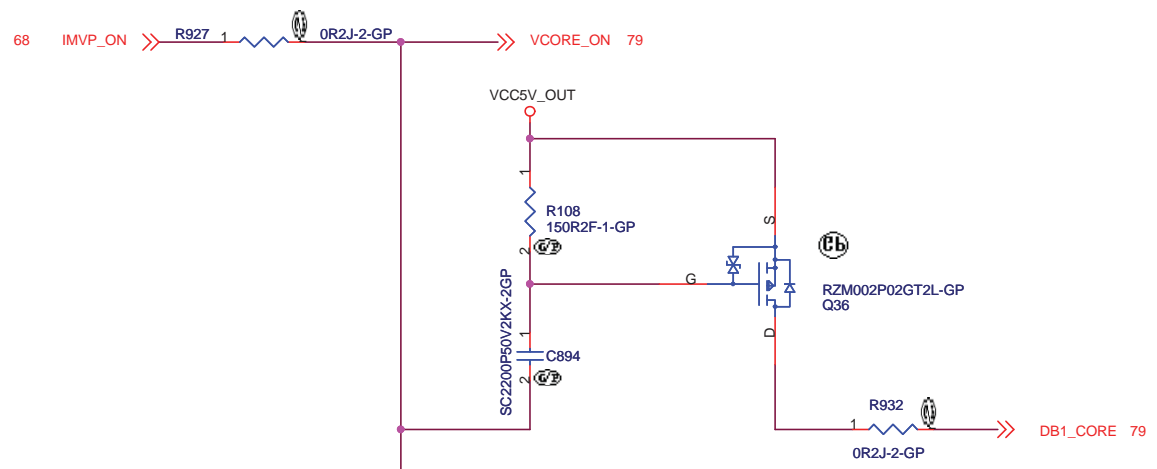
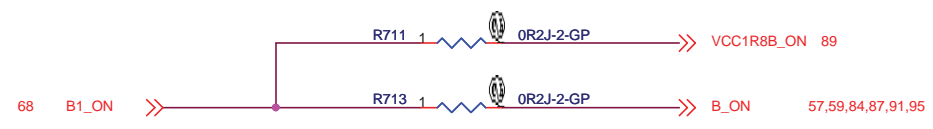
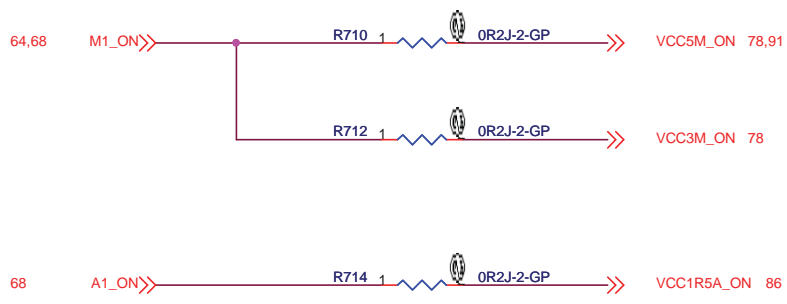
Title		
CHARGER SELECT		
Size	Document Number	Rev
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$$V_{OUT} = 0.249 (V_{BAT} - 5)$$

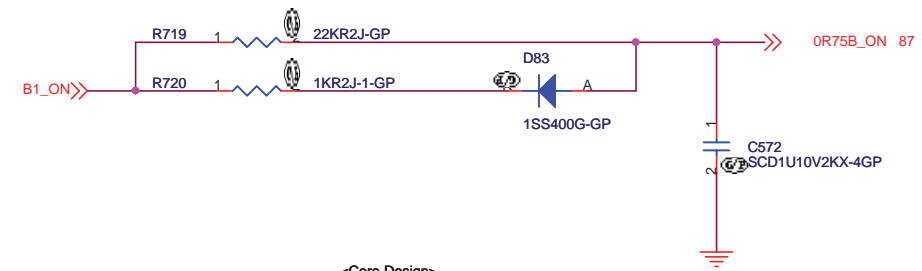
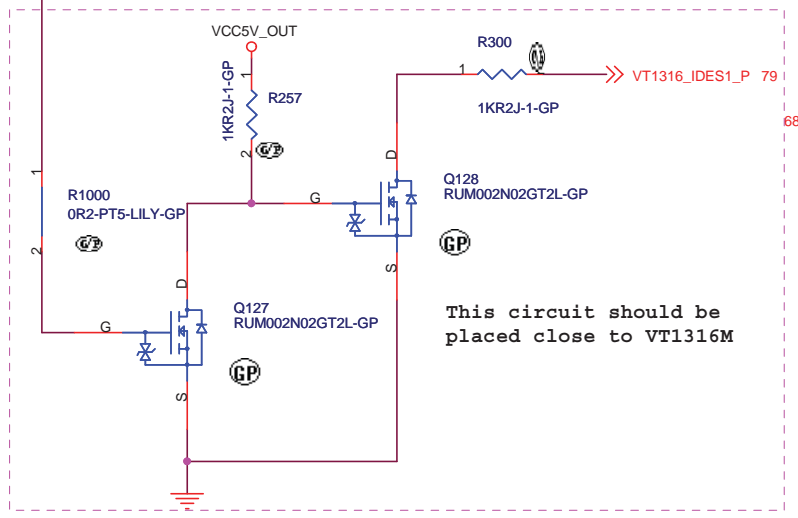


<Core Design>

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BATTERY MONITOR		
Size A4	Document Number Dasher-1	Rev SD
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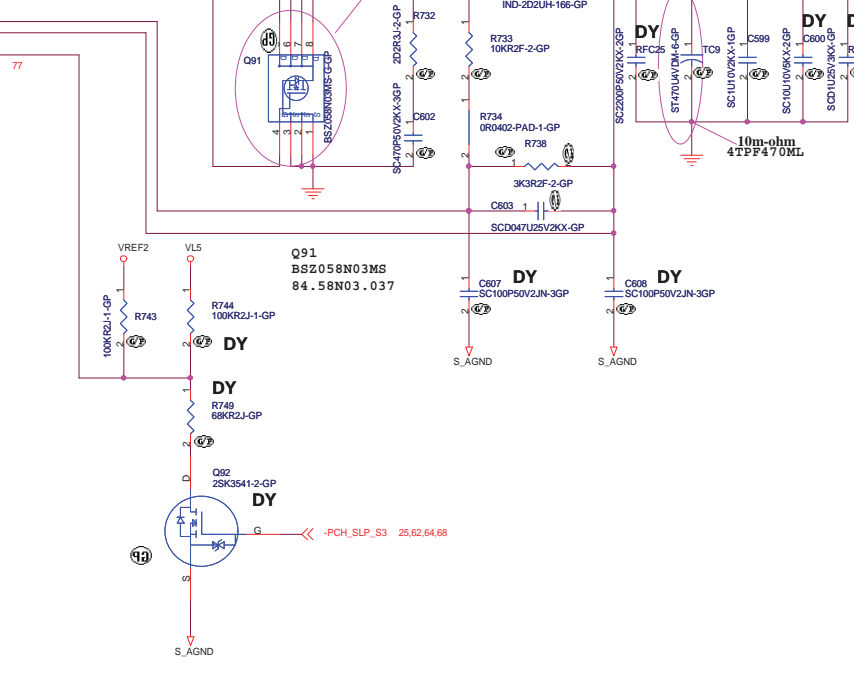
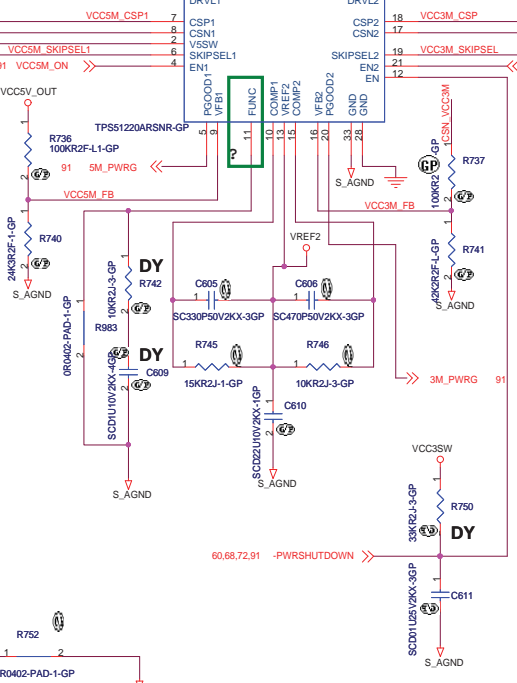
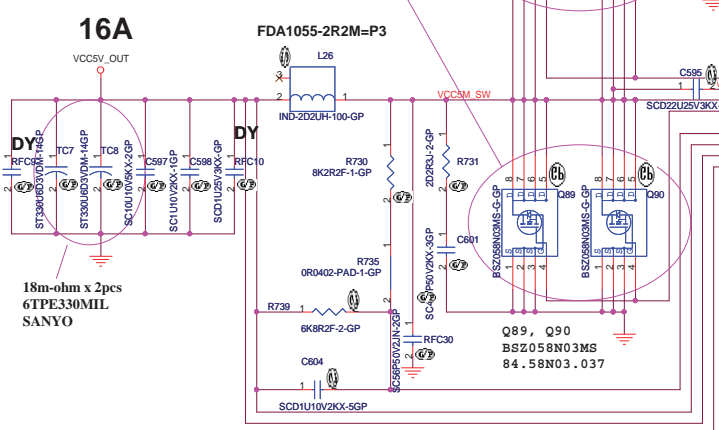
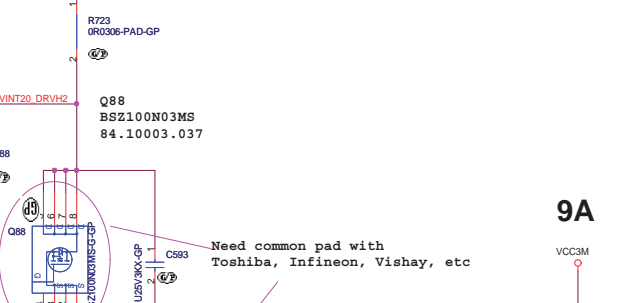
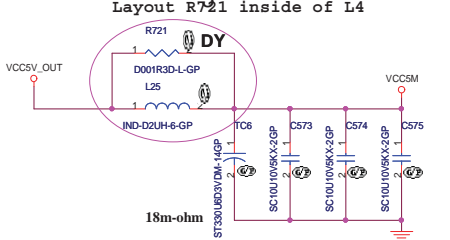
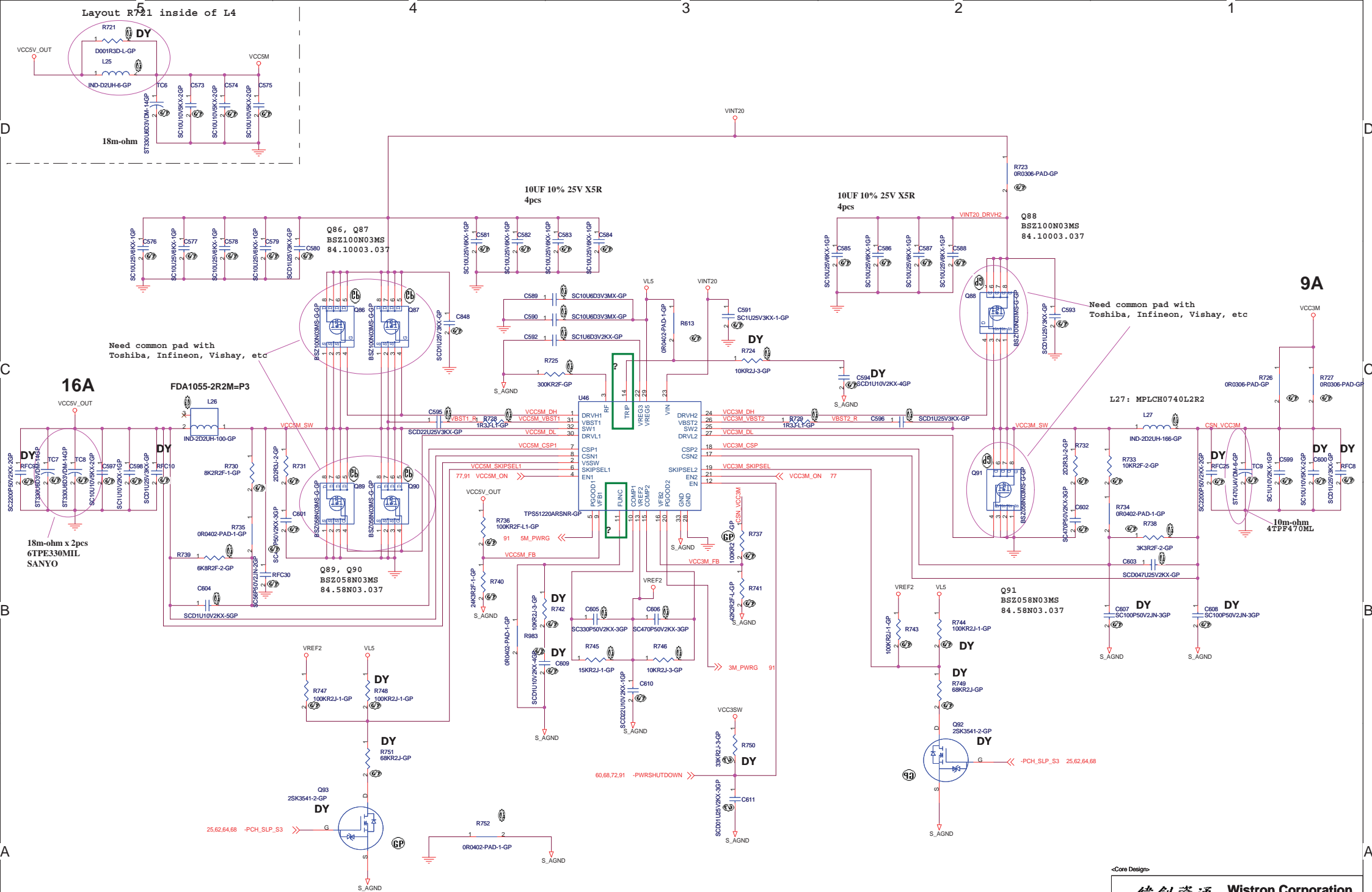


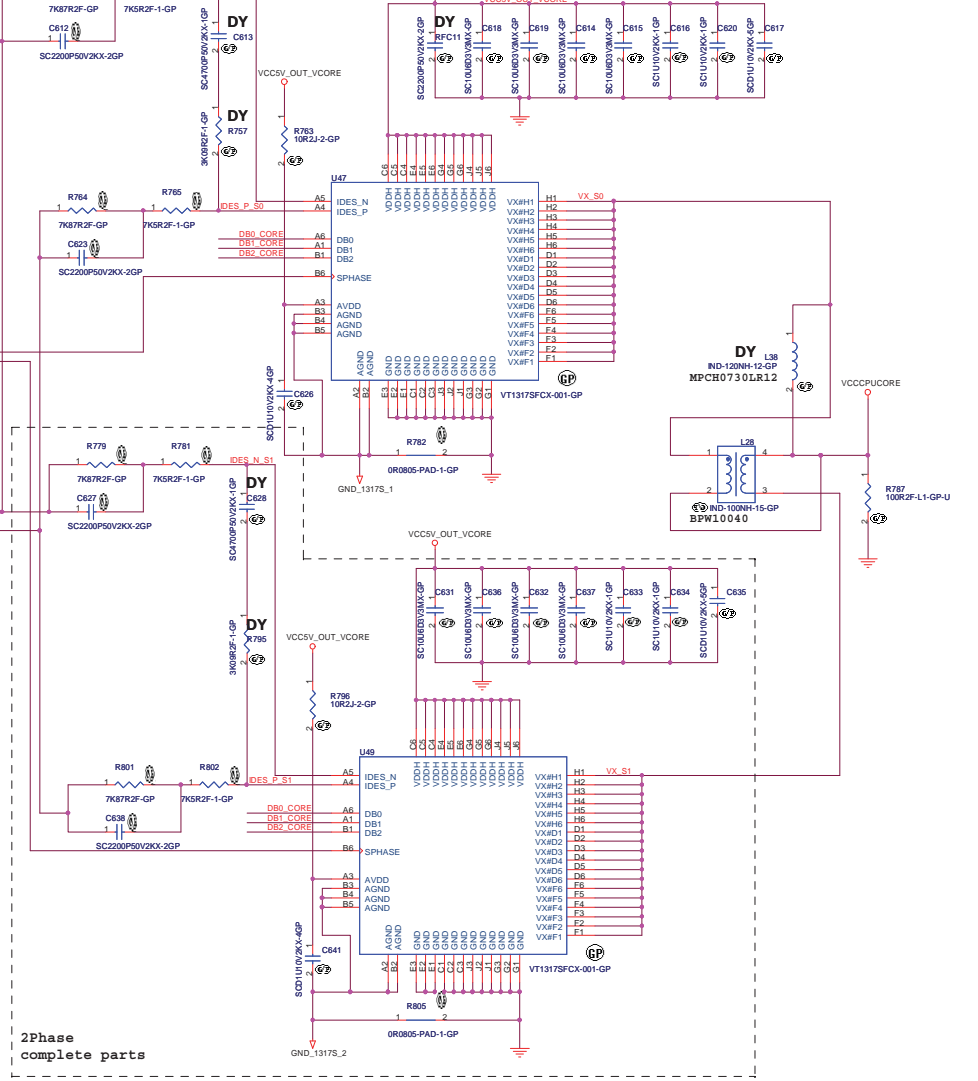
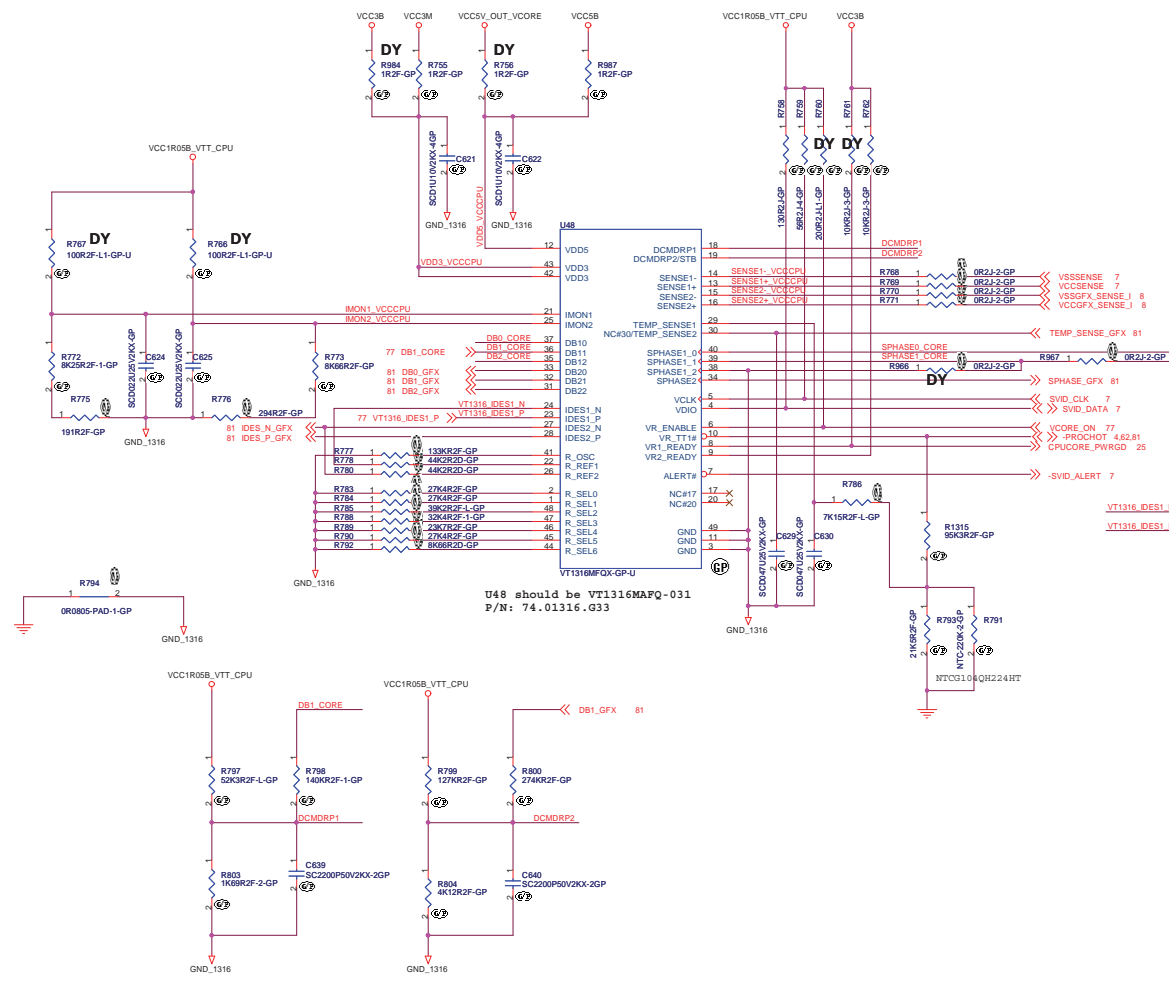
CONSTANT	YES	NO
CONTNECT	YES	NO
D82	ASM	NO-ASM



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POWER SEQUENCE	
Title POWER SEQUENCE	Document Number Dasher-1
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CPU/GFXCORE Table

CPU	SV 2Phase (53A)		LV 2Phase (43A)	ULV 1Phase (33A)	Remark
GFX	GT1 (24A)	GT2 (33A)	GT2 (33A)	GT2 (33A)	
U47	VT1317S	VT1317S	VT1314S	VT1317S	Slave IC
U49	VT1317S	VT1317S	VT1314S	NO_ASM	
R666	NO_ASM	NO_ASM	NO_ASM	0	Phase
R967	0	0	0	NO_ASM	
L28	NO_ASM	NO_ASM	NO_ASM	ASM	Inductor
L28	ASM	ASM	ASM	NO_ASM	
R783	27.4k	27.4k	39.2k	20.8k	R_SEL0
R784	27.4k	27.4k	6.57k	27.4k	R_SEL1
R785	39.2k	39.2k	39.2k	39.2k	R_SEL2
R788	27.4k	32.4k	32.4k	32.4k	R_SEL3
R789	11.4k(0.5%)	23.7k(1%)	23.7k(1%)	23.7k(1%)	R_SEL4
R790	27.4k	27.4k	27.4k	27.4k	R_SEL5
R792	8.66k(0.5%)	8.66k(0.5%)	8.66k(0.5%)	8.66k(0.5%)	R_SEL6
R779	7.87k	7.87k	7.87k	NO_ASM	RDES #2
C627	1000pF	1000pF	1000pF	NO_ASM	
R981	7.68k	7.68k	7.68k	NO_ASM	
R801	7.87k	7.87k	7.87k	NO_ASM	
C638	1000pF	1000pF	1000pF	NO_ASM	
R802	7.68k	7.68k	7.68k	NO_ASM	
C628	4700pF	4700pF	4700pF	NO_ASM	
R795	3.09k	3.09k	3.09k	NO_ASM	
R772	8.25k	8.25k	10.5k	8.06k	IMON1
R775	191	191	165	383	
R773	8.87k	8.66k	8.66k	8.66k	IMON2
R776	178	294	294	294	
R798	140k	140k	255k	221k	DCMDR1
R803	1.69k	1.69k	3.57k	3.16k	
R797	52.3k	52.3k	110k	97.6k	
R800	316k	274k	274k	274k	DCMDR1 (prp)
R804	4.99k	4.12k	4.12k	4.12k	(dnp)
R799	154k	127k	127k	127k	(ofs)
C631	10uF	10uF	10uF	NO_ASM	CIN
C636	10uF	10uF	10uF	NO_ASM	
C633	1uF	1uF	1uF	NO_ASM	
C634	1uF	1uF	1uF	NO_ASM	
C635	0.1uF	0.1uF	0.1uF	NO_ASM	
C632	10uF	10uF	10uF	NO_ASM	
C637	10uF	10uF	10uF	NO_ASM	
R796	10	10	10	NO_ASM	AVDD
C641	0.1uF	0.1uF	0.1uF	NO_ASM	
R805	0	0	0	NO_ASM	
C684	2.2uF	2.2uF	10uF	10uF	Couput (1603)
C685	22uF	22uF	10uF	22uF	
C686	22uF	22uF	NO_ASM	22uF	
C687	22uF	22uF	NO_ASM	22uF	
C688	2.2uF	2.2uF	10uF	10uF	
C689	22uF	22uF	NO_ASM	22uF	
C690	22uF	22uF	10uF	22uF	
C691	22uF	22uF	NO_ASM	22uF	
C692	2.2uF	2.2uF	10uF	10uF	
C693	22uF	22uF	10uF	10uF	
C694	22uF	22uF	10uF	22uF	
C695	22uF	22uF	NO_ASM	22uF	
C696	22uF	22uF	10uF	22uF	
C697	22uF	22uF	10uF	22uF	
C698	2.2uF	2.2uF	10uF	10uF	
U50	VT1314S	VT1317S	VT1317S	VT1317S	Slave IC
R806	3.4k	3.16k	3.16k	3.16k	RDES G
C653	2700pF	2700pF	2700pF	2700pF	
R807	12.4k	11.5k	11.5k	11.5k	
R810	3.4k	3.16k	3.16k	3.16k	
C662	2700pF	2700pF	2700pF	2700pF	
R811	12.4k	11.5k	11.5k	11.5k	
C654	4700pF	4700pF	4700pF	4700pF	
R808	3.09k	3.09k	3.09k	3.09k	
C642	22uF	22uF	22uF	22uF	Couput
C643	22uF	22uF	22uF	22uF	
C644	22uF	22uF	22uF	22uF	
C645	22uF	22uF	22uF	22uF	
C646	22uF	22uF	22uF	22uF	
C647	22uF	22uF	22uF	22uF	
C648	22uF	22uF	22uF	22uF	
C649	22uF	22uF	22uF	22uF	
C650	22uF	22uF	22uF	22uF	
C651	22uF	22uF	22uF	22uF	
C652	22uF	22uF	22uF	22uF	
C663	22uF	22uF	22uF	22uF	
C664	22uF	22uF	22uF	22uF	
C665	22uF	22uF	22uF	22uF	
C666	22uF	22uF	22uF	22uF	
C667	22uF	22uF	22uF	22uF	
C20	10uF	22uF	22uF	22uF	Couput CPU side
C21	10uF	10uF	10uF	10uF	
C22	10uF	22uF	22uF	22uF	
C23	10uF	22uF	22uF	22uF	
C933	10uF	22uF	22uF	22uF	
C934	10uF	10uF	10uF	10uF	

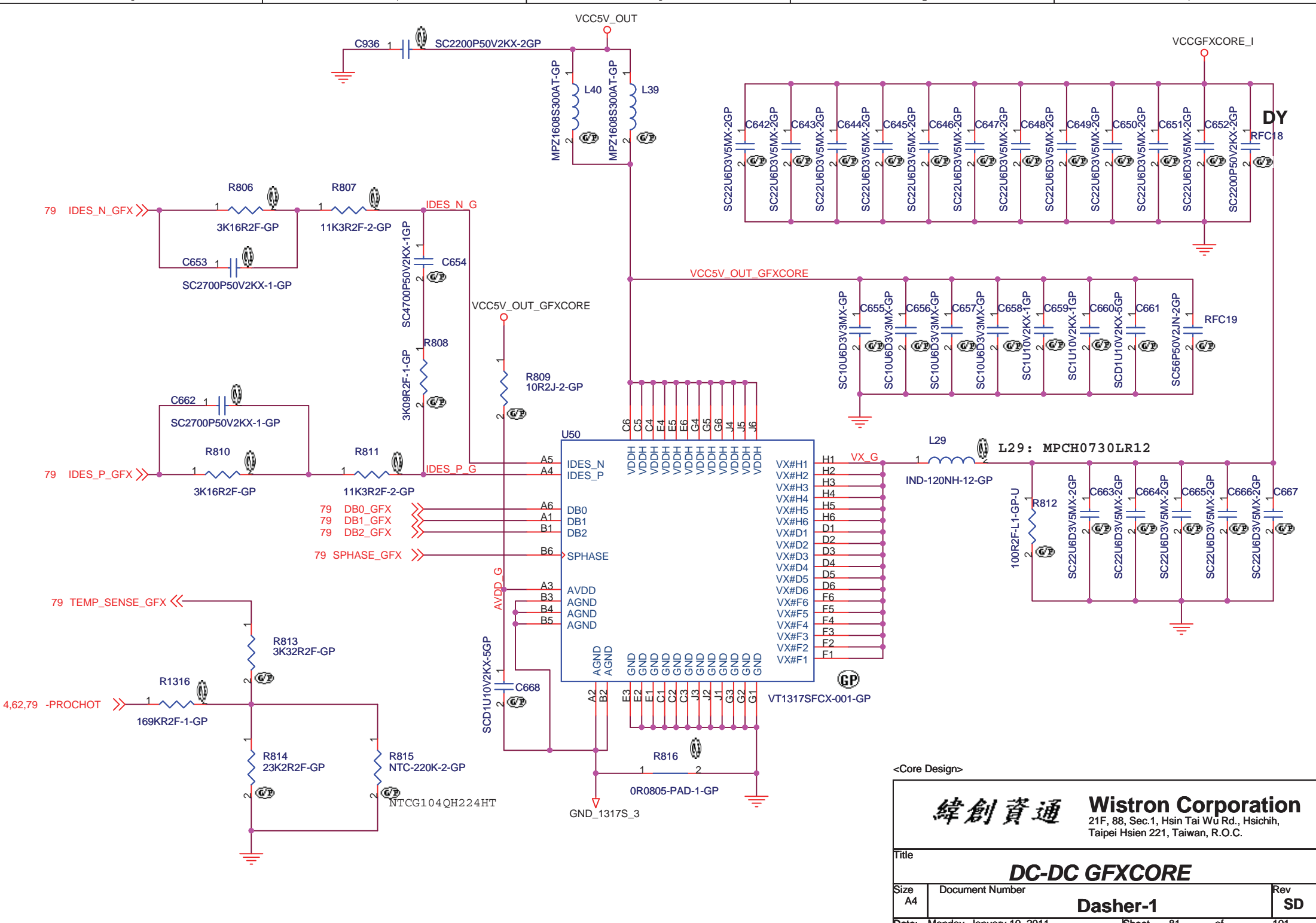
CPU	SV 2Phase (53A)		LV 2Phase (43A)	ULV 1Phase (33A)	Remark
R754	7.5k	7.5k	7.5k	6.98k	IDES (CPU)
R765	7.5k	7.5k	7.5k	6.98k	
R781	7.5k	7.5k	7.5k	NO_ASM	IDES (GFX)
R802	7.5k	7.5k	7.5k	NO_ASM	
R806	3.16k	3.16k	3.16k	6.2k	
R810	3.16k	3.16k	3.16k	6.2k	
R807	11.3k	11.3k	11.3k	8.06k	
R811	11.3k	11.3k	11.3k	8.06k	
C654	4700pF	4700pF	4700pF	NO_ASM	
R808	3.09k	3.09k	3.09k	NO_ASM	

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<Core Design>

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Title			DC-DC VCCPCPU CORE
Size	Document Number	Rev	
A2	Dasher-1	SD	
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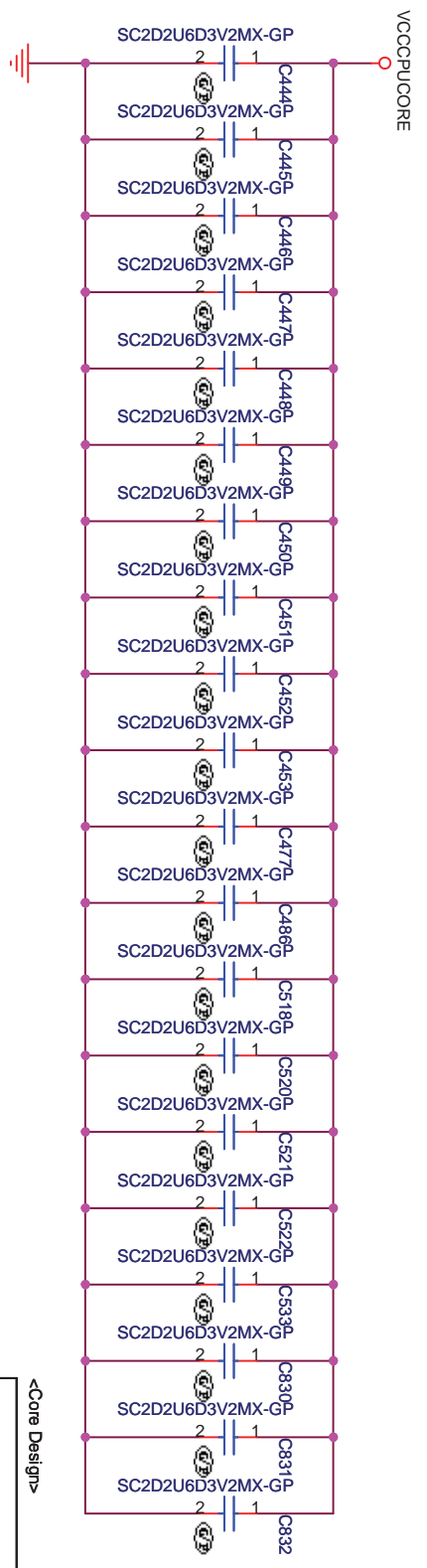
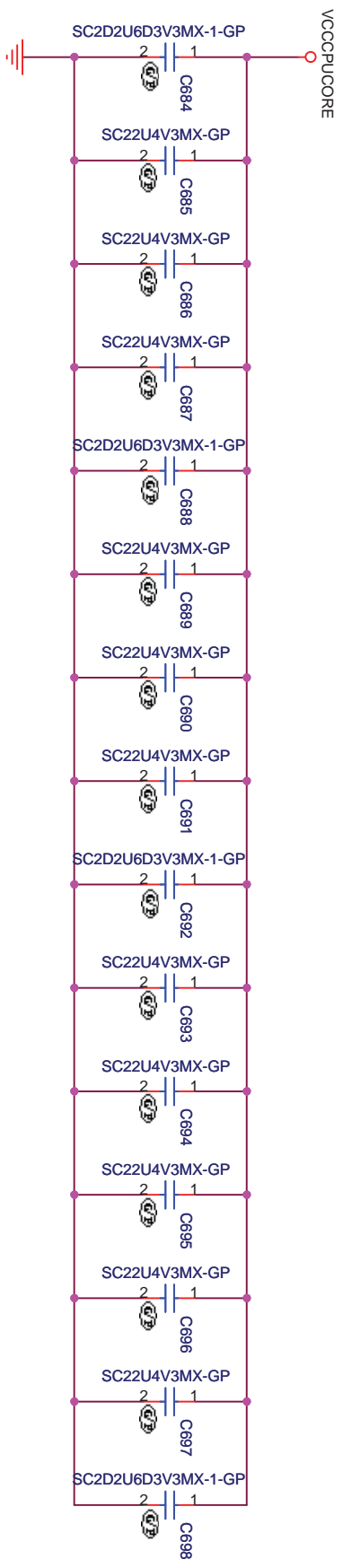
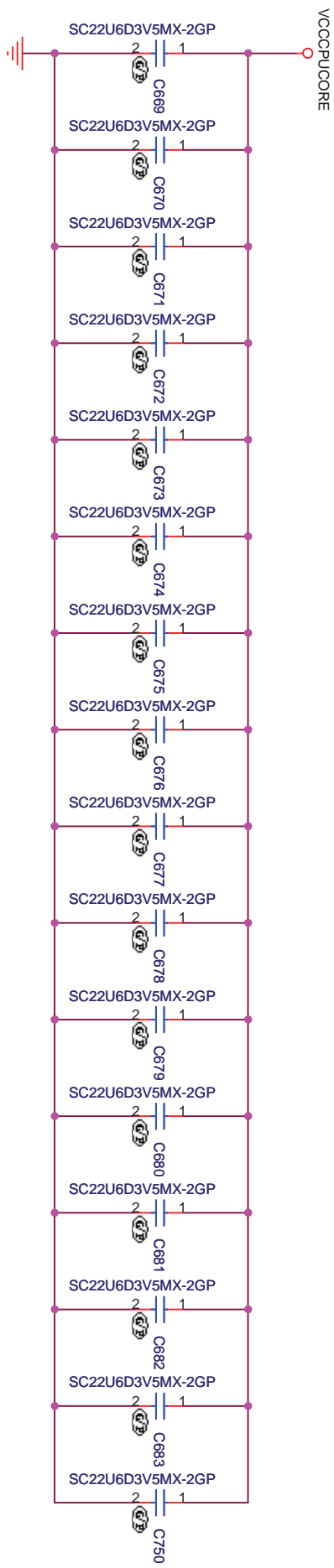
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Title: **DC-DC GFXCORE**

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DC-DC VCCCPUCORE

Title	DC-DC VCCCPUCORE		Rev
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Title

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Size
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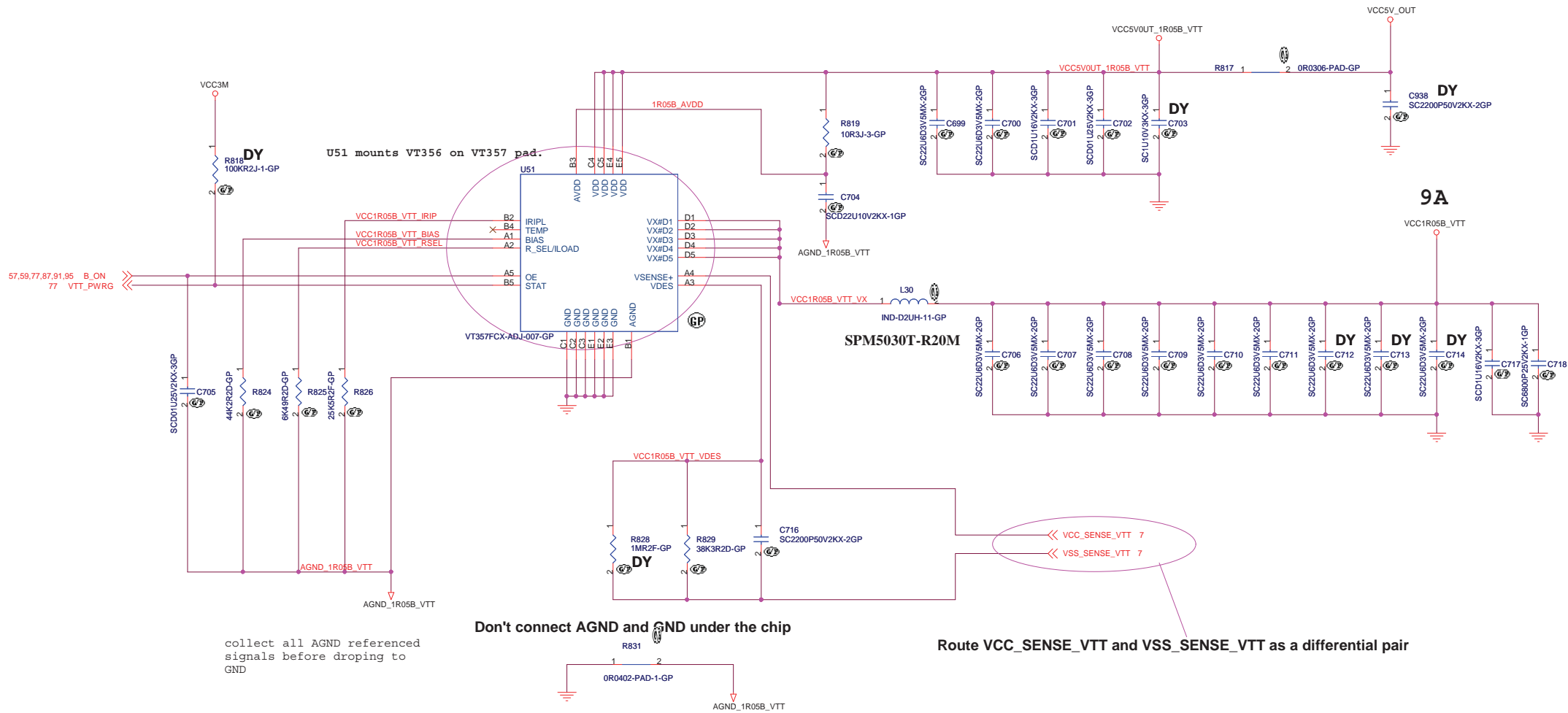
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Dasher-1

Rev
SD

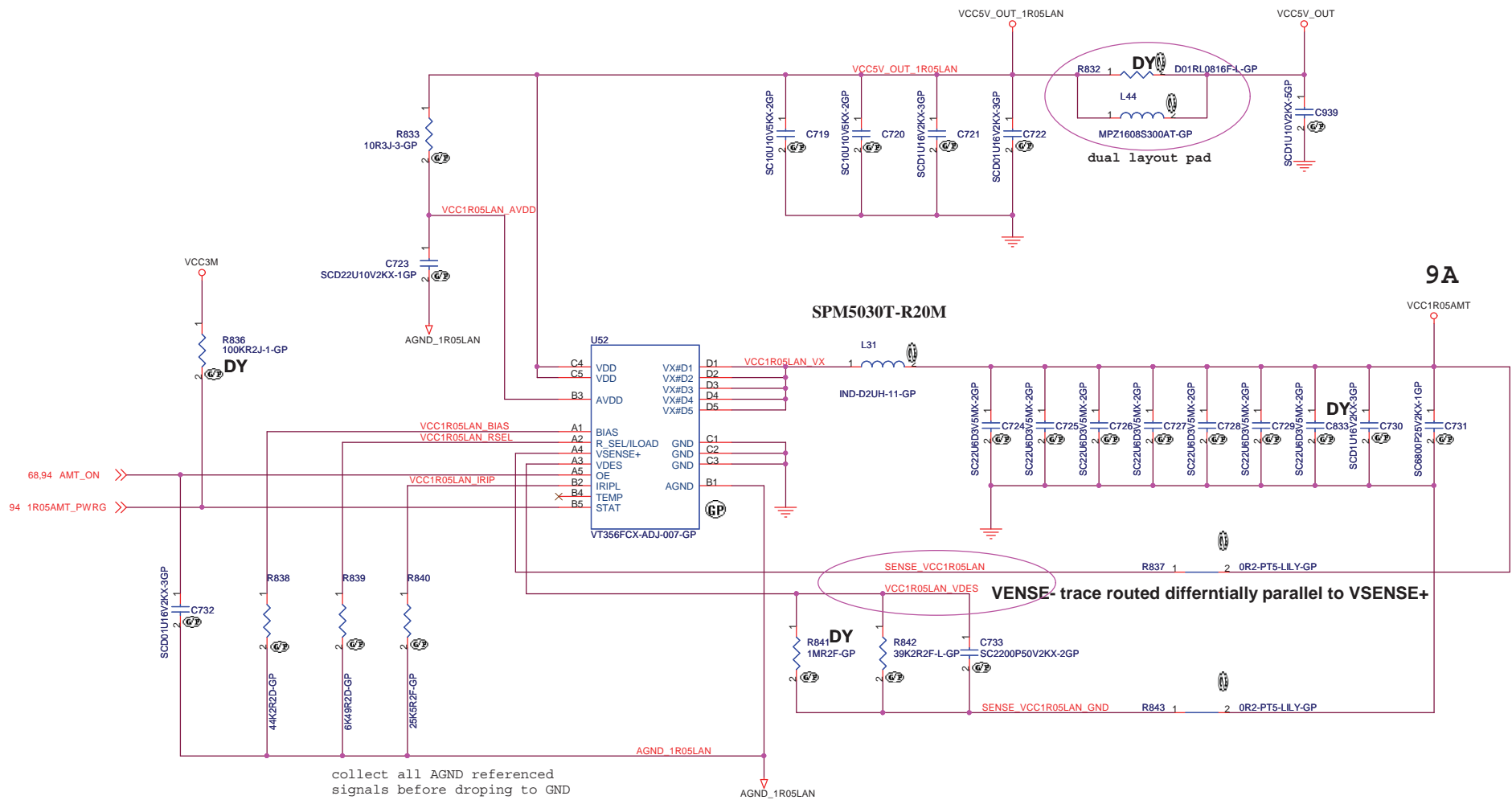
Date: Monday, January 10, 2011

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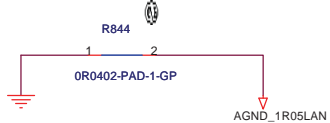
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DC-DC VCC1R05B_VTT	
Size	Document Number
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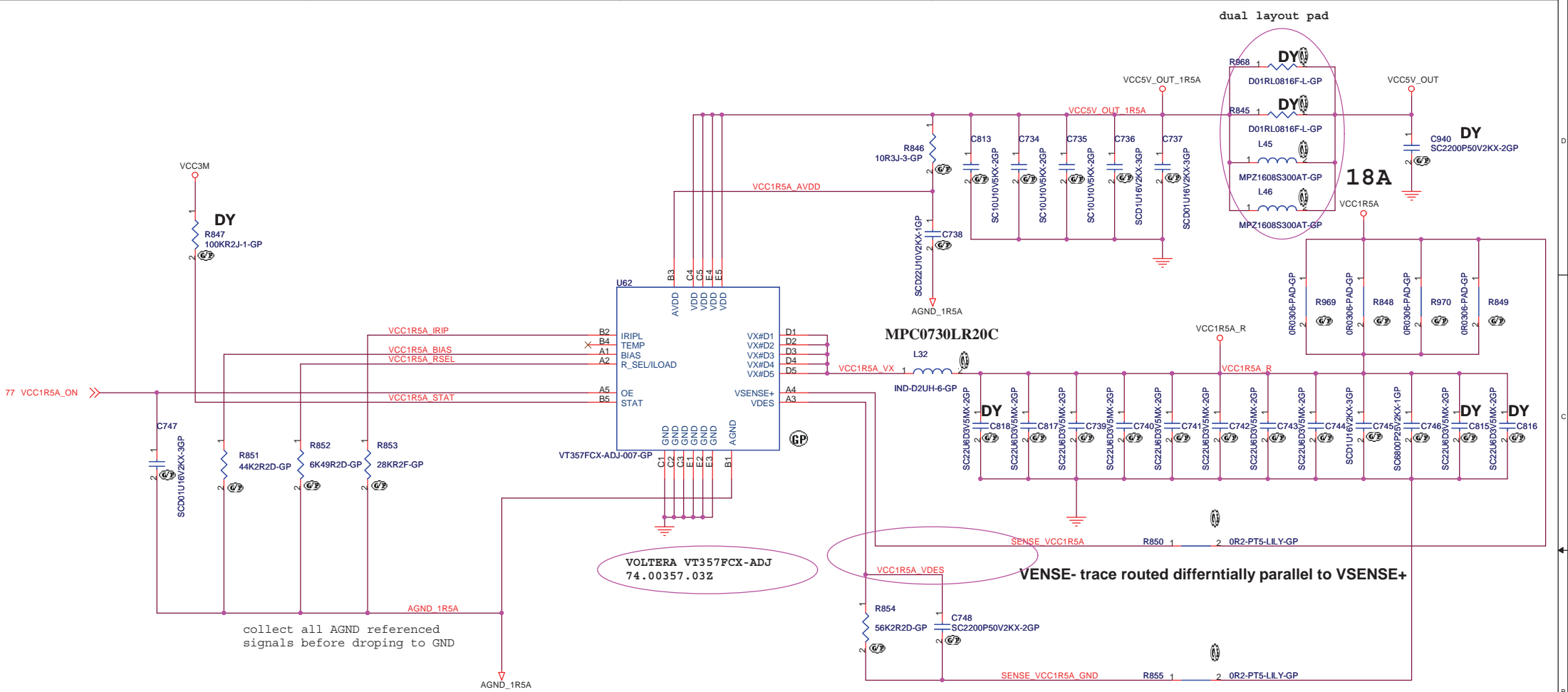
collect all AGND referenced signals before dropping to GND

Don't connect AGND and GND under the chip



VENSE- trace routed differentially parallel to VSENSE+

<Core Design>			
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Title DC-DC VCC1R05AMT			
Size A3	Document Number Dasher-1	Rev SD	
Date: Monday, January 10, 2011	Sheet 85	of	101

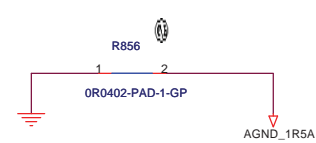


VOLTERA VT357FCX-ADJ
74.00357.03Z

VENSE- trace routed differentially parallel to VSENSE+

collect all AGND referenced signals before dropping to GND

Don't connect AGND and GND under the chip

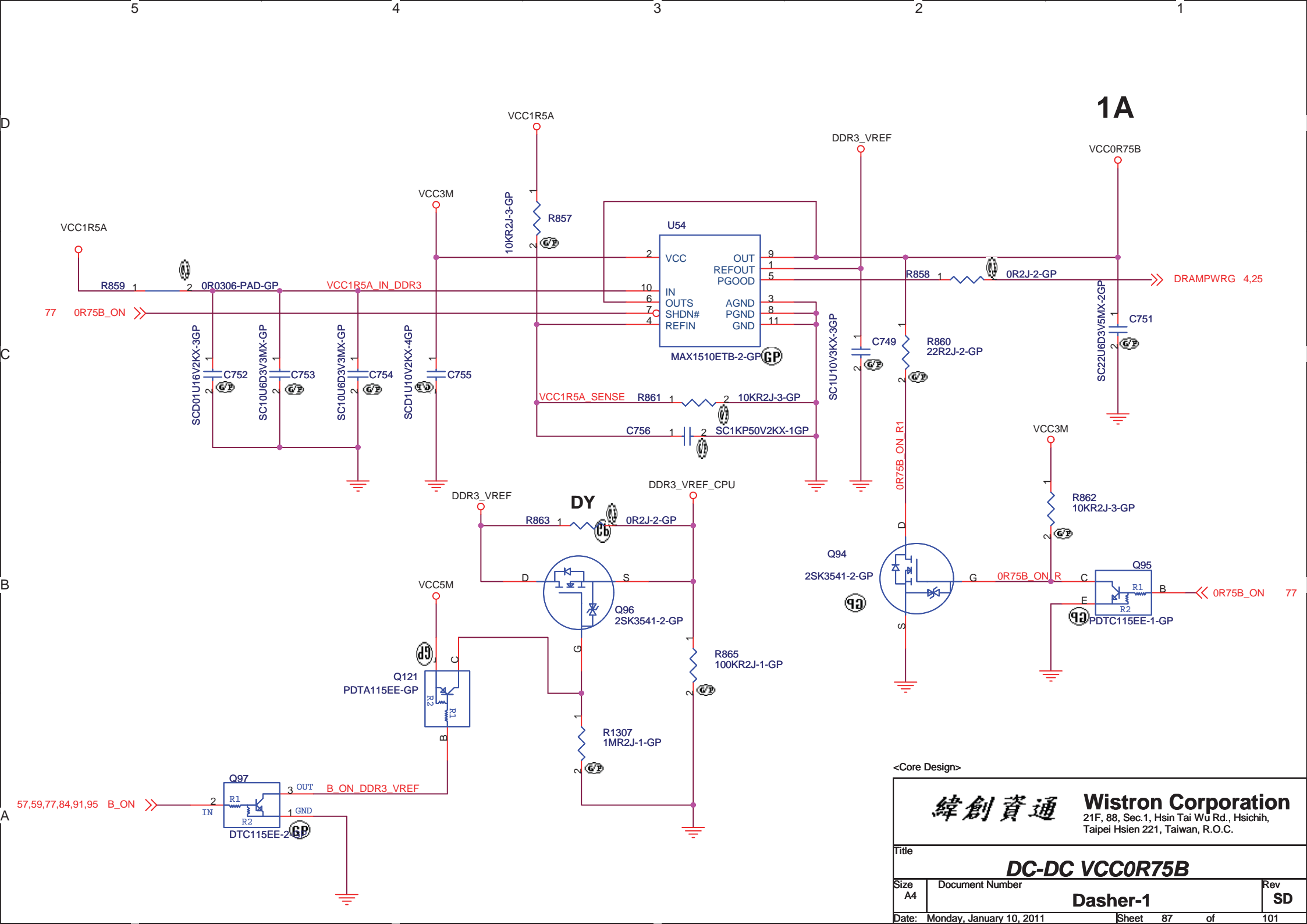


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Title: **DC-DC VCC1R5A**

Size: A3	Document Number: Dasher-1	Rev: SD
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1A

<Core Design>

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Title: **DC-DC VCC0R75B**

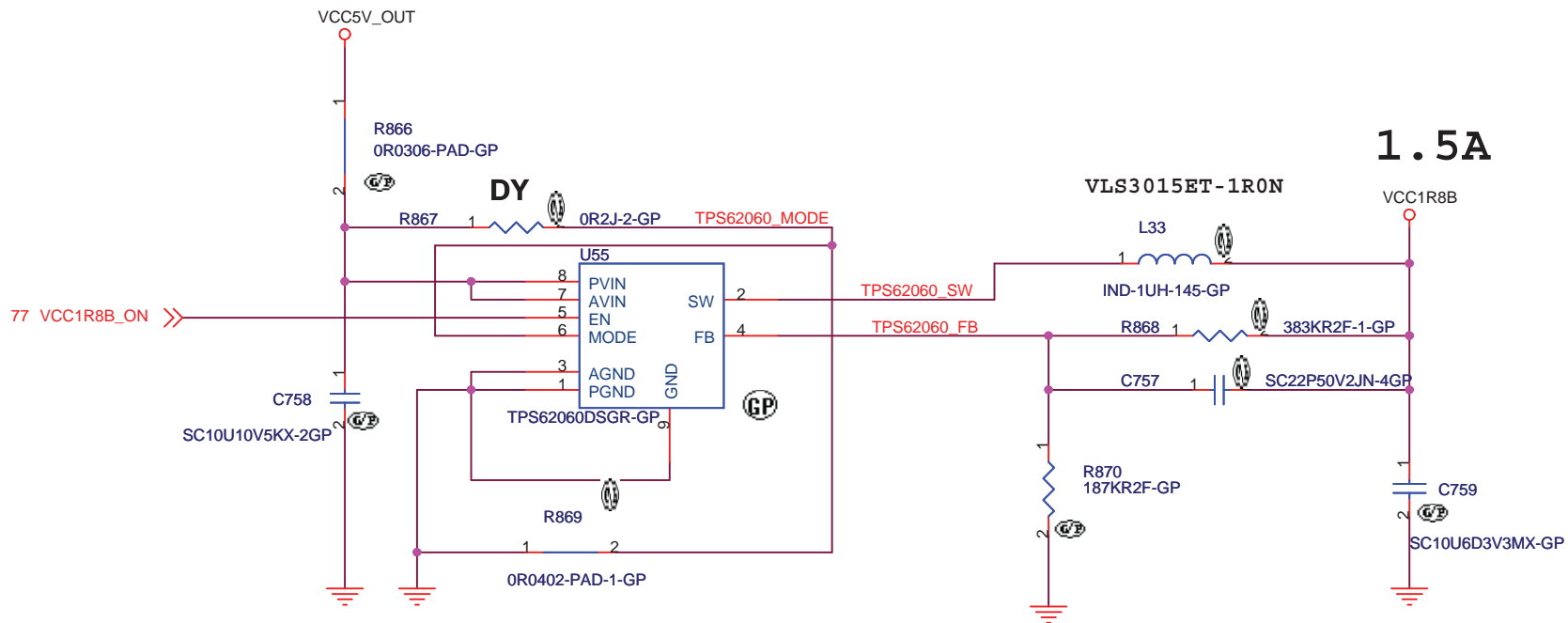
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Size	Document Number		Rev
A4	Dasher-1		SD
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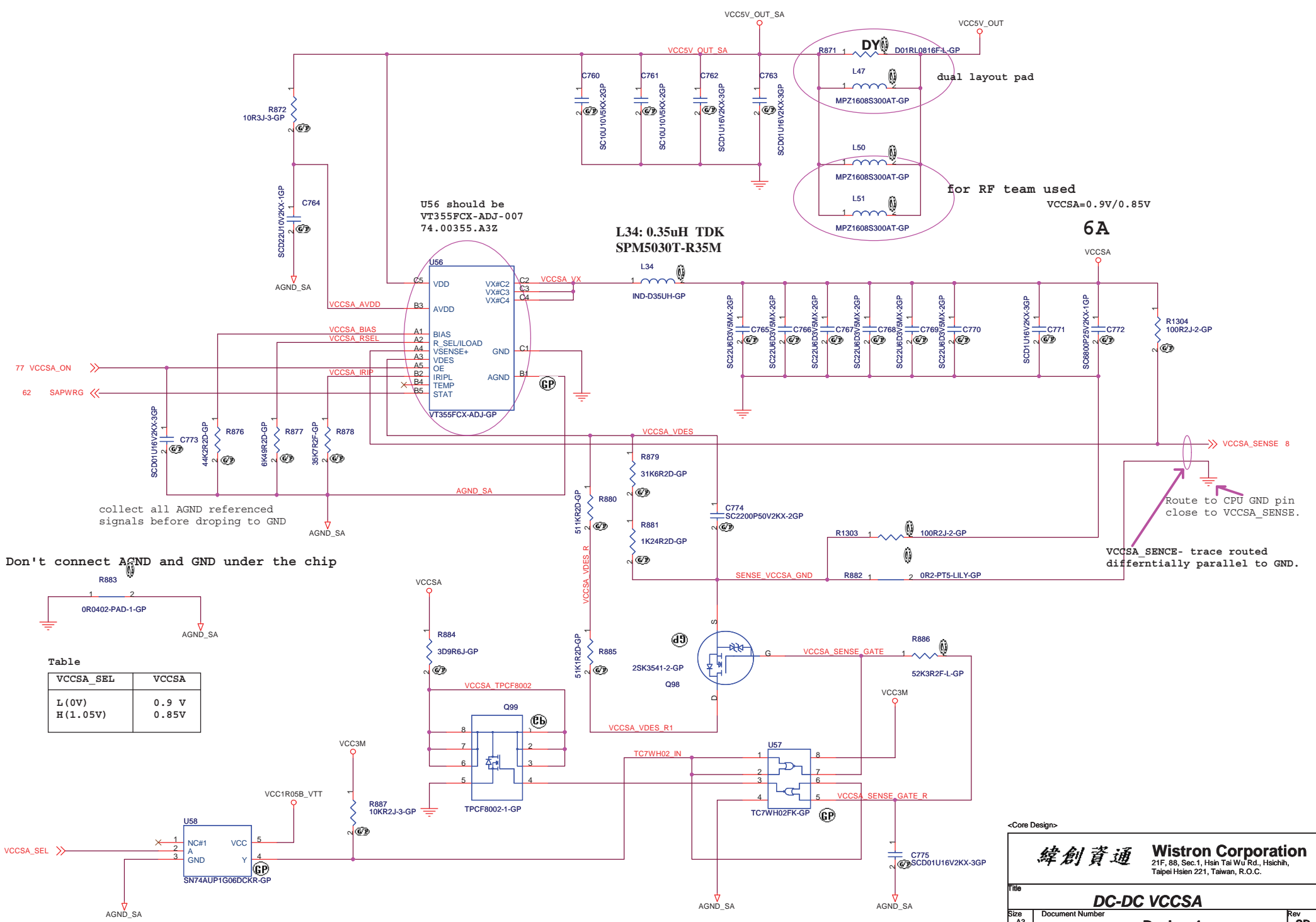
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<p>緯創資通</p>	<p>Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</p>
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Title **DC-DC VCC1R8B**

Size A4	Document Number Dasher-1	Rev SD
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U56 should be
VT355FCX-ADJ-007
74.00355.A3Z

L34: 0.35uH TDK
SPM5030T-R35M

dual layout pad

for RF team used

VCCSA=0.9V/0.85V

6A

collect all AGND referenced
signals before dropping to GND

Don't connect AGND and GND under the chip



Table

VCCSA_SEL	VCCSA
L (0V)	0.9 V
H (1.05V)	0.85V

Route to CPU GND pin
close to VCCSA_SENSE.

VCCSA SENCE- trace routed
differentially parallel to GND.

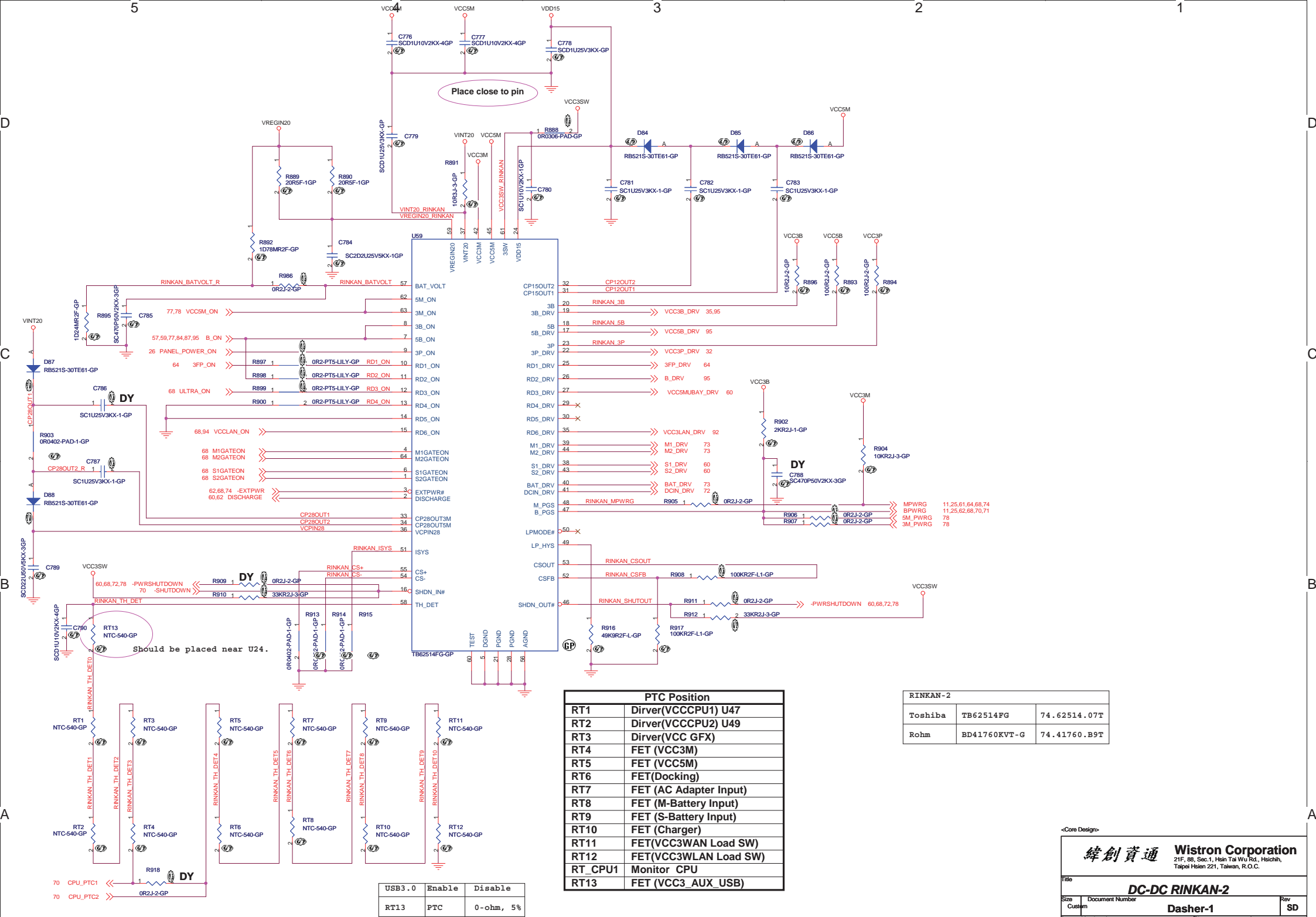
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Title: **DC-DC VCCSA**

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Place close to pin

Should be placed near U24.

PTC Position	
RT1	Dirver(VCCPU1) U47
RT2	Dirver(VCCCPU2) U49
RT3	Dirver(VCC GFX)
RT4	FET (VCC3M)
RT5	FET (VCC5M)
RT6	FET(Docking)
RT7	FET (AC Adapter Input)
RT8	FET (M-Battery Input)
RT9	FET (S-Battery Input)
RT10	FET (Charger)
RT11	FET(VCC3WAN Load SW)
RT12	FET(VCC3WAN Load SW)
RT_CPU1	Monitor CPU
RT13	FET (VCC3_AUX_USB)

RINKAN-2		
Toshiba	TB62514FG	74.62514.07T
Rohm	BD41760KV-T-G	74.41760.B9T

USB3.0	Enable	Disable
RT13	PTC	0-ohm, 5%

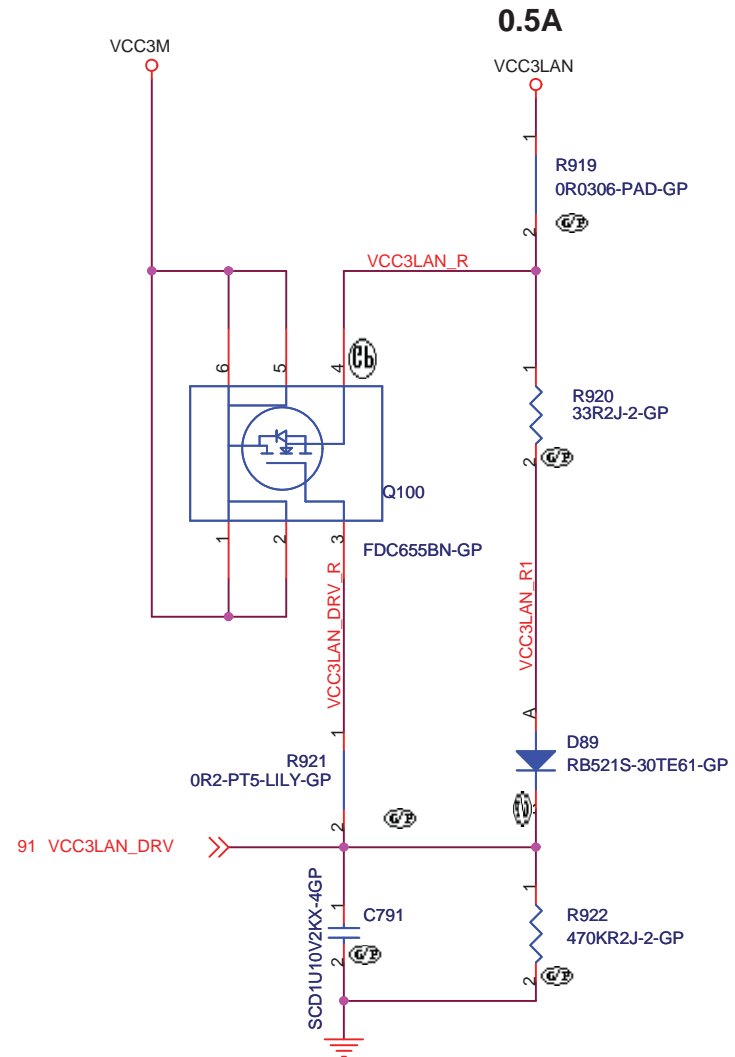
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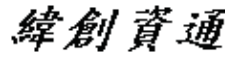
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Size: Document Number
Custom: **Dasher-1**

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LOAD SW 1		
Size A4	Document Number Dasher-1	Rev SD
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Title

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Size
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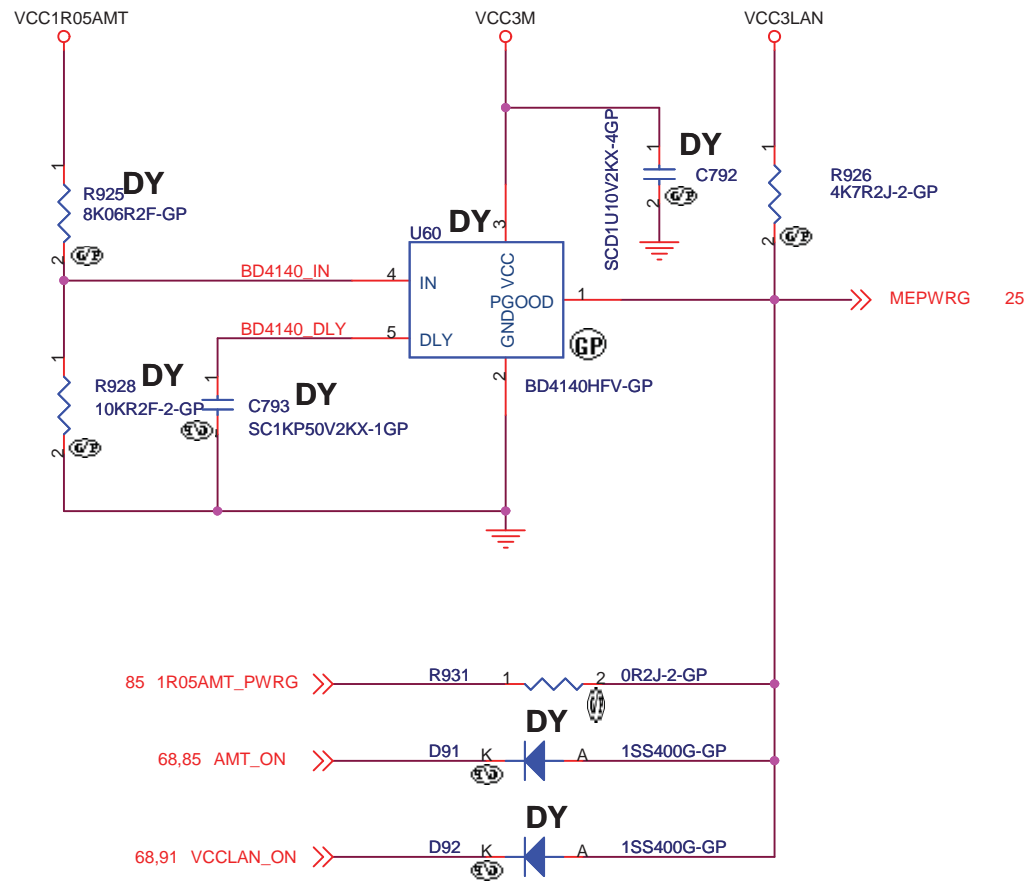
Document Number

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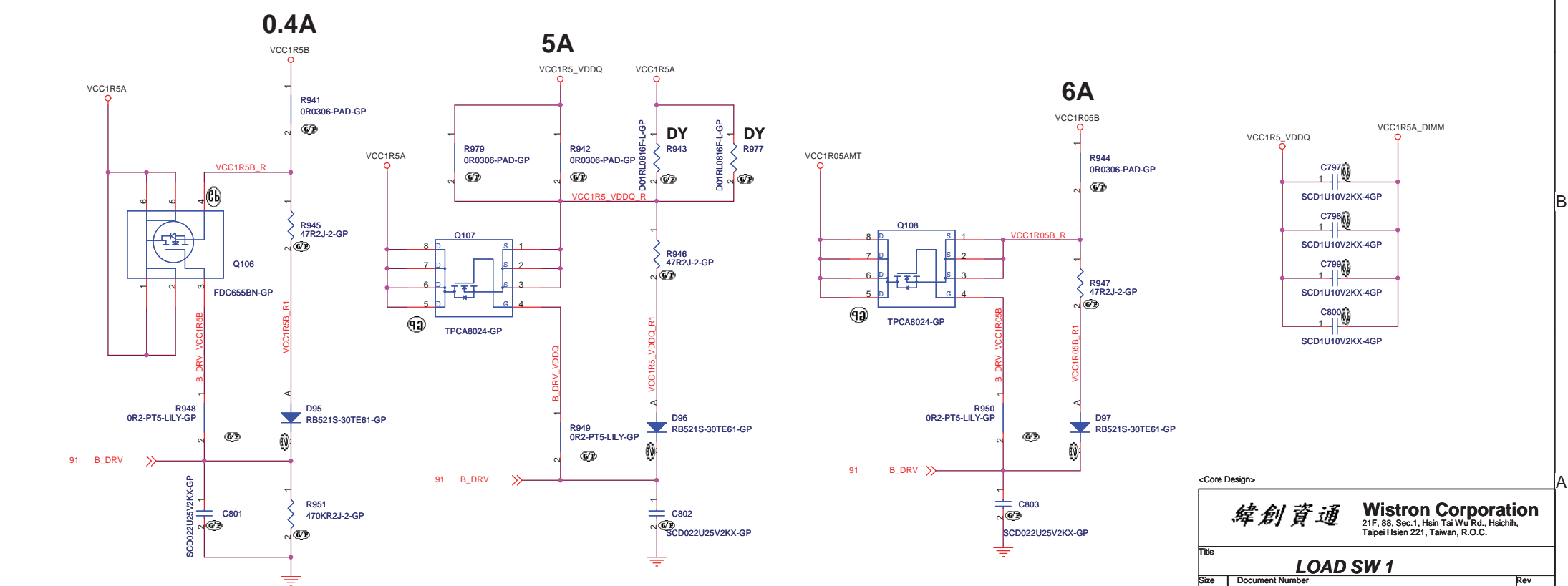
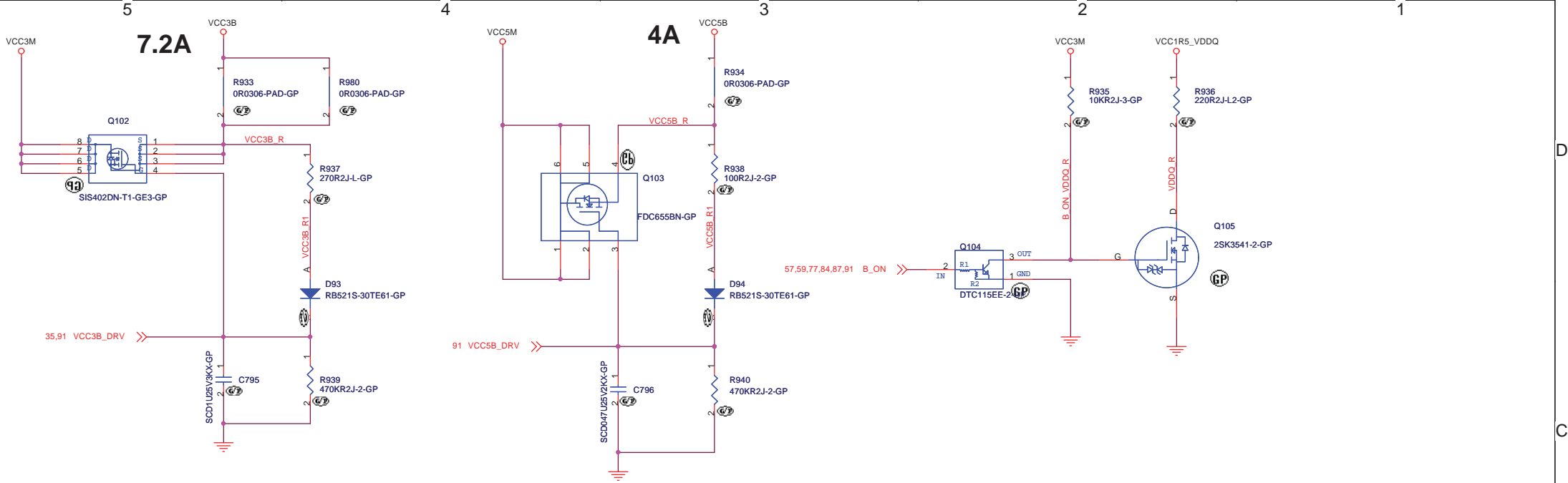
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Title **POWER GOOD**

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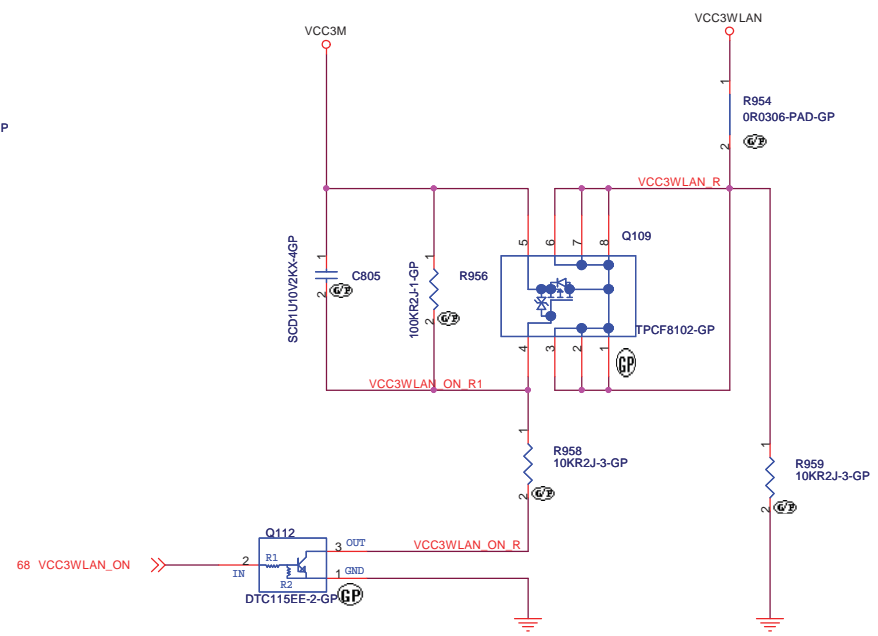
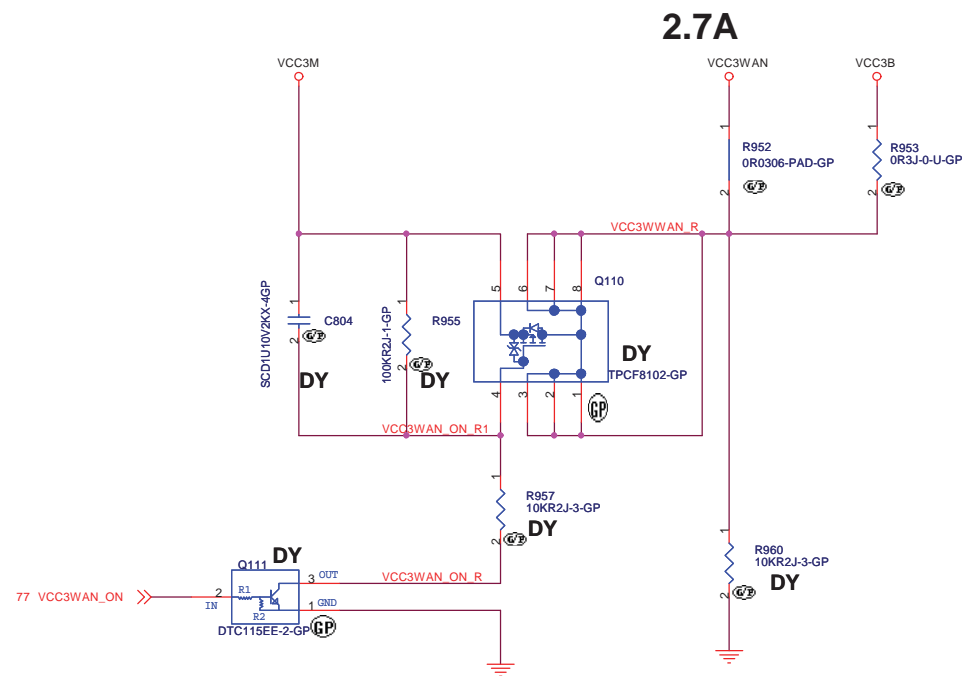
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2.7A



Constant Secure	YES	NO
R953	DY	ASM
C804		
R955		
Q110	ASM	DY
R957		
Q111		
R960		
R952	ASM	ASM

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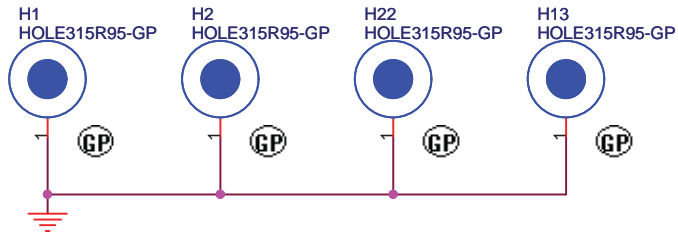
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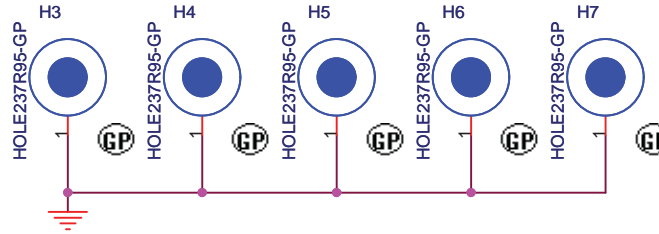
Size: A3 Document Number: **Dasher-1** Rev: **SD**

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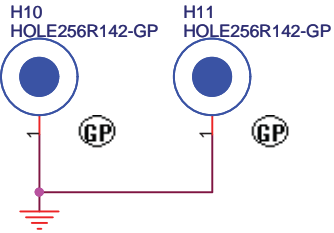
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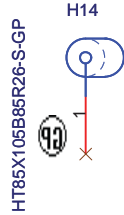
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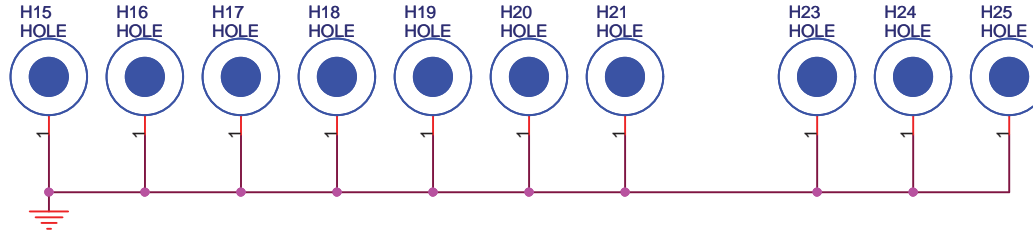
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ZZ.SCREW.191

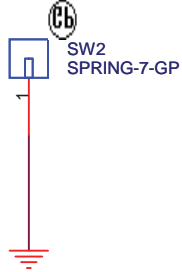


ZZ.0HOLE.XXX



34.49U26.001

GND pad for docking connector



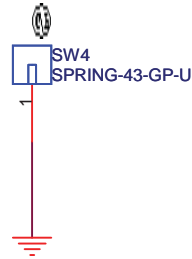
34.49U23.001

GND pad for docking connector



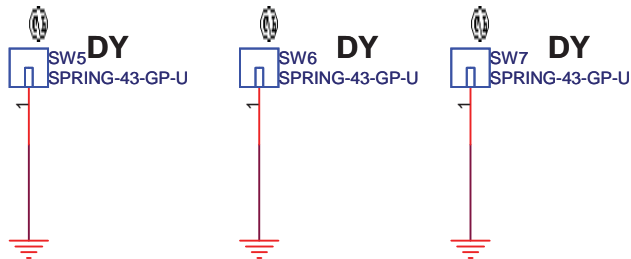
34.15J03.001

spring for EMI



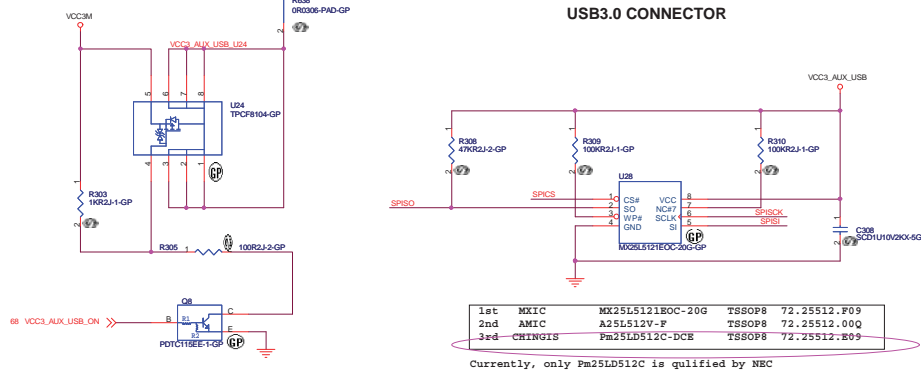
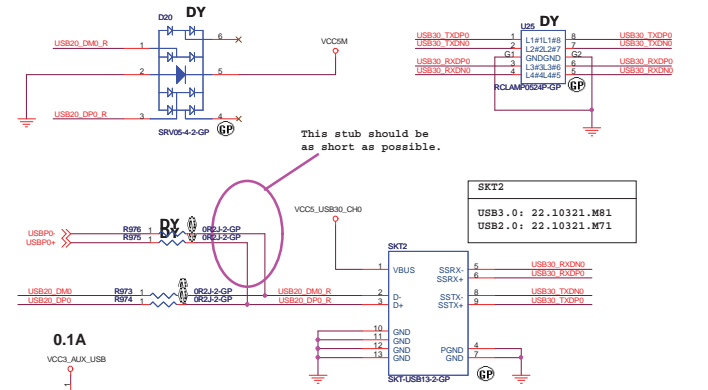
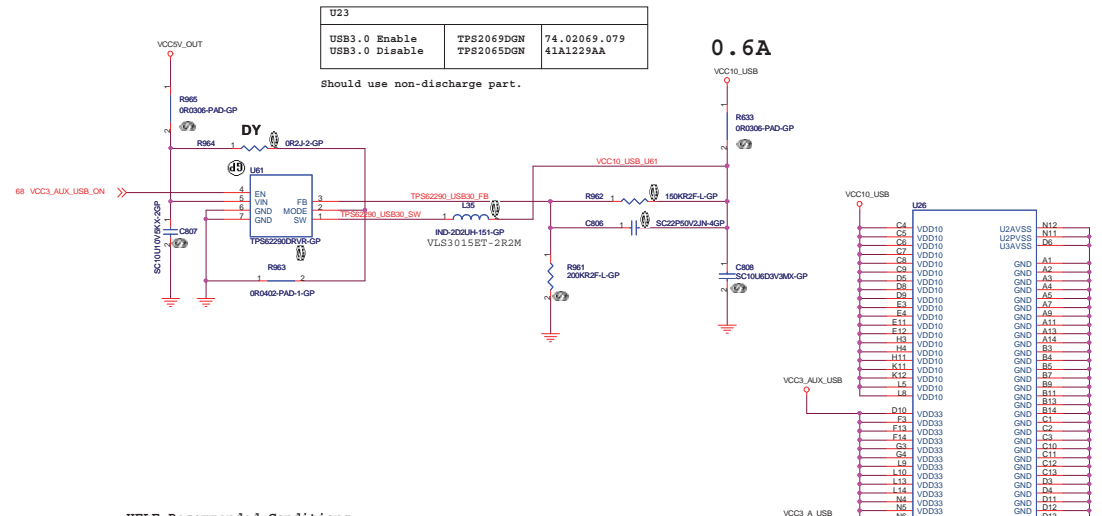
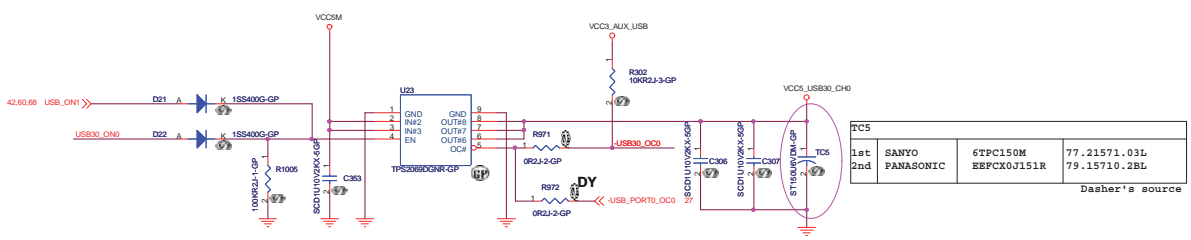
34.15J03.001

spring for RF (SW5~SW7)



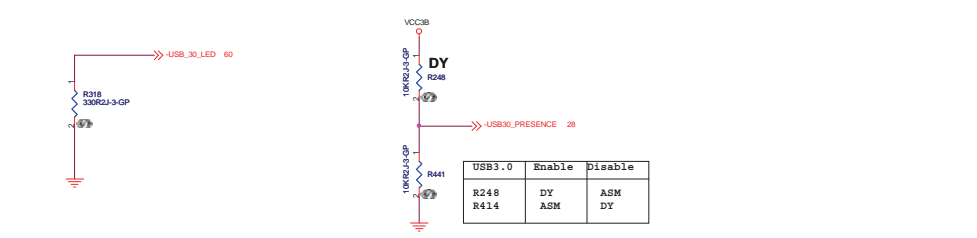
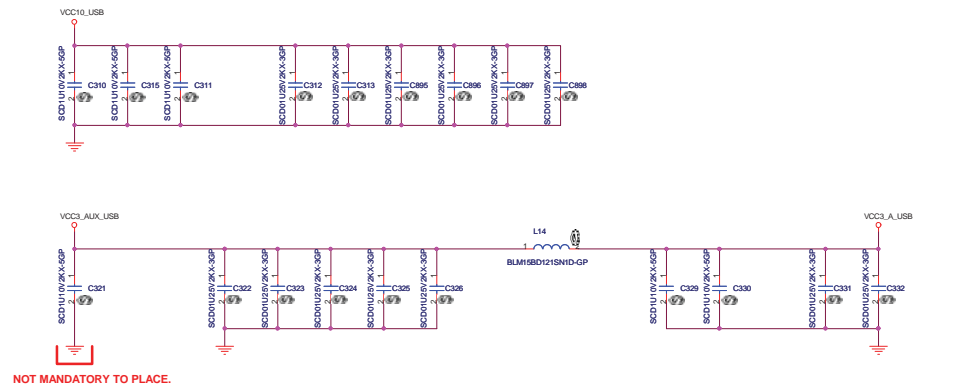
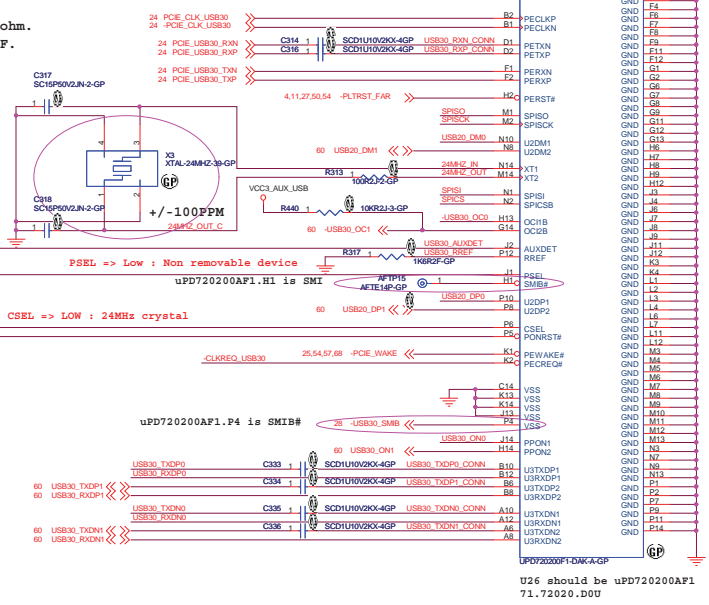
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HOLES/GND/PADS		
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HELE Recommended Conditions:
 Normal Frequency: 24MHz.
 Frequency Tolerance: +/- 30ppm.
 Load Frequency: 12pF.
 Effective Series Resistance: 50-ohm.
 Effective Shunt Capacitance: 2pF.

If Wakeup function from D3 cold is required, VCC3_AUX should be applied from system.



	USB3.0 Enable	USB3.0 Disable
U23	TPS2069DGN	TPS2065DGN
D21	ASM	ASM
D22	ASM	DY
C353	ASM	ASM
R302	ASM	ASM
R971	ASM	DY
R972	DY	ASM
C306	ASM	ASM
C307	ASM	ASM
TC5	ASM	ASM
U61	ASM	DY
R965	ASM	DY
R964	DY	DY
R963	ASM	DY
C807	ASM	DY
L35	ASM	DY
R961	ASM	DY
R962	ASM	DY
C806	ASM	DY
C808	ASM	DY
R633	ASM	DY
U26	ASM	DY
C314	ASM	DY
C316	ASM	DY
R313	ASM	DY
X3	ASM	DY
C317	ASM	DY
C318	ASM	DY
C319	ASM	DY
R440	ASM	DY
R314	ASM	DY
R315	ASM	DY
R316	ASM	DY
R317	ASM	DY
C310	ASM	DY
R412	ASM	ASM
Q120	ASM	DY
C333	ASM	DY
C334	ASM	DY
C335	ASM	DY
C336	ASM	DY
U28	ASM	DY
R308	ASM	DY
R309	ASM	DY
R310	ASM	DY
C308	ASM	DY
U24	ASM	DY
R638	ASM	DY
R303	ASM	DY
R305	ASM	DY
Q8	ASM	DY
SKT2	USB3.0 Conn.	USB2.0 Conn.
R973	ASM	DY
R974	ASM	DY
R975	DY	ASM
R976	DY	ASM
D20	DY	DY
D25	DY	DY
C310	ASM	DY
C311	ASM	DY
C312	ASM	DY
C313	ASM	DY
C315	ASM	DY
C320	ASM	DY
C321	ASM	DY
C322	ASM	DY
C323	ASM	DY
C324	ASM	DY
C325	ASM	DY
C326	ASM	DY
C327	ASM	DY
L14	ASM	DY
C329	ASM	DY
C329	ASM	DY
C331	ASM	DY
C332	ASM	DY
R318	ASM	DY
R248	DY	ASM
R441	ASM	DY

	USB3.0 Enable	USB3.0 Disable
R437	DY	ASM
R438	DY	ASM
R436	ASM	DY
R439	ASM	DY
D99	ASM	DY
D100	ASM	DY
R989	DY	ASM
R991	ASM	DY
R988	DY	ASM

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