




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
10KR3	10K Ohm	If no letter, it means J: 5%	1/16W, 75V	0603
33D3R5	33.3 Ohm	If no letter, it means J: 5%	1/10W, 100V	0805
1KR3F	1K Ohm	F: 1%	1/16W, 75V	0603

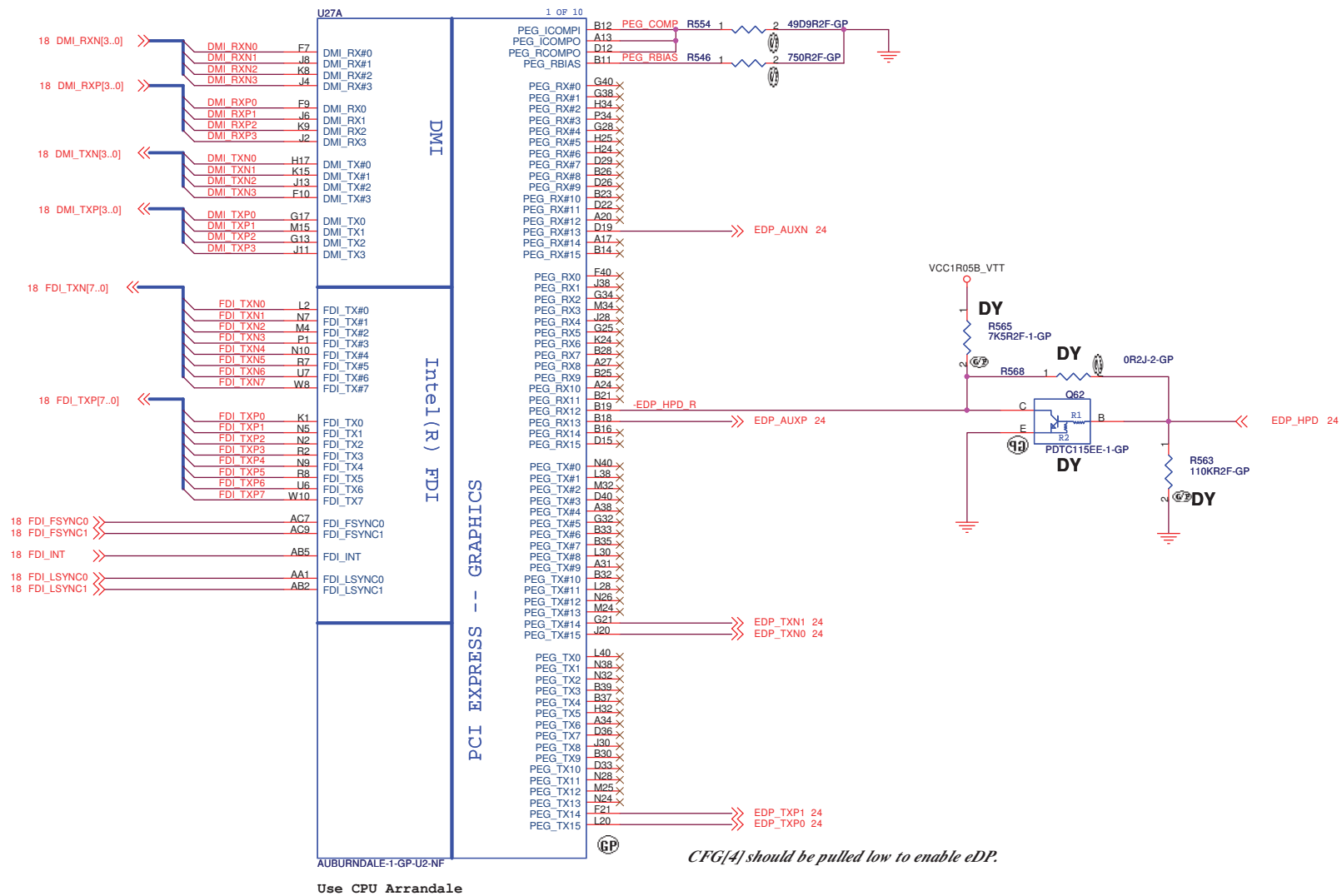
Symbol name	Value	Tolerance (M: +/-20, K: +/-10, Z: +80/20)	Rating	Size 2=>0402, 3=>0603, 5=>0805, 6=>1206, 0=>1210
SCD1U10V2MX-1	0.1uF	M/X5R	10V	0402
SC10U6D3V5MX	10uF	M/X5R	6.3V	0805
SC2D2U16V5ZY	2.2uF	Z/Y5V	16V	0805

IBEXPEAK-M	39	38	37	36	Planar ID Version	Planar PCB Version
PLANAR_IDn	3	2	1	0		
	0	0	0	0	Mocha-3 Pre-DV	SA
	0	0	0	1	Mocha-3 DV	SB
	0	0	1	0	Mocha-3 FVT	SC
	0	0	1	1	Mocha-3 SIV	SD
	0	1	0	0	Mocha-3 SIT	SE
	0	1	0	1	Mocha-3 SVT	-1
	0	1	1	0		-2
	0	1	1	1		

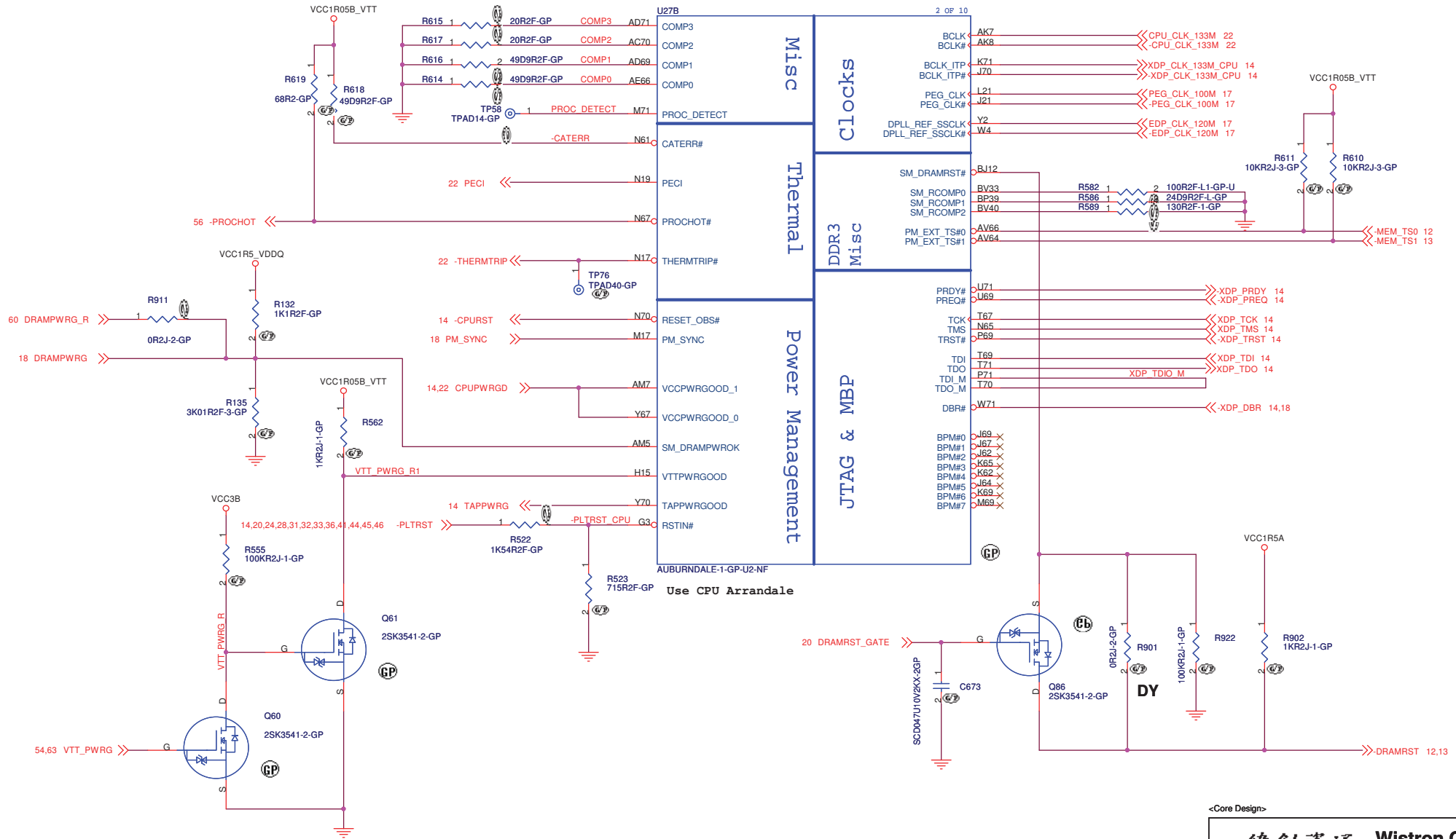
[illegible]

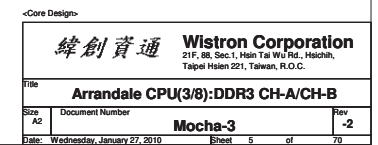
DEVICE	IDSEL	IRQ (Default)	REQ# / GNT#
USB UHCI	AD29	A, C, D	
USB 2.0 EHCI	AD29	H	
DMI-to-PCI/ AC97 Modem/ AC97 Audio	AD30	B B	
LPC Bridge IDE SATA SMBus	AD31	C C B	
PCI Express	AD28	A, B, C, D	

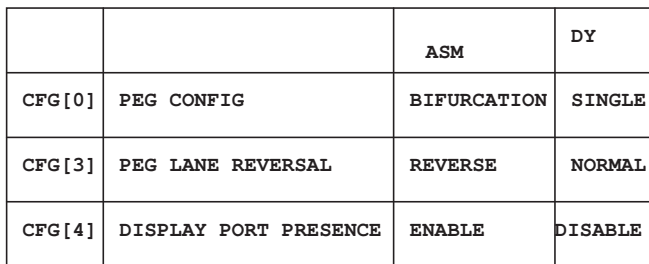
		<b>Wistron Corporation</b> 21F, 88, Sec.1, Hsien Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
		<b>Reference</b>	
Size A3	Document Number	<b>Mocha-3</b>	Rev <b>-2</b>
Date: Wednesday, January 27, 2010		Sheet 2 of	70



COMP0/1/2/3 : TRACE Length <0.5"  
COMP0/1/2/3 : 10mil width traces, 20mil spacing







		ASM	DY
CFG[0]	PEG CONFIG	BIFURCATION	SINGLE
CFG[3]	PEG LANE REVERSAL	REVERSE	NORMAL
CFG[4]	DISPLAY PORT PRESENCE	ENABLE	DISABLE



NCTF TEST PIN:  
A5, A68, A69, A71, C3, C71, E1, E71, BR1, BR71,  
BT1, BT71, BV1, BV3, BV5, BV68, BV69, BV71

Title			
<b>Arrandale CPU(4/8):CFG/RSVD</b>			
Size	Document Number		Rev
Custom	<b>Mocha-3</b>		<b>-2</b>
Date:	Wednesday, January 27, 2010	Sheet 6 of 70	

Power On strap value is VID[6:0] = "LHLLHHH" = 1.0125 V

VCC1R05B\_VTT

56 VID[6:0] << 56 -PSI <<  
VID0  
VID1  
VID2  
VID3  
VID4  
VID5  
VID6  
56 DPRSLPVR <<

IMAX	VID<5..3>
DISABLE	000
20A	001
30A	010
40A	011
50A	100
60A	101
70A	110
90A	111

Current Sense Configuration  
(CSC<2..0>)

CPU	VID<5..3>
SV	100
LV	011
ULV	010

63 VCC\_SENSE\_VTT <<  
63 VSS\_SENSE\_VTT <<

R155,R154 should be placed close to CPU side  
Max 0.6A

VCC1R8B

VCC1R5\_VDDQ

L18  
IND-1UH-100-GP

C479  
SC1U10V2MX-GP

U27F

6 OP 10

CPU VIDS

SENSE LINES

1.1V RAIL POWER

POWER  
1.8V

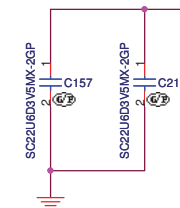
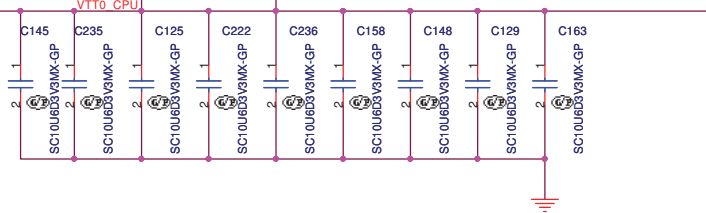
AUBURNDAL-1-GP-U2-NF

Use CPU Arrandale

VCC1R05B\_VTT

VTT0\_CPU

R159  
0R0306-PAD-GP



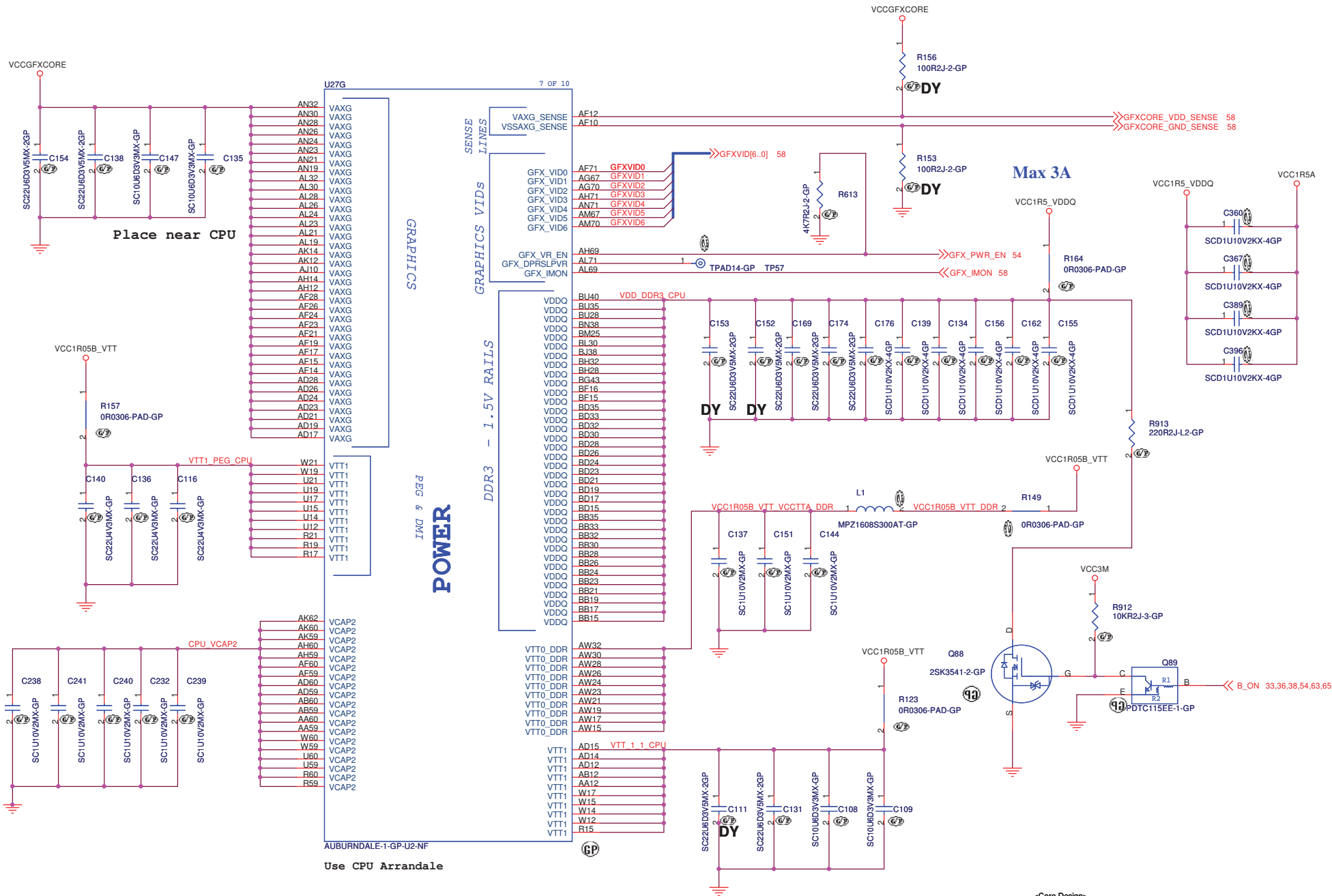
<Core Design>

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

Title Arrandale CPU(5/8):Power

Size A3 Document Number Mocha-3 Rev -2

Date: Wednesday, January 27, 2010 Sheet 7 of 70



<Core Design>

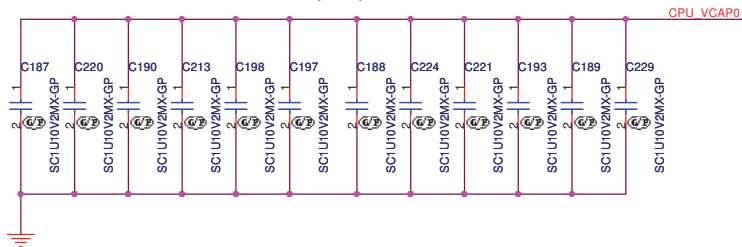
緯創資通 Wistron Corporation  
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih,  
Taipei Hsien 221, Taiwan, R.O.C.

Title Arrandale CPU(6/8):GFX/PWR

Size A3 Document Number Mocha-3 Rev -2

Date: Wednesday, January 27, 2010 Sheet 8 of 70

12 X  
1UF /10V/ ±20% 0402

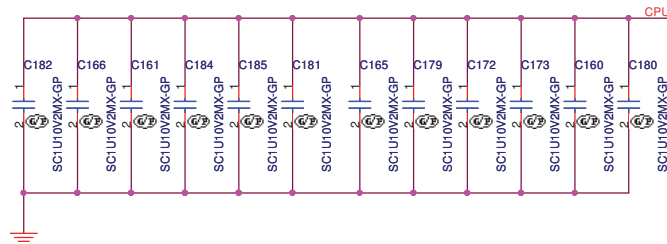


- BD55 VCAP0
- BD51 VCAP0
- BD48 VCAP0
- BB55 VCAP0
- BB51 VCAP0
- BB48 VCAP0
- AV57 VCAP0
- AY53 VCAP0
- AY50 VCAP0
- AW57 VCAP0
- AW53 VCAP0
- AW50 VCAP0
- AU55 VCAP0
- AU51 VCAP0
- AL48 VCAP0
- AR55 VCAP0
- AR51 VCAP0
- AR48 VCAP0
- AN57 VCAP0
- AN53 VCAP0
- AN50 VCAP0
- AL57 VCAP0
- AL53 VCAP0
- AL50 VCAP0
- AK57 VCAP0
- AK53 VCAP0
- AK50 VCAP0

## POWER

CPU CORE SUPPLY

12 X  
1UF/10V/ ±20% 0402



- BD44 VCAP1
- BD41 VCAP1
- BD37 VCAP1
- BB44 VCAP1
- BB41 VCAP1
- BB37 VCAP1
- AY46 VCAP1
- AY42 VCAP1
- AY39 VCAP1
- AW46 VCAP1
- AW42 VCAP1
- AW39 VCAP1
- AU44 VCAP1
- AU41 VCAP1
- AU37 VCAP1
- AR44 VCAP1
- AR41 VCAP1
- AR37 VCAP1
- AN46 VCAP1
- AN42 VCAP1
- AN39 VCAP1
- AL46 VCAP1
- AL42 VCAP1
- AL39 VCAP1
- AK46 VCAP1
- AK42 VCAP1
- AK39 VCAP1

8 OF 10

- VCC AF57
- VCC AF55
- VCC AF53
- VCC AF51
- VCC AF50
- VCC AF48
- VCC AF46
- VCC AF44
- VCC AF42
- VCC AF41
- VCC AD55
- VCC AD51
- VCC AD48
- VCC AD44
- VCC AD41
- VCC AB55
- VCC AB51
- VCC AB48
- VCC AB44
- VCC AB41
- VCC AA55
- VCC AA51
- VCC AA48
- VCC AA44
- VCC AA41
- VCC W55
- VCC W51
- VCC W48
- VCC W44
- VCC W41
- VCC U55
- VCC U51
- VCC U48
- VCC U44
- VCC U41
- VCC R55
- VCC R51
- VCC R48
- VCC R44
- VCC R41
- VCC P60
- VCC N55
- VCC N51
- VCC N48
- VCC N44
- VCC N42
- VCC M60
- VCC M51
- VCC M44
- VCC L55
- VCC K60
- VCC K51
- VCC K44
- VCC J55
- VCC H60
- VCC H51
- VCC H44
- VCC G60
- VCC G55
- VCC G51
- VCC G44
- VCC F55
- VCC F51
- VCC E60
- VCC E57
- VCC E53
- VCC E50
- VCC E46
- VCC E42
- VCC D59
- VCC D57
- VCC D55
- VCC D54
- VCC D52
- VCC D50
- VCC D48
- VCC D47
- VCC D45
- VCC D43
- VCC B60
- VCC B56
- VCC B53
- VCC B49
- VCC B46
- VCC B42
- VCC A57
- VCC A54
- VCC A50
- VCC A47
- VCC A43

VCCCPUCORE

AUBURNDAL-1-GP-U2-NF

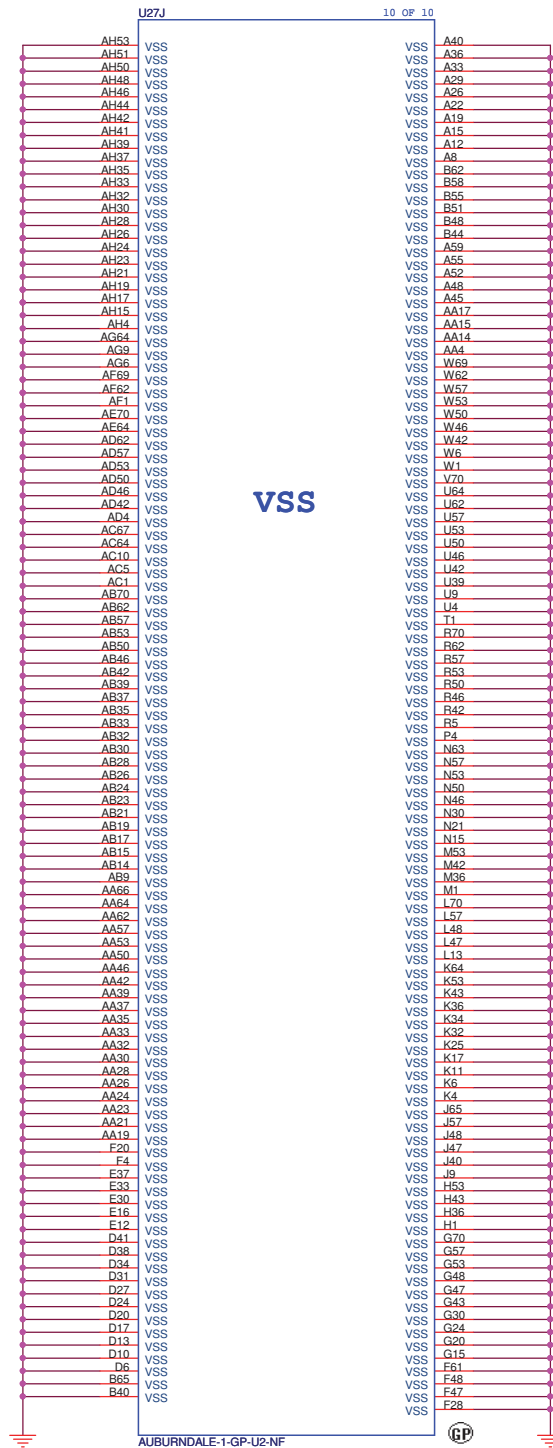
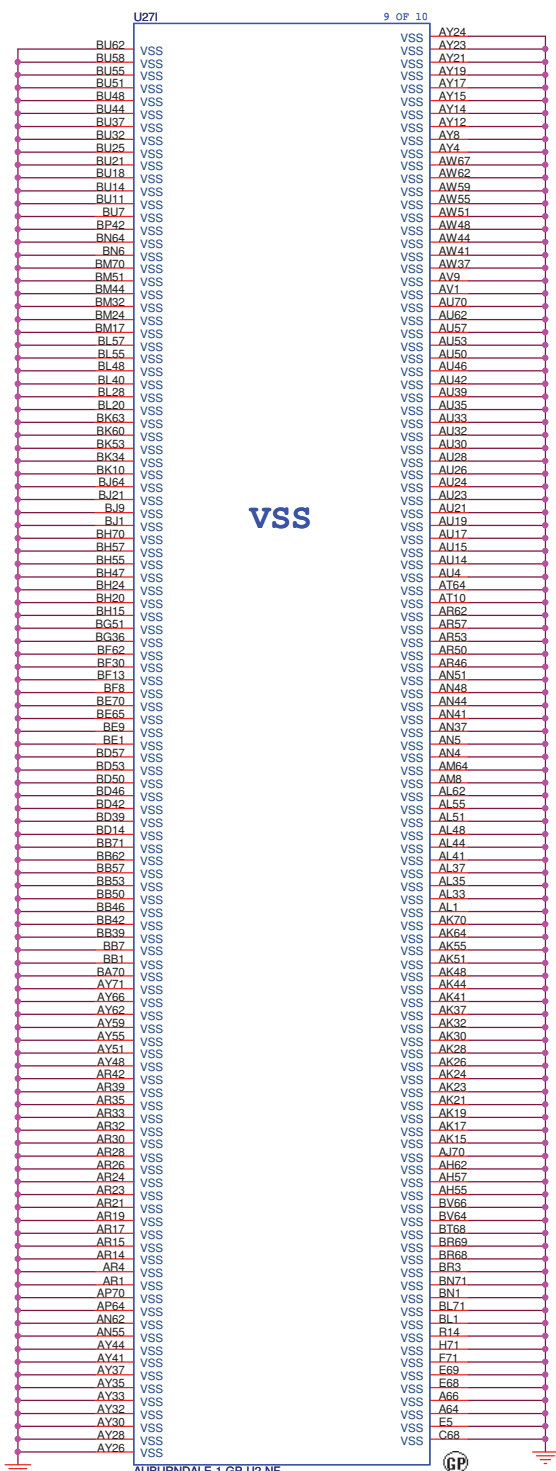
Use CPU Arrandale

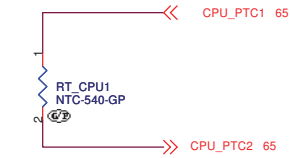
<Core Design>

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

Title **Arrandale CPU(7/8): VCC&VCAP**

Size A3	Document Number <b>Mocha-3</b>	Rev <b>-2</b>
Date: Wednesday, January 27, 2010	Sheet 9 of 70	

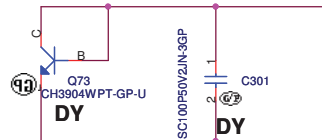




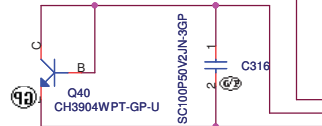
It should be arranged near CPU instead of CPU thermal sensor

THESE CAPS MUST BE PLACED AS CLOSE AS POSSIBLE TO MAX6593

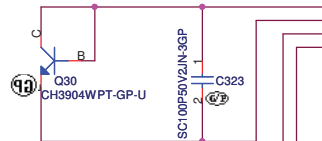
TO NVM



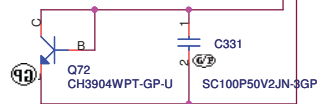
TO Express Card



TO VCORE FET

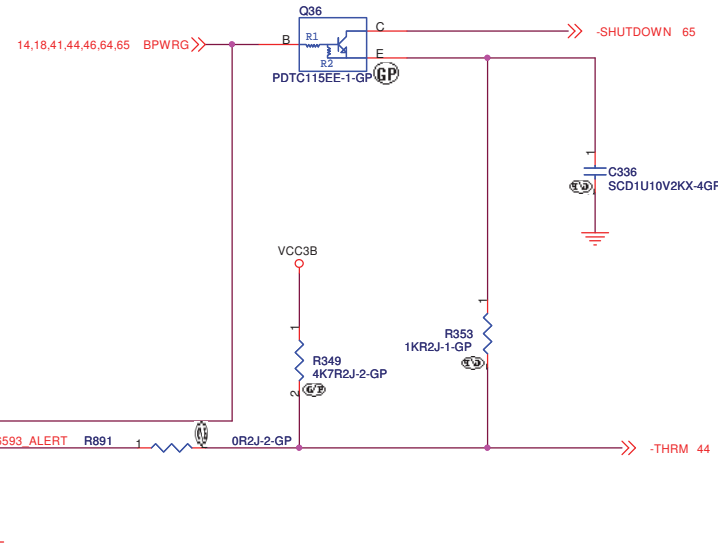


TO MINI CARD



Place under DIMM  
H8 I2C Bus 2 ADDRESS : 9AH

TEST PAD FOR BOARD MFG TEST



Layout Comment :  
(1) Thermal sensor trace lines should not be overlapped with other high frequency trace lines in other layers.  
(2) Also, it should not be overlapped with large amplitude trace lines either.

<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>THERMAL SENSOR</b>			
Size A3	Document Number	<b>Mocha-3</b>	Rev <b>-2</b>
Date: Wednesday, January 27, 2010		Sheet 11 of 70	

DM1  
20.F1272.204 Tyco  
62.10017.M21 Foxconn

REVERSE TYPE

<Core Design>

緯創資通

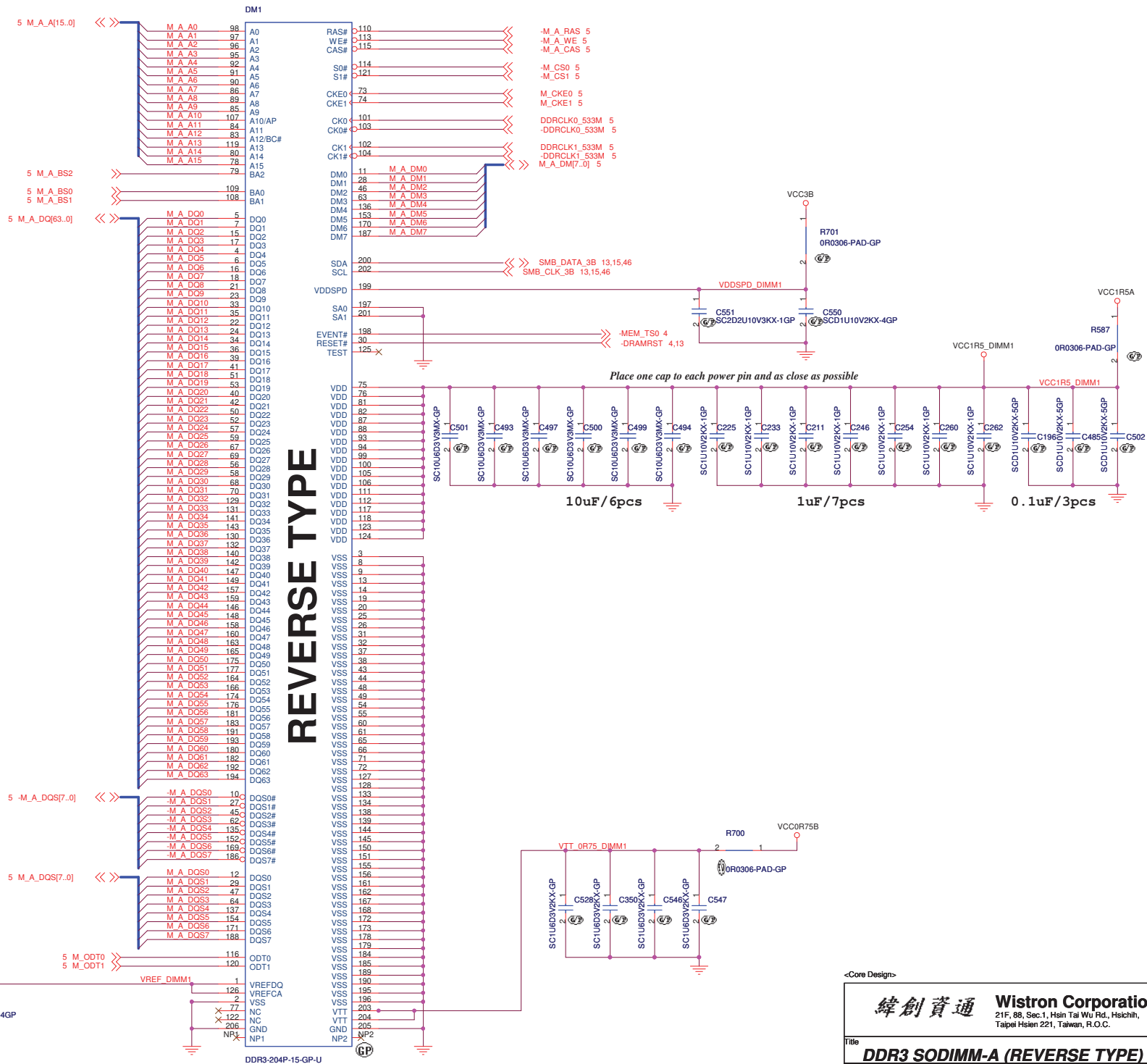
Wistron Corporation

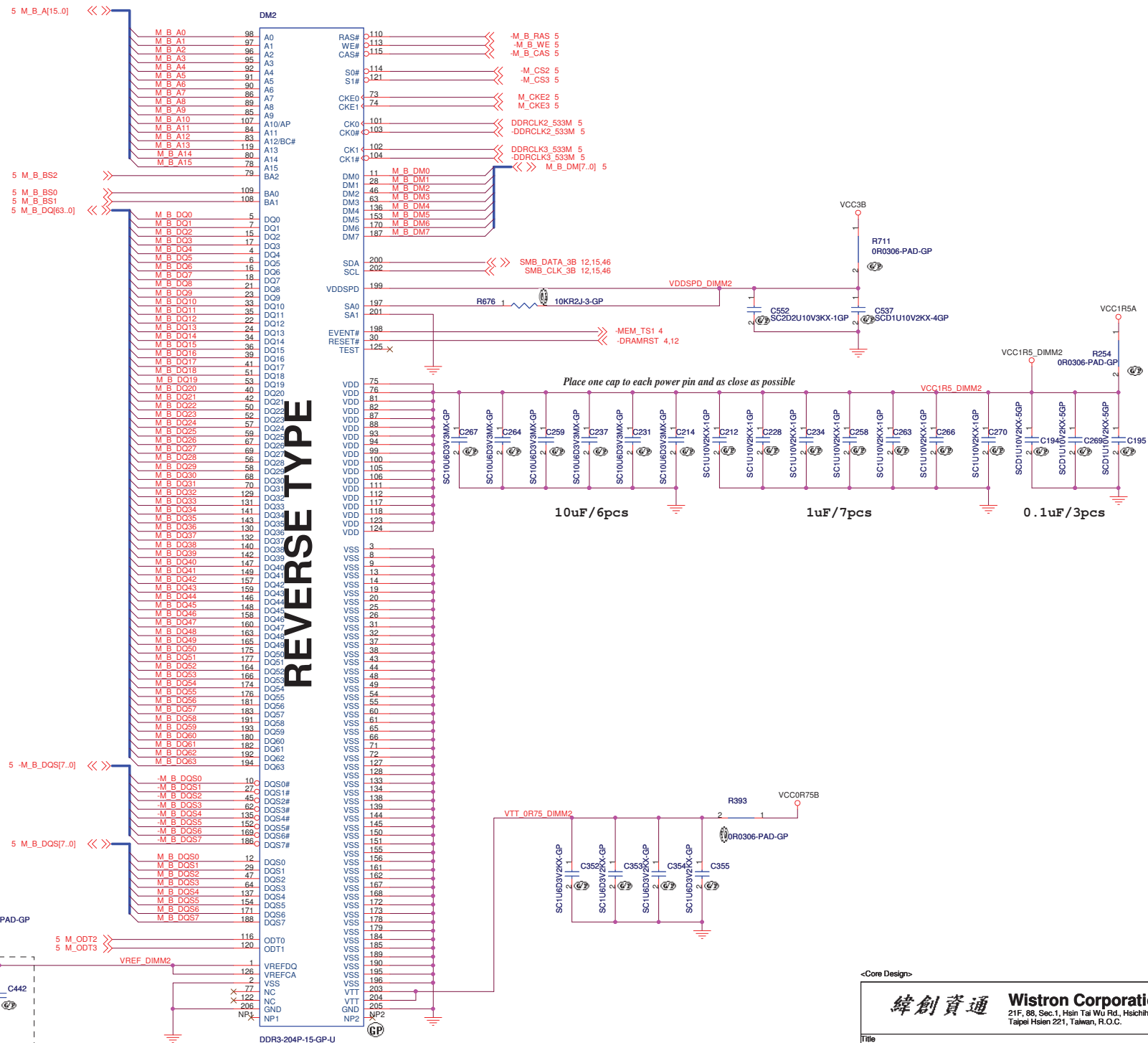
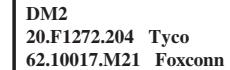
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,  
Taipei Hsien 221, Taiwan, R.O.C.

Title  
**DDR3 SODIMM-A (REVERSE TYPE)**

Size Document Number  
Custom Mocha-3 Rev -2

Date: Wednesday, January 27, 2010 Sheet 12 of 70



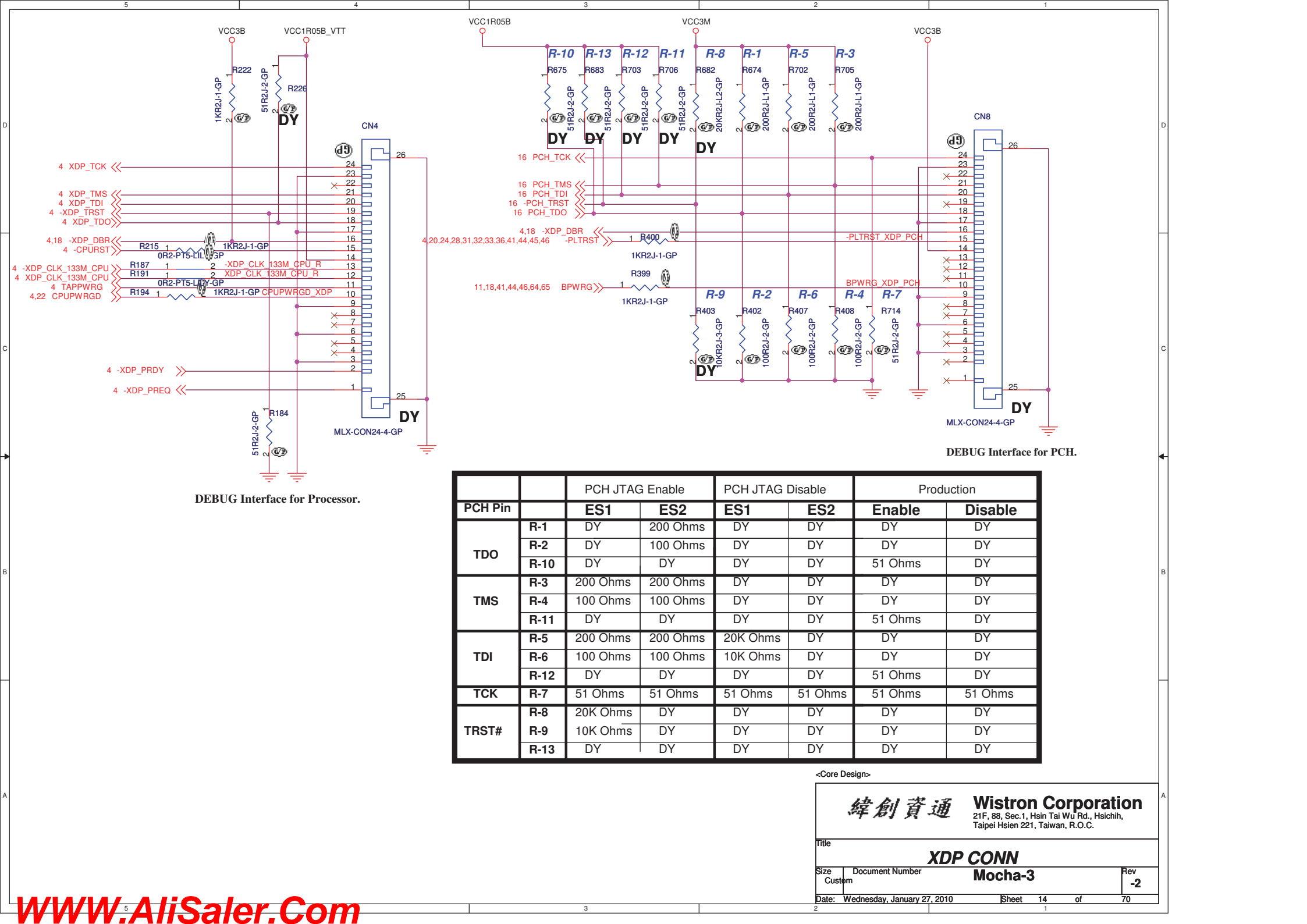


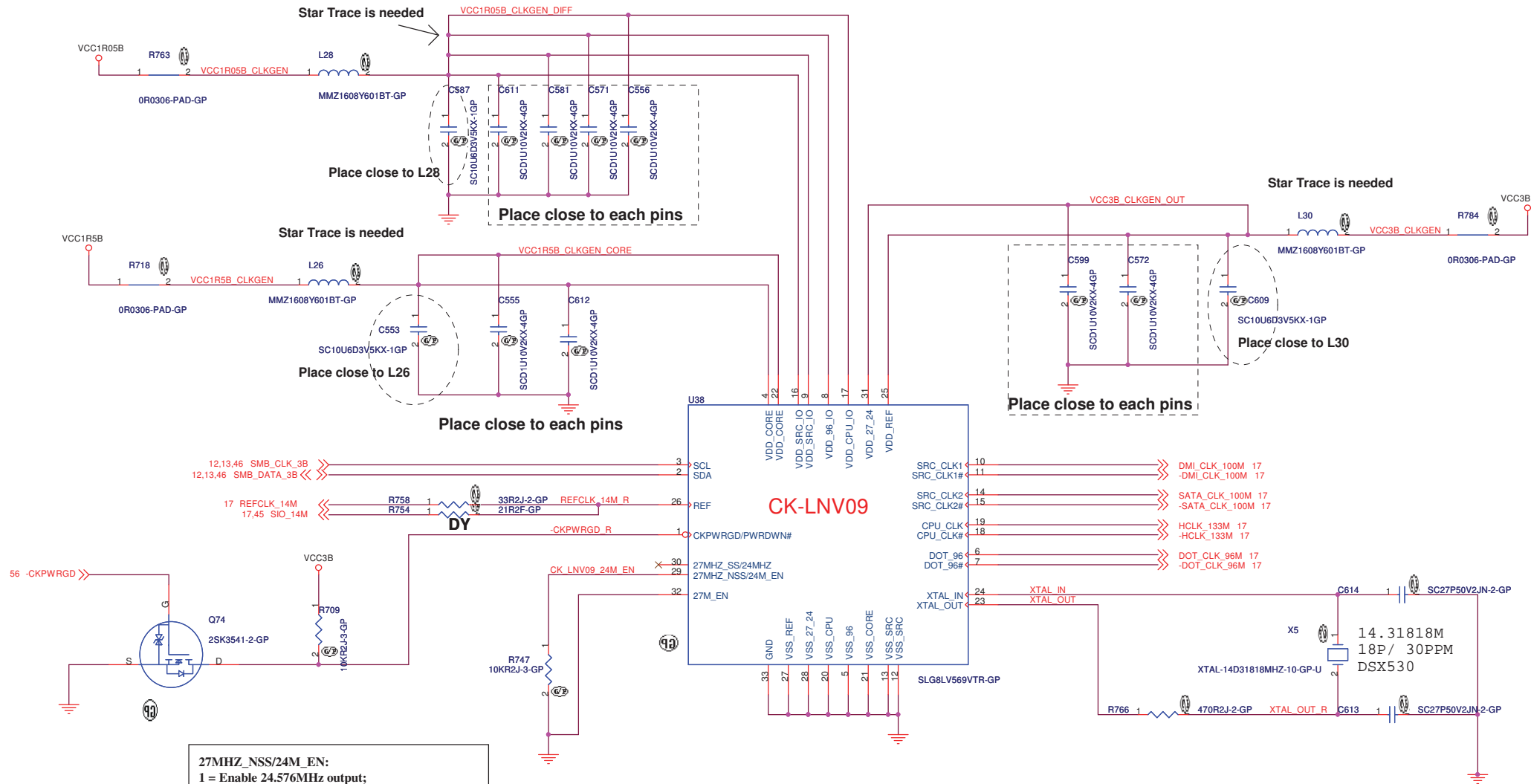
## <Core Design>

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

Title **DDR3 SODIMM-B (REVERSE TYPE)**

Size Custom	Document Number <b>Mocha-3</b>	Rev <b>-2</b>
Date: Wednesday, January 27, 2010	Sheet 13 of 70	





27MHZ\_NSS/24M\_EN:  
1 = Enable 24.576MHz output;  
0 = Disable 24.576MHz output;

27M\_EN:  
1 = Enable 27MHZ\_NSS and 27MHZ\_SS outputs ;  
0 = Disable 27MHZ\_NSS and 27MHZ\_SS outputs ;

Source	Vendor P/N	Wistron P/N
KDS	1Y714318CE1F /DSX530	82.30005.B41

U38			
Primary	Silego	SLG8LV569 Rev:WA	71.08569.A03
2nd	IDT	ICS9LVRS396BKLF	71.09396.A03
3th	Realtek	RTM890N-634 Rev:C	71.00890.A03

<Core Design>

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

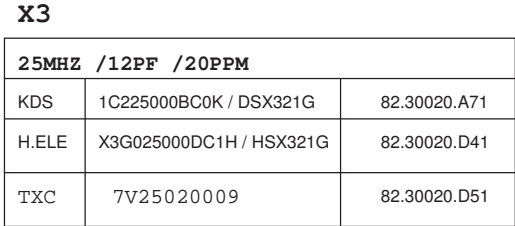
Title: **CLOCK GEN(CK-LNV09)**

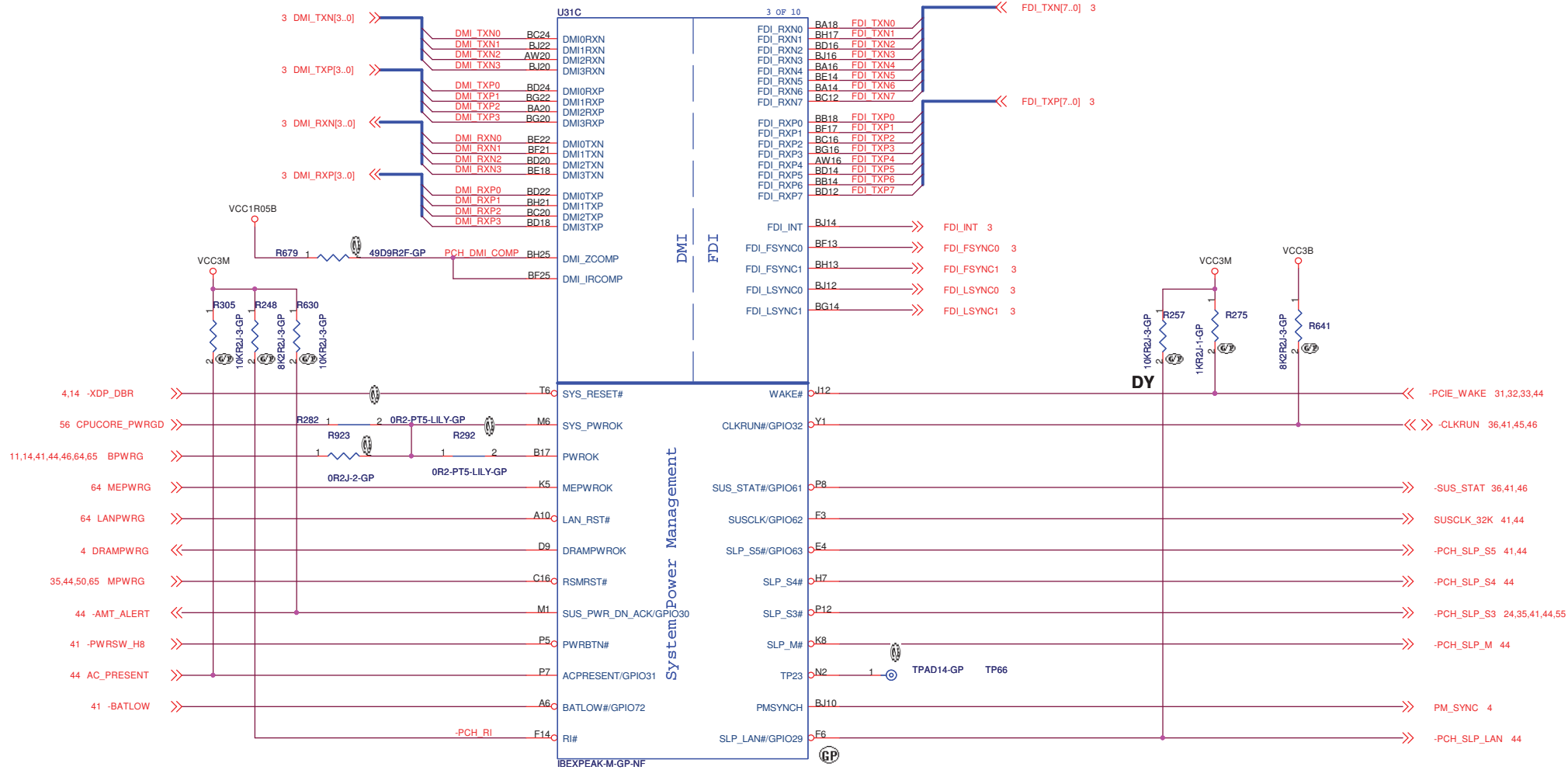
Size A3 Document Number: **Mocha-3** Rev: **-2**

Date: Wednesday, January 27, 2010 Sheet 15 of 70

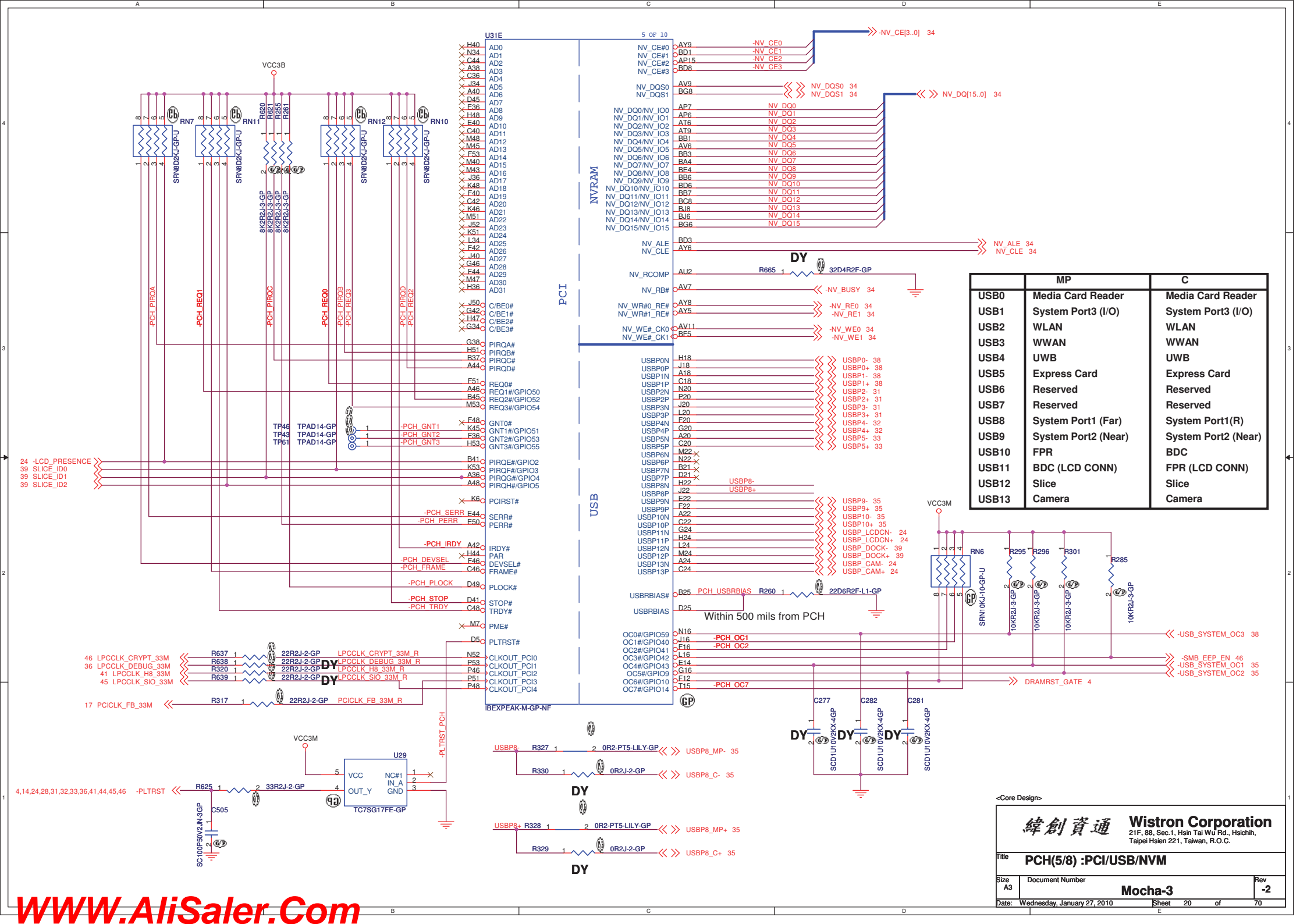


**WWW.AliSaler.Com**



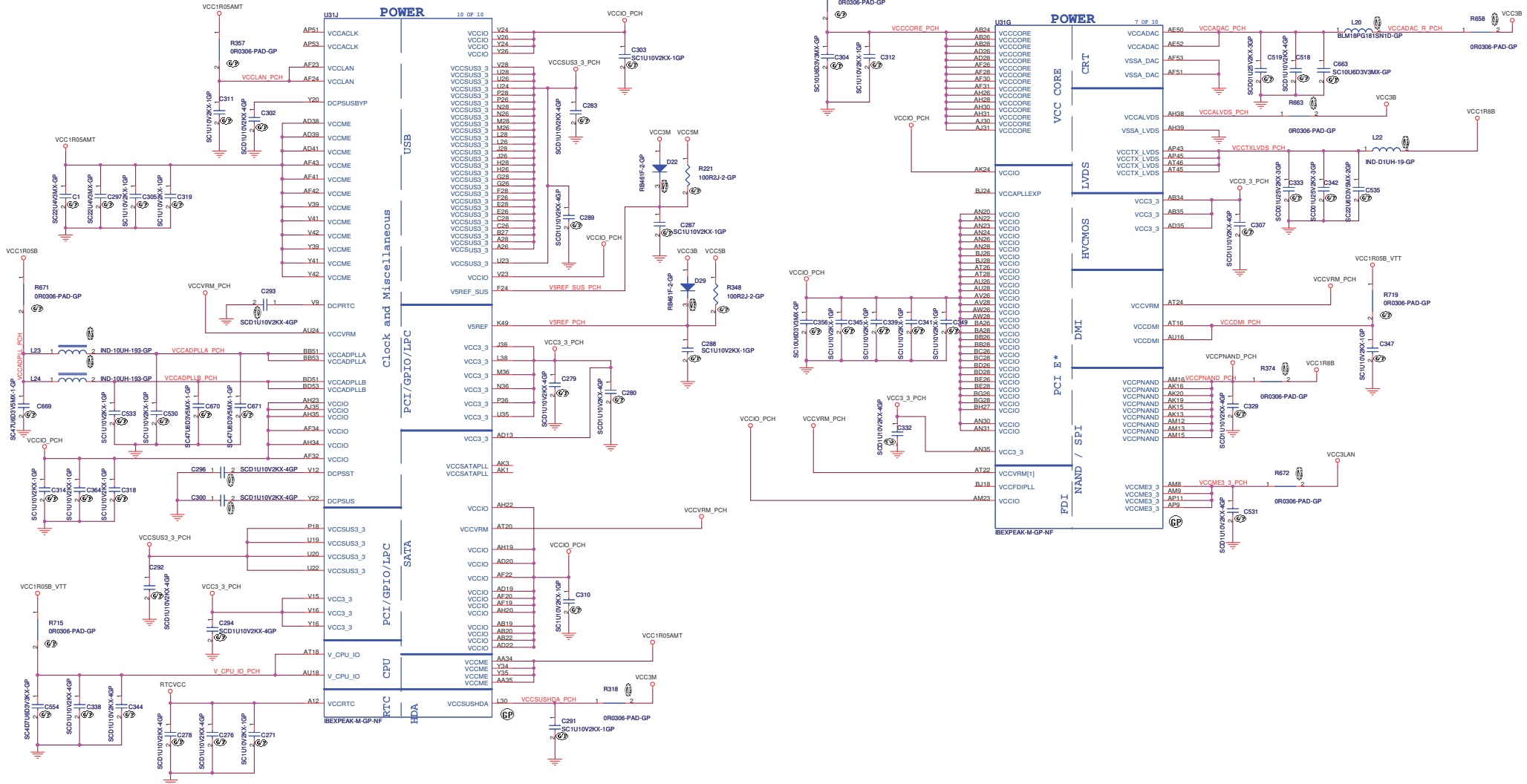






Isolate the power supply for AF32,AF34,AH34 at bottom layer.  
There should not be shorted to AH35 and AJ35 pins

Refer to HDMI 1080P 60Hz Deep Color Mode Support  
on Intel 5 Series Chipset (update to Ibox Peak Sighting #3306171)"issued at Aug 21st ,2009



~Core Design~

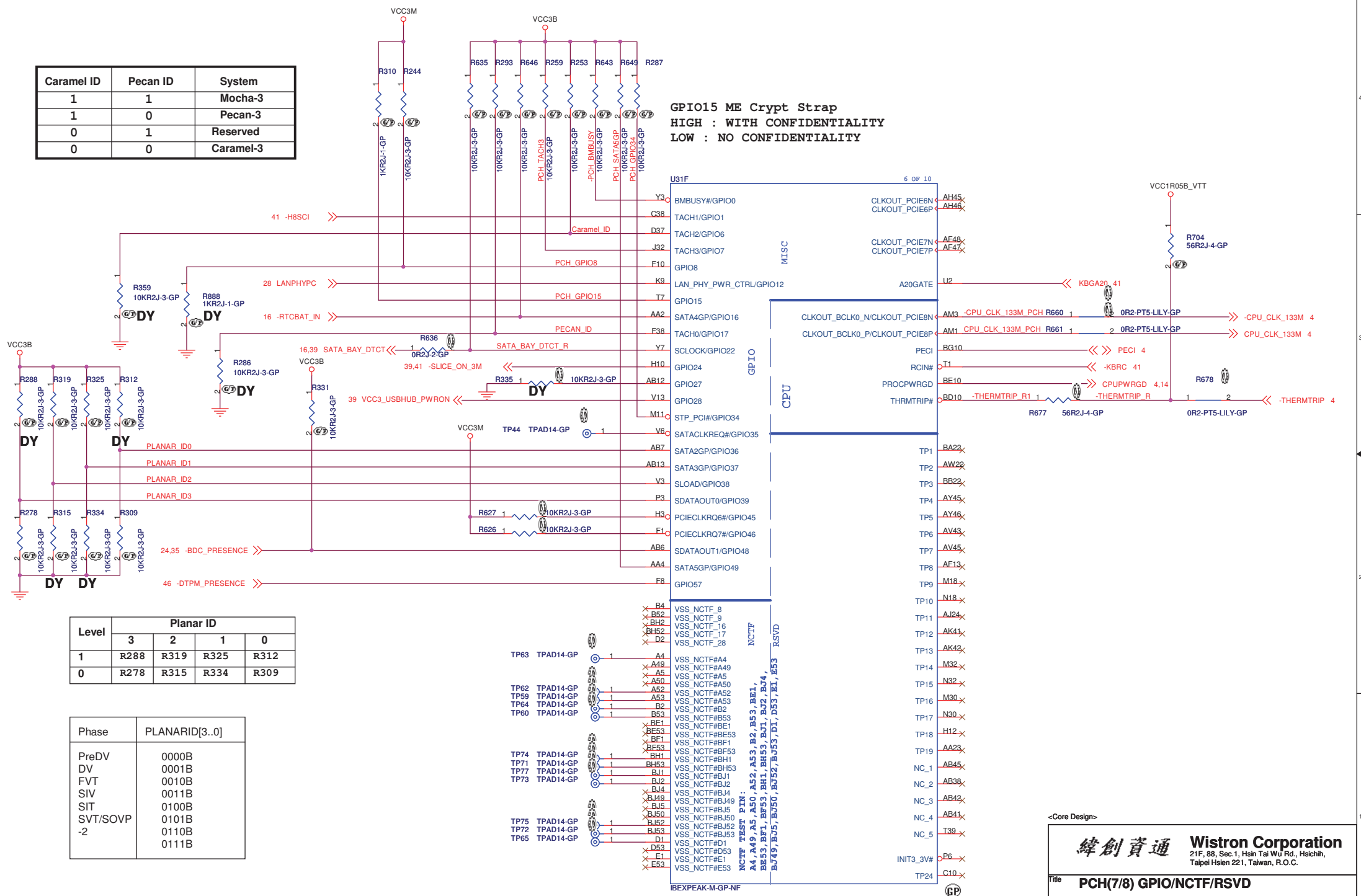
緯創資通 Wistron Corporation  
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsinchu,  
Taipex Hsien 300, Taiwan, R.O.C.

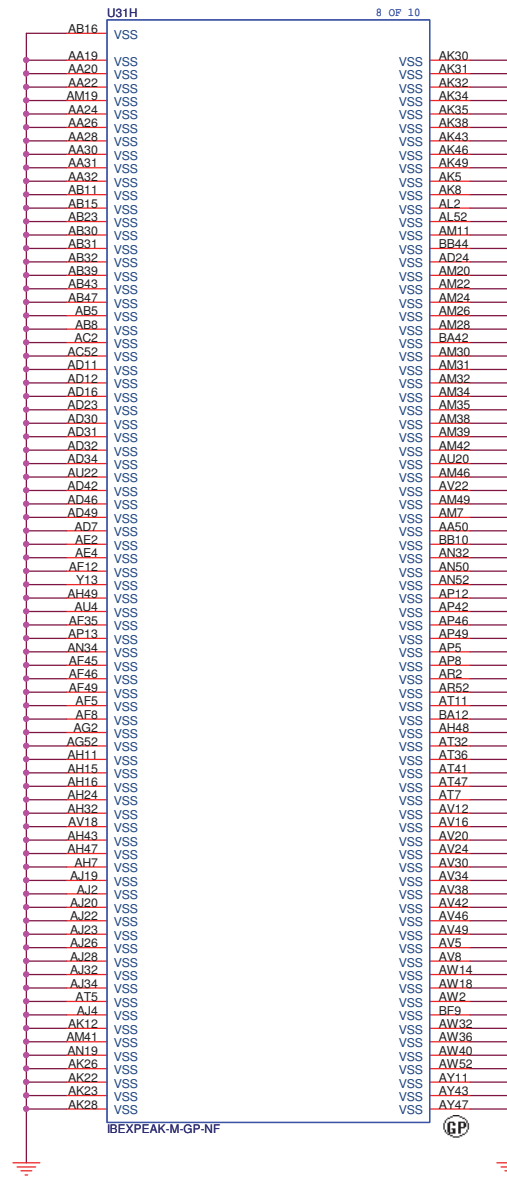
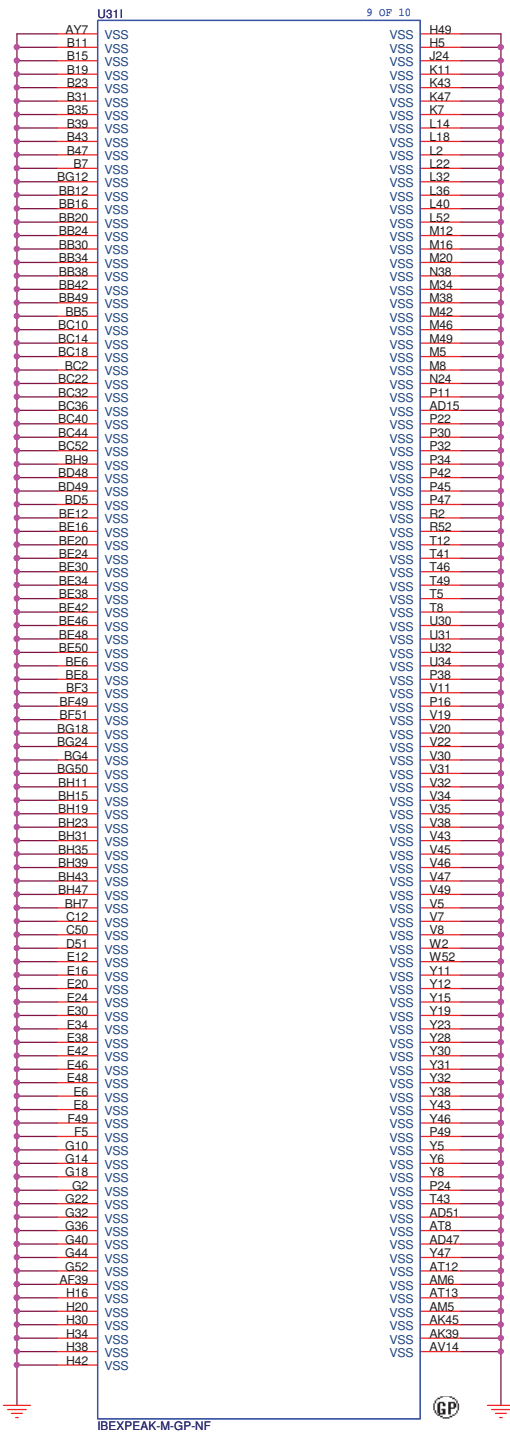
Title PCH(6/8) :Power

Size A2 Document Number Mocha-3 Rev -2

Date: Wednesday, January 27, 2010 Sheet 21 of 70

Caramel ID	Pecan ID	System
1	1	Mocha-3
1	0	Pecan-3
0	1	Reserved
0	0	Caramel-3



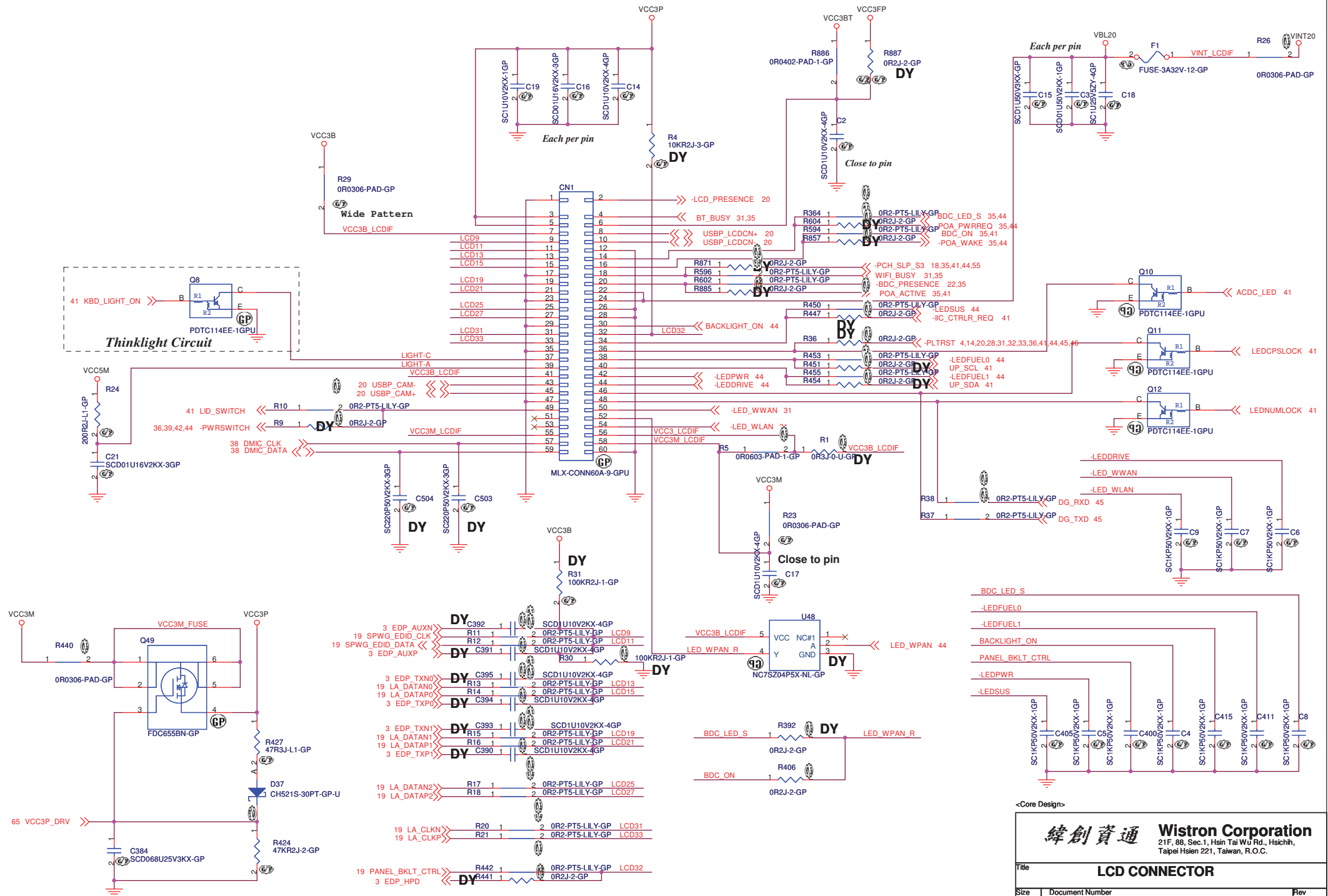


<Core Design>

Title			PCH(8/8) :GND		
Size	Document Number				Rev
A3	Mocha-3				-2
Date:	Wednesday, January 27, 2010				Sheet 23 of 70

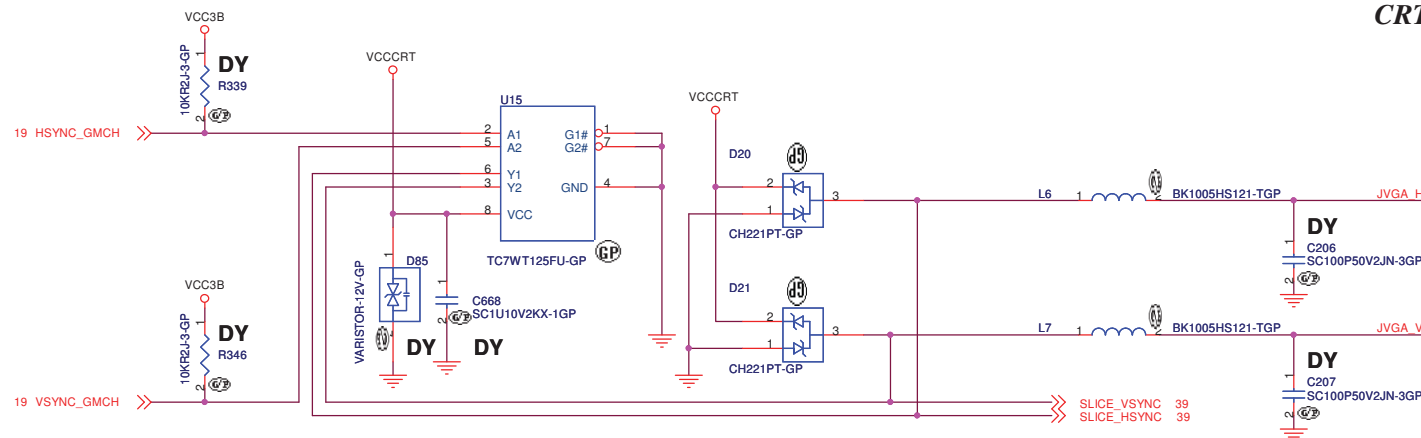
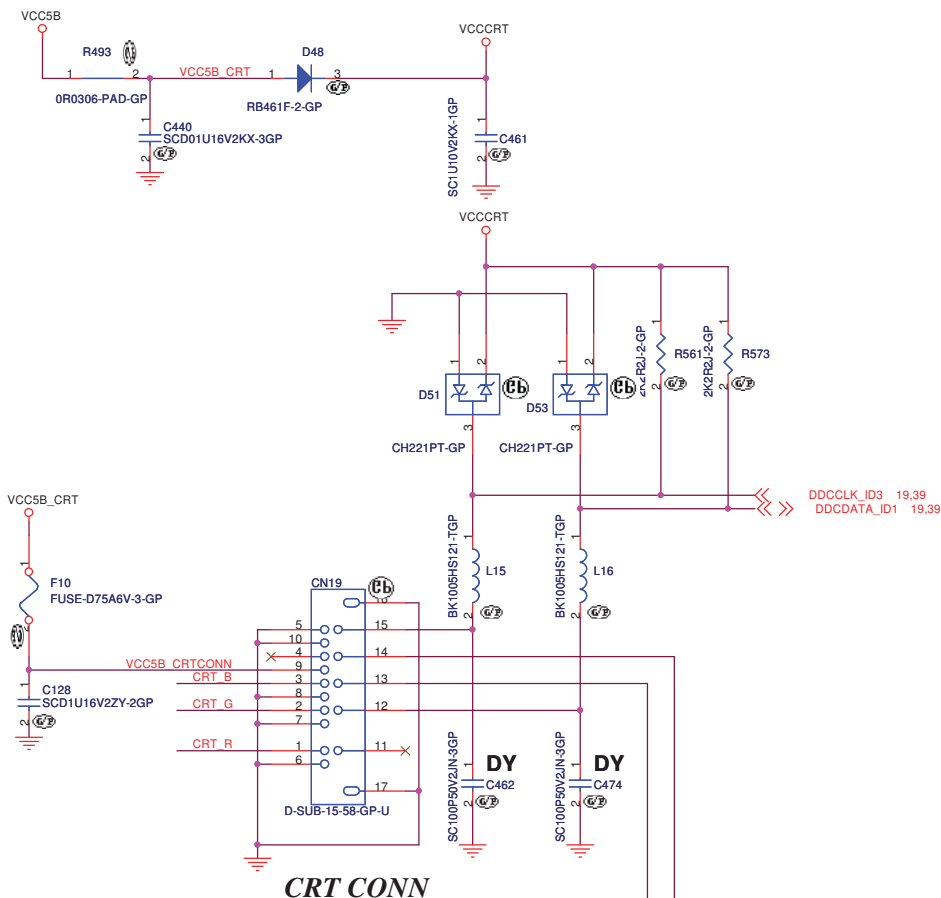
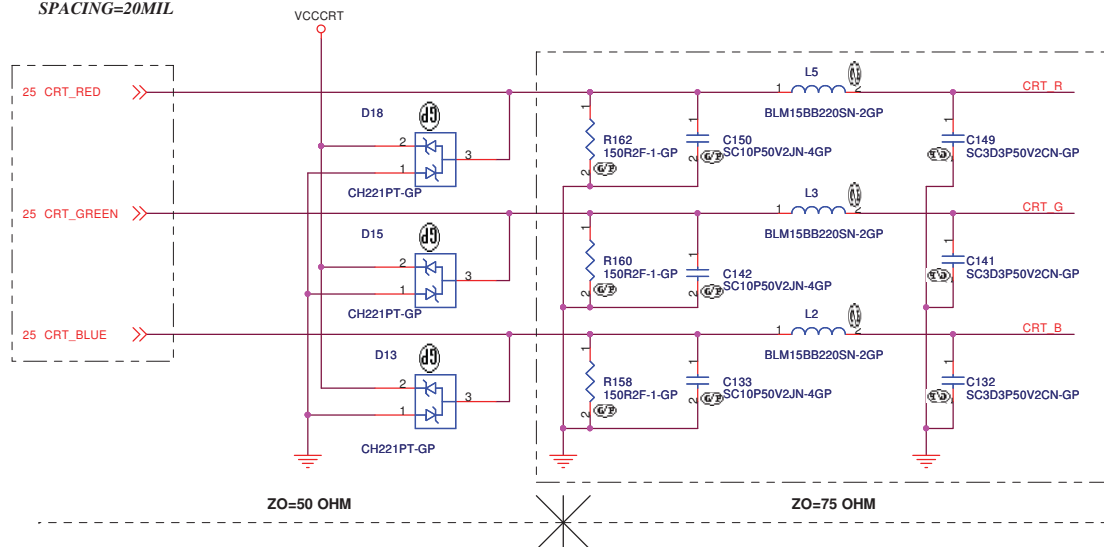
緯創資通 Wistron Corporation  
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih,  
Taipei Hsien 221, Taiwan, R.O.C.

## LCD / Inverter Connector





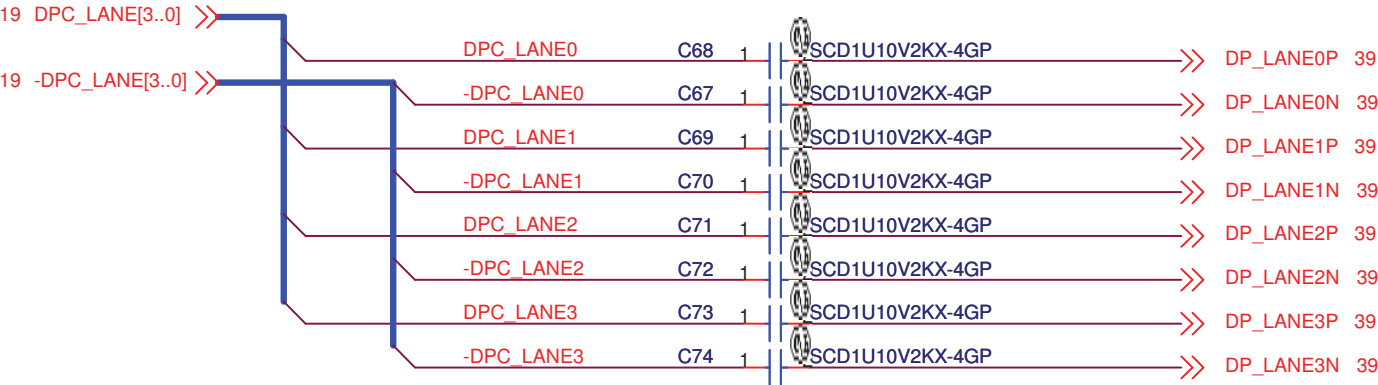
GND GUARDING  
EACH SIGNAL WIDTH DEPENDS ON ZO(TRACE IMPEDANCE)  
SPACING=20MIL



<Core Design>

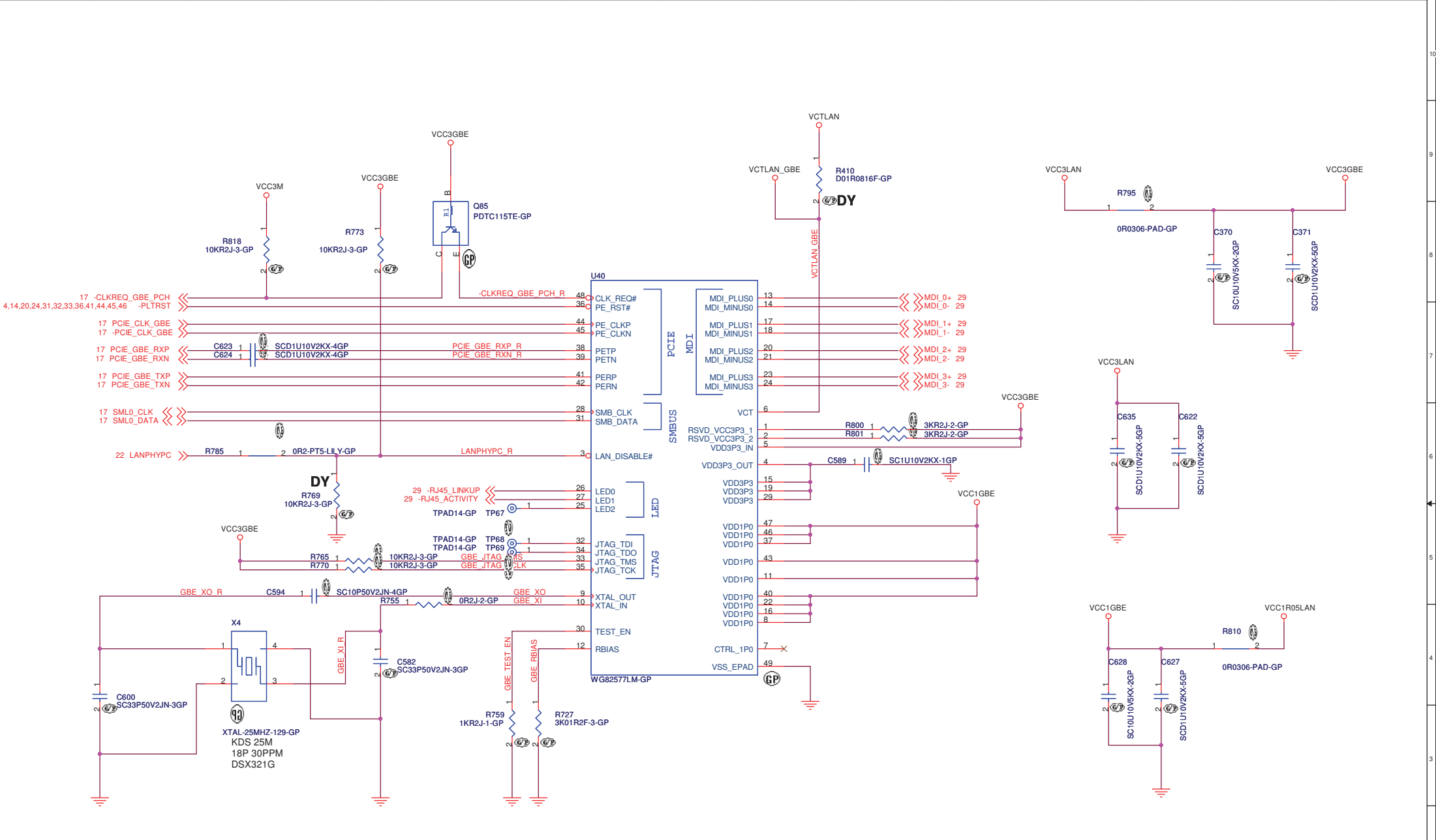
<b>緯創資通</b> <b>Wistron Corporation</b> 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichin, Taipei Hsien 221, Taiwan, R.O.C.	
<b>EXT CRT INTERFACE</b>	
Title Size A3	Document Number <b>Mocha-3</b>
Date: Wednesday, January 27, 2010	Sheet 26 of 70

System DP: GMCH to SLICE Connector



<Core Design>

		<b>Wistron Corporation</b> 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
<b><i>Display Port AC Coupling</i></b>			
Size A	Document Number <b>Mocha-3</b>		Rev <b>-2</b>
Date:	Wednesday, January 27, 2010	Sheet	27 of 70



X4

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

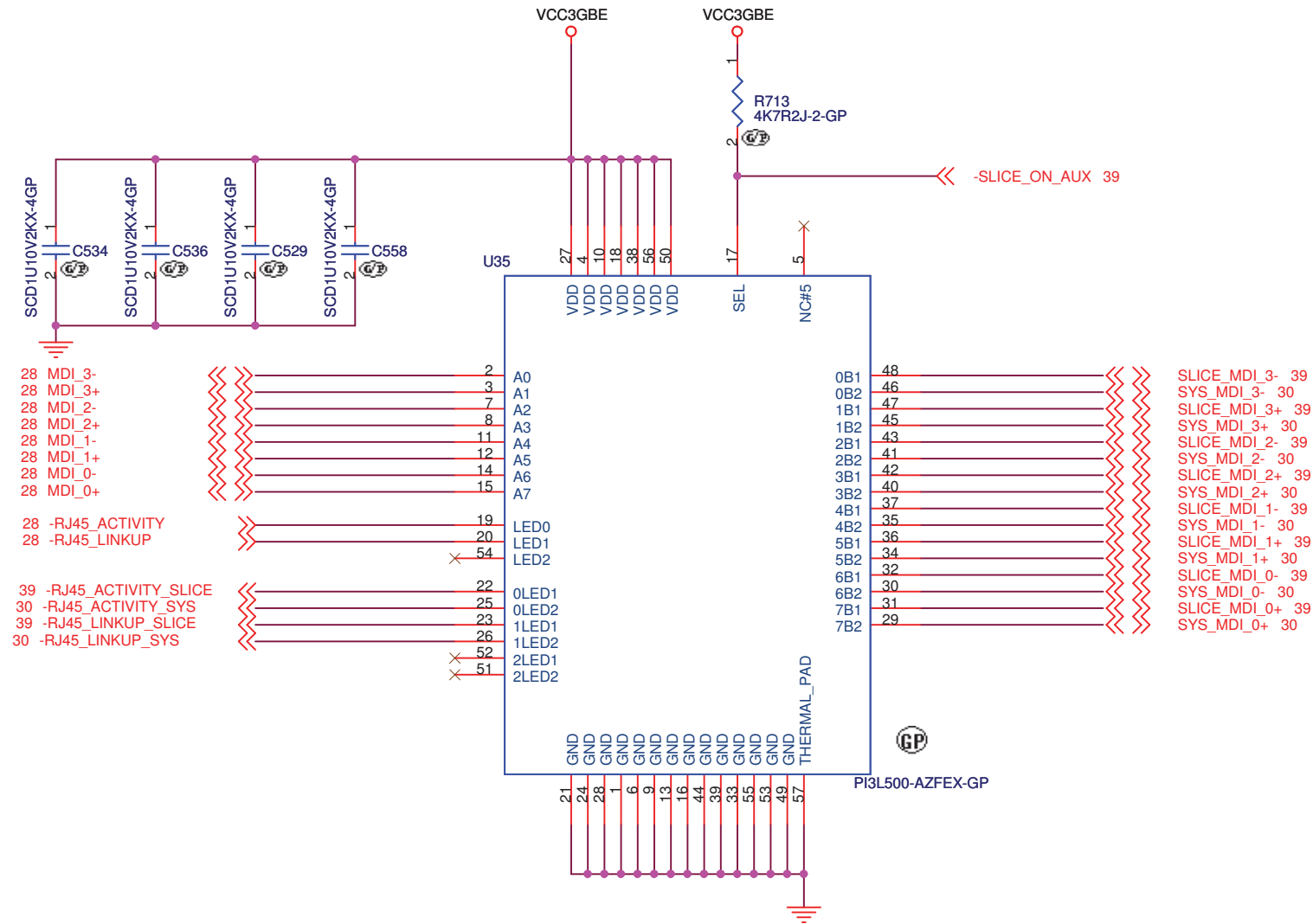
AMT	YES	NO
U40	82577LM	82577LC

<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 Hanksville**

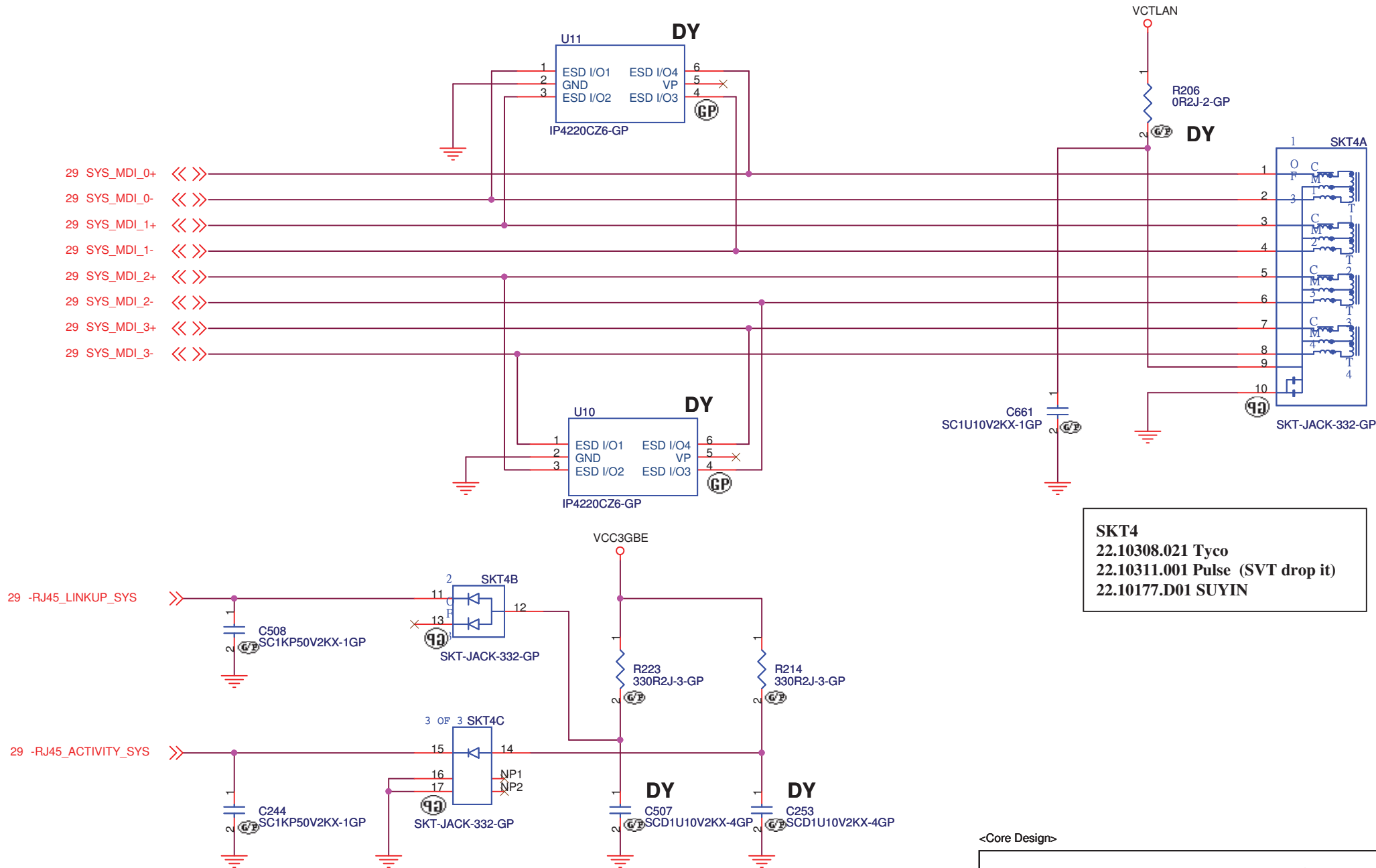
Size A3	Document Number	<b>Mocha-3</b>	Rev -2
Date: Wednesday, January 27, 2010	Sheet 28	of 70	



		Vendor P/N	Wistron P/N
1st	Pericom	PI3L500AZFEX	73.3L500.003
2nd	TI	TS3L500AERHUR	73.3L500.A0V

<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.	
<b>Title</b> <b>GBE LAN SW</b>			
Size A4	Document Number <b>Mocha-3</b>		Rev <b>-2</b>
Date: Wednesday, January 27, 2010		Sheet 29 of 70	



<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

**RJ45 CONN**

Size  
 A4

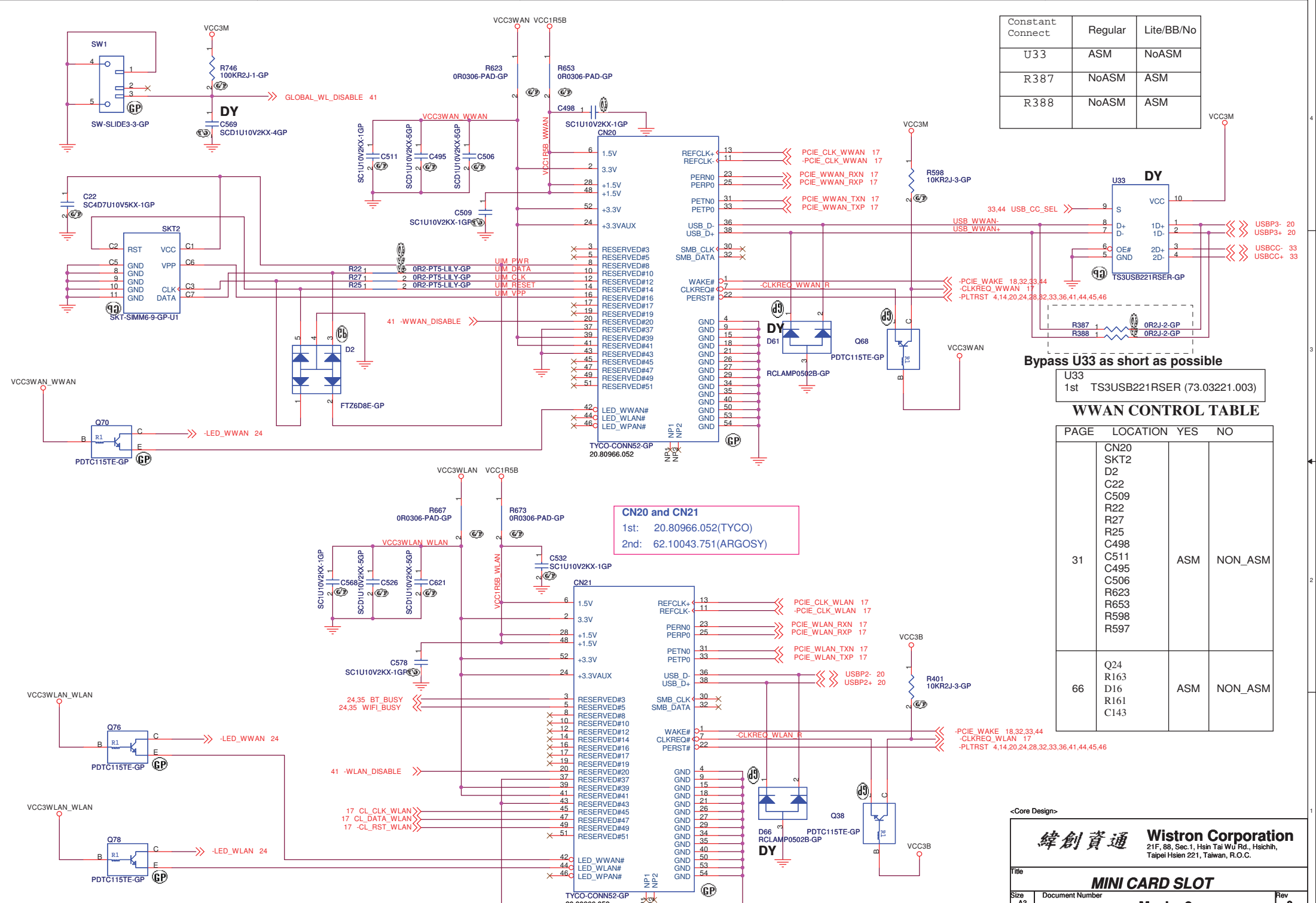
Document Number

**Mocha-3**

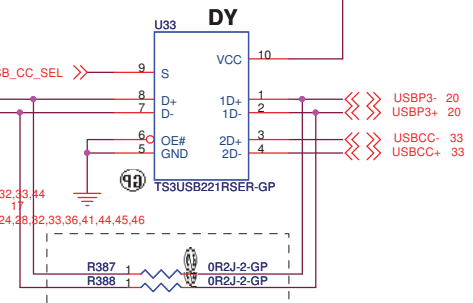
Rev  
**-2**

Date: Wednesday, January 27, 2010

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Constant Connect	Regular	Lite/BB/No
U33	ASM	NoASM
R387	NoASM	ASM
R388	NoASM	ASM



Bypass U33 as short as possible

U33  
1st TS3USB221RSE (73.03221.003)

WWAN CONTROL TABLE

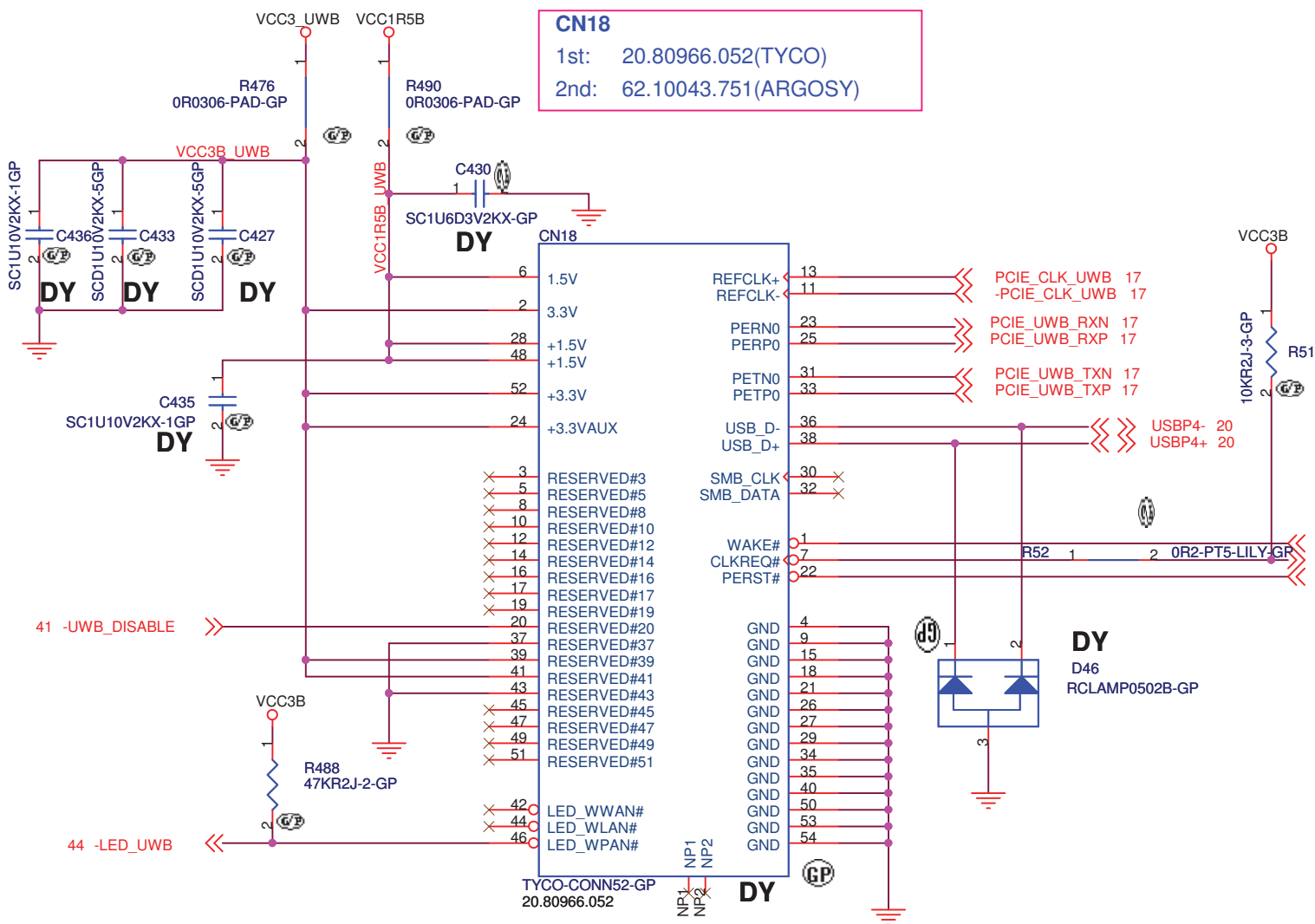
PAGE	LOCATION	YES	NO
31	CN20 SKT2 D2 C22 C509 R22 R27 R25 C498 C511 C495 C506 R623 R653 R598 R597	ASM	NON_ASM
66	Q24 R163 D16 R161 C143	ASM	NON_ASM

<Core Design>

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Title			Rev		
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CN20 and CN21  
1st: 20.80966.052(TYCO)  
2nd: 62.10043.751(ARGOSY)



UWB	YES	NO
CN18	ASM	DY
C427	ASM	DY
C433	ASM	DY
C436	ASM	DY
C430	ASM	DY
C435	ASM	DY
D46	DY	DY
R51	ASM	ASM
R52	ASM	DY
R488	ASM	ASM
R62	ASM	DY

-PCIE\_WAKE 18,31,33,44  
-CLKREQ\_UWB 17  
-PLTRST 4,14,20,24,28,31,33,36,41,44,45,46

<Core Design>

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

Title		
MINI CARD SLOT 2		
Size A4	Document Number Mocha-3	Rev -2
Date: Wednesday, January 27, 2010		
Sheet 32 of 70		



J2  
62.10034.331

0.4A  
VCC1R8B

0.4A

Turbo memory Braidwood Support	YES	NO
J2	ASM	DY
TC9	ASM	DY
C545	DY	DY
C579	DY	DY
C351	ASM	DY
C562	DY	DY
C538	DY	DY

<Core Design>

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Title

Braidwood ONFI Connector

Size  
A3

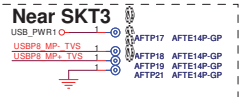
Document Number  
Mocha-3

Rev  
-2

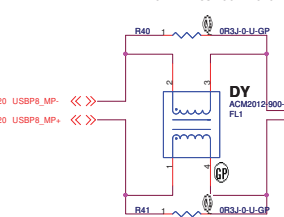
Date: Wednesday, January 27, 2010

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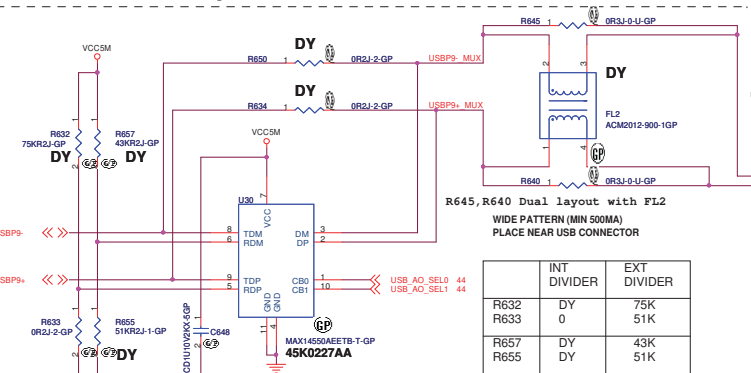
Del these circuits for Caramel-3



WIDE PATTERN (MIN 500MA)  
PLACE NEAR USB CONNECTOR



R40, R41 Dual layout with FL1



INT DIVIDER	EXT DIVIDER
R632 DY 0	75K 51K
R657 DY 43K	43K 51K
R655 DY	

CB1 (USB_A0_SEL1)	CB0 (USB_A0_SEL0)	Function Mode
Low	Low	Auto
Low	High	Force Resistor
High	Low	Force Short
High	High	Pass Through

U34 (Need the discharge function)

	Vendor	Vendor P/N	Wistron P/N
1st	TI	TPS2065DGN-1-GP	74.02065.A79
2nd	Rohm	BD8014FVJ	74.08014.07G

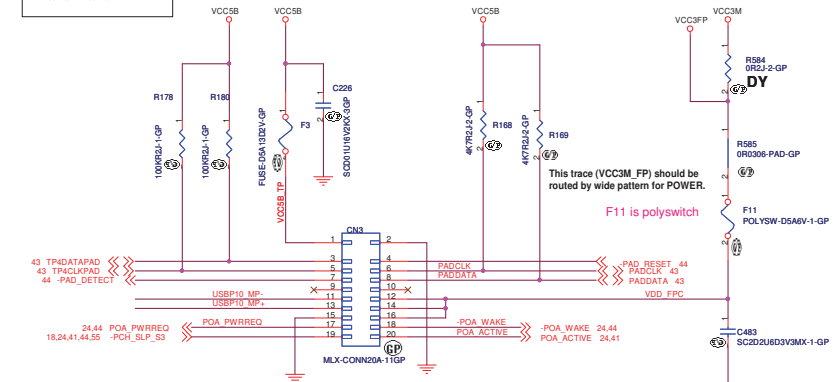
C516 C32

	Vendor	Vendor P/N	Wistron P/N
1st	NEC/TOKIN	TLP5LV0J157M(40)12RE	77.C1571.02L
2nd	SANYO	6TPC150M	77.21571.03L
3rd	PANASONIC	EEFCX0J151R	79.15710.2BL

U23	U24		
	Vendor	Vendor P/N	Wistron P/N
1st	TI	TPS2065DGN-1-GP	74.02065.A79
2nd	TI	TPS2065DGN-GP	41A1229AA
3rd	Rohm	BD8014FVJ	74.08014.07G

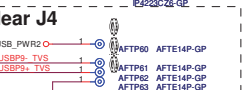
## Fingerprint Reader / Touch PAD

CN3  
MOLEX 54722-0204  
20.F0717.020



Please put CN3 on TOP side

This trace (VCC3M\_FP) should be routed by wide pattern for POWER.  
F11 is polyswitch

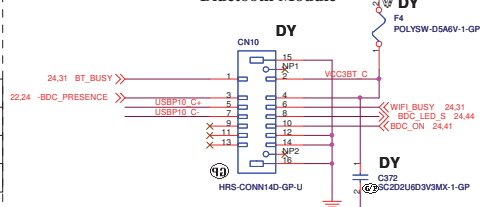


U1,U18

44 US

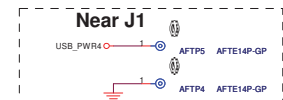
	Vendor	Vendor P/N	Wistron P/N
1st	NXP	IP4223C26	83.42236.0AE
2nd	SEMTECH	SRV05-4.TCT	83.00005.BAE /41U5451AA
3rd	AOS	A028904CIL	83.08904.0AE

## Bluetooth Module

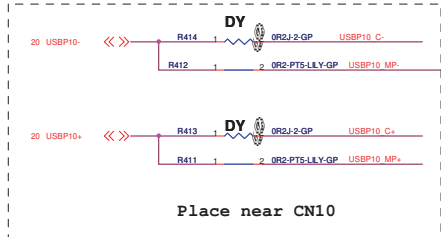


For Caramel

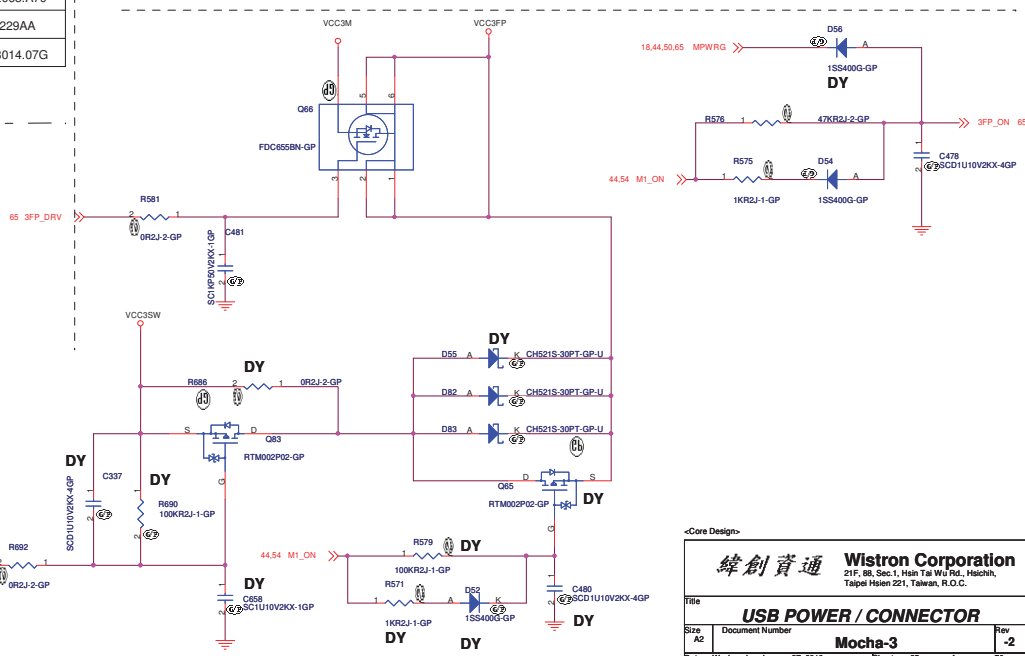
For Caramel



For Caramel



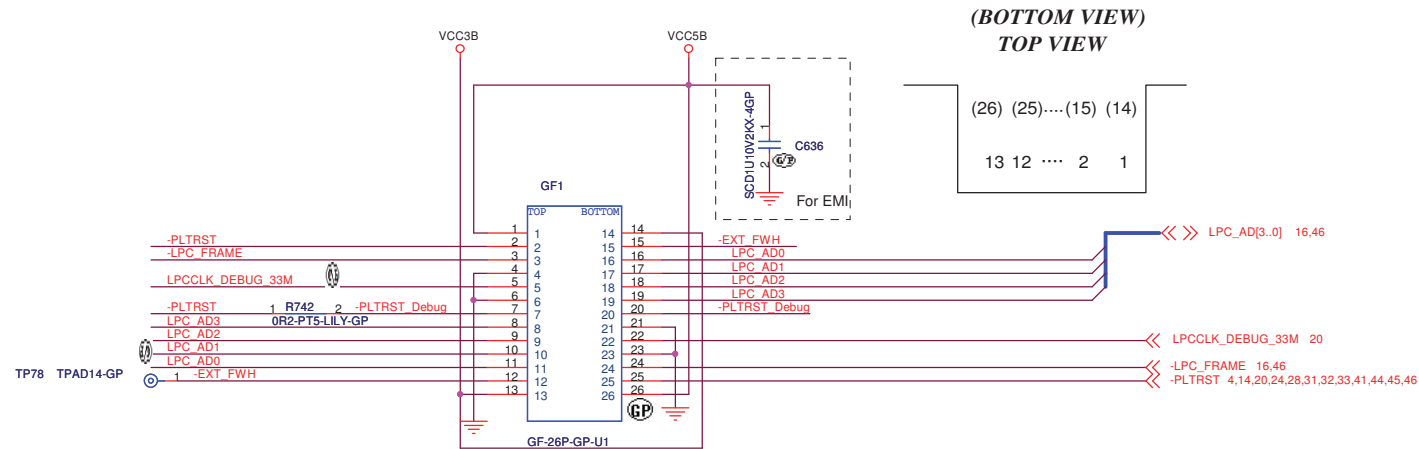
Place near CN10



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USB POWER / CONNECTOR			
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A2		-2	
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# Golden Finger for Debug Board

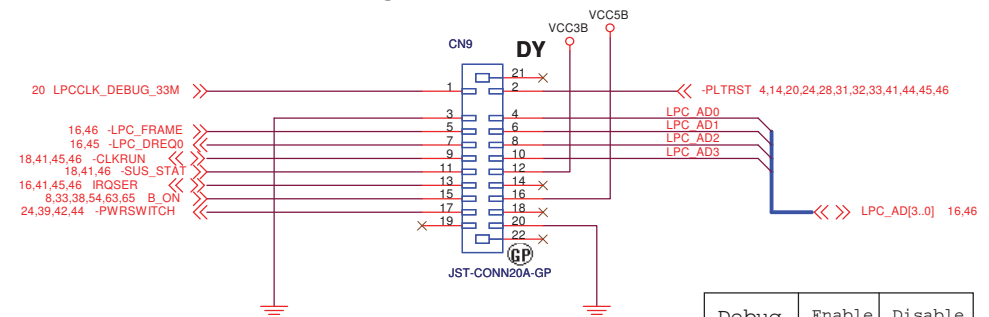


64Mbit SPI FLASH : SO8		
MXIC	MX25L6445EM2I-10G	72.25644.001
Winbond	W25X64BVSSIG	72.25X64.B01

64Mbit SPI FLASH : WSON8		
MXIC	MX25L6405DZNI-12G	41R0821AA
Winbond	W25X64VZEIG	41R0821BA
Winbond	W25X64BVZEIG	72.25X64.C01

64Mbit SPI FLASH : MLP8		
Numonyx	M25PX64-VME6TG	72.25P64.003

## Debug card connector



Put "easy-to -access" place

Debug	Enable	Disable
CN9	ASM	DY
R638	ASM	DY

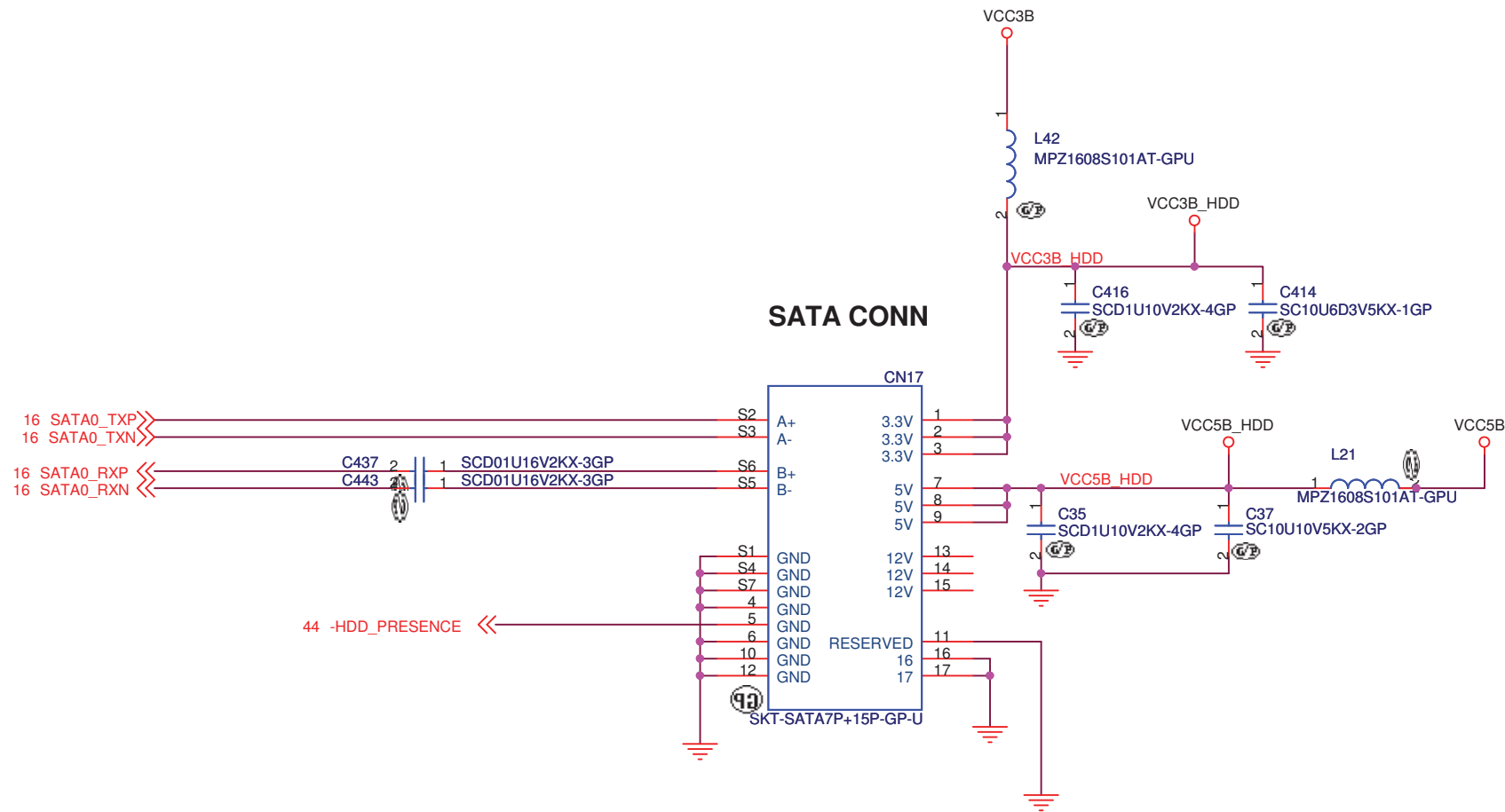
ICP Enable	
R343	RB520S-30
R666	470 5%
R669	470 5%
R668	470 5%
R382	470 5%

SO8 and WSON8 are both supported!

SF 100 PIN HEADER INTERFACE (Top View)					
1	VCC	R343.2	GND	GND	2
3	CS#	R666.1	R669.1	CLK	4
5	MISO	R382.2	R668.1	MOSI	6
7	(KEY)	N/A	N/A	(RESET)	8

<Core Design>

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Title		
SPL&LPC debug card		
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Title

**2.5 inch SATA Connector**

Size

Document Number

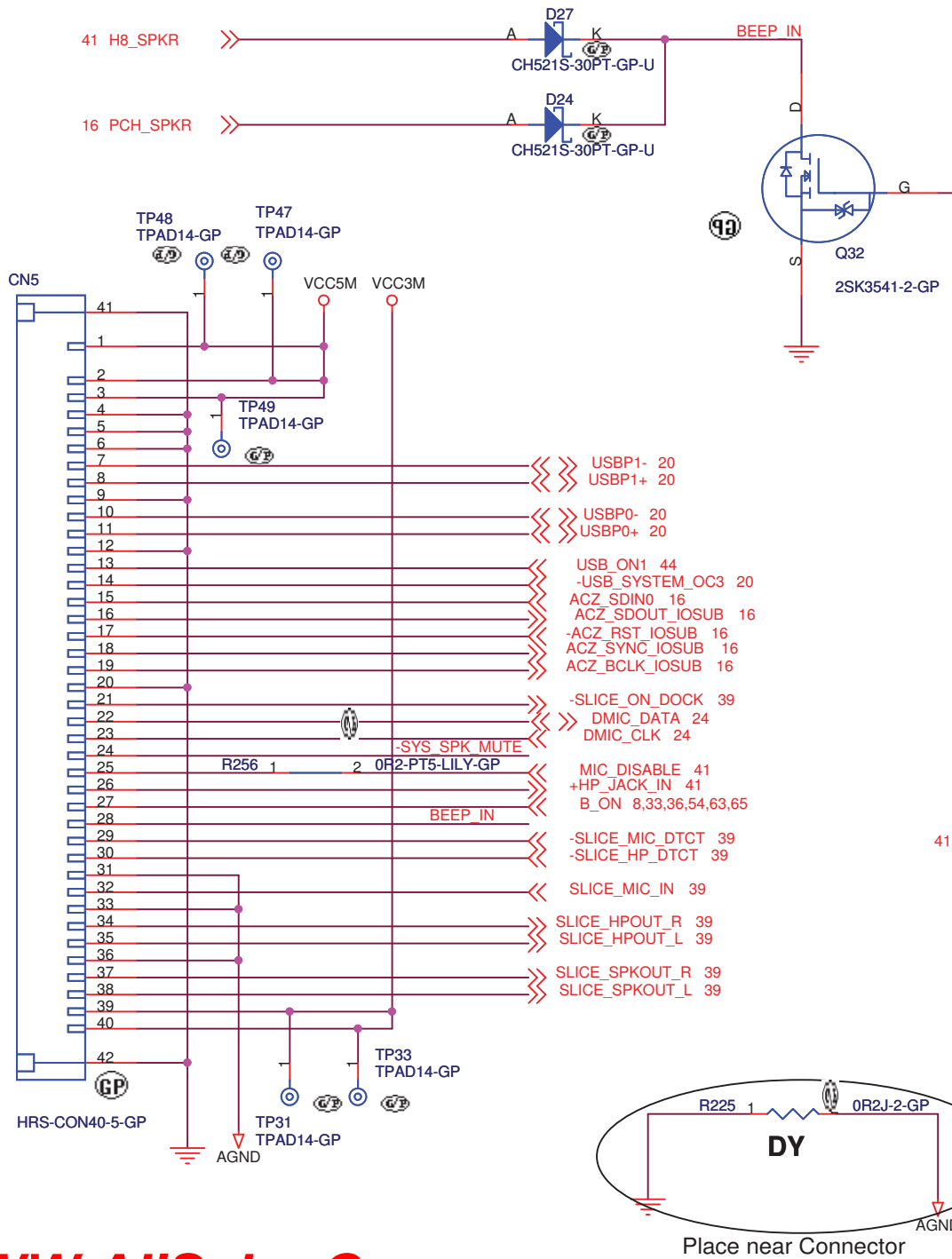
**Mocha-3**

Rev

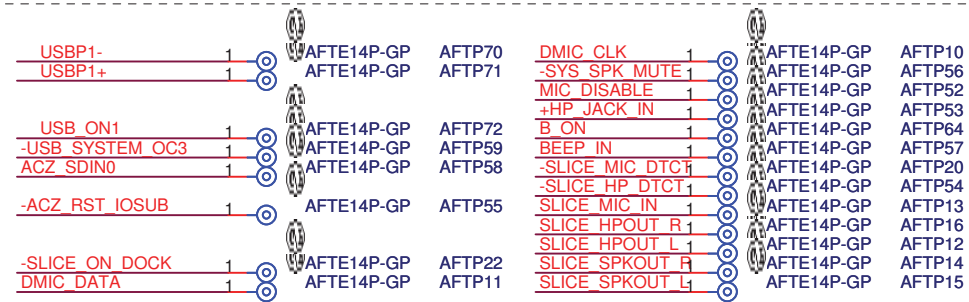
**-2**

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## Near CN5



<Core Design>

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Title

**SUB-CARD CONNECTOR**

Size  
A4

Document Number

**Mocha-3**

Rev  
-2

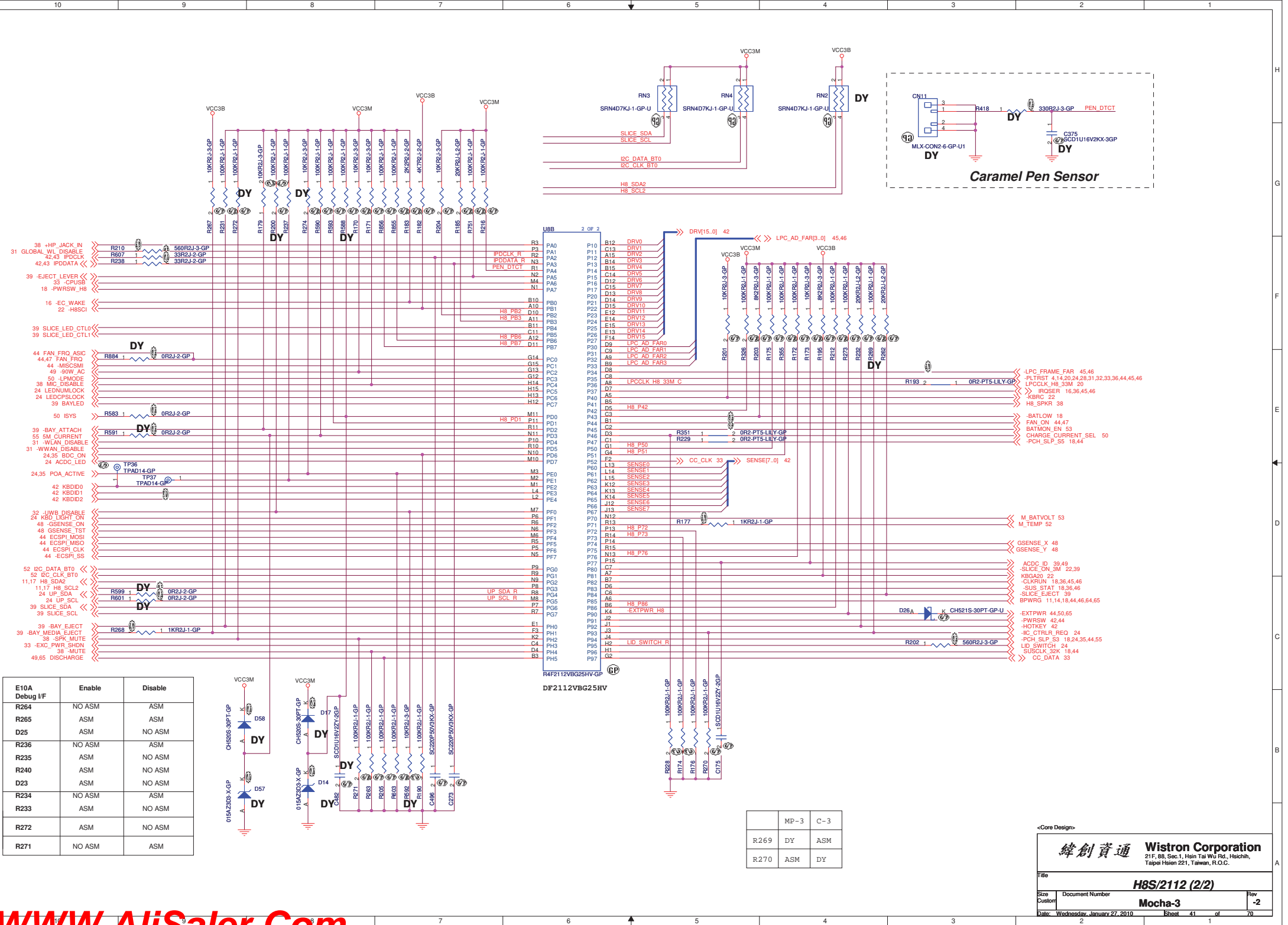
Date: Wednesday, January 27, 2010

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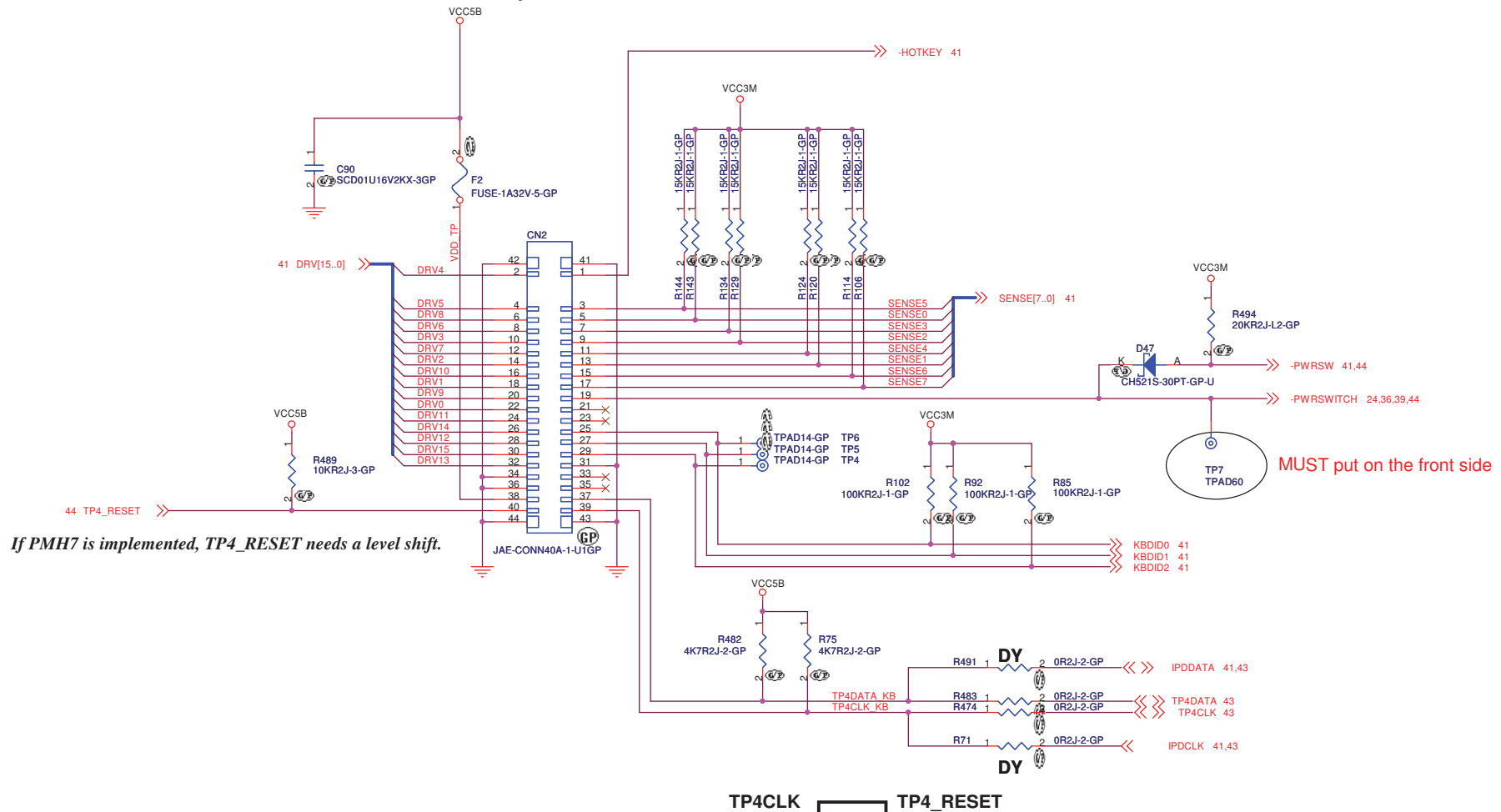
E10A Debug I/F	Enable	Disable
R264	NO ASM	ASM
R265	ASM	ASM
D25	ASM	NO ASM
R236	NO ASM	ASM
R235	ASM	NO ASM
R240	ASM	NO ASM
D23	ASM	NO ASM
R234	NO ASM	ASM
R233	ASM	NO ASM
R272	ASM	NO ASM
R271	NO ASM	ASM



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Title H8S/2112 (2/2)		
Size Custom	Document Number Mocha-3	Rev -2
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# Keyboard Connector



If PMH7 is implemented, TP4\_RESET needs a level shift.

MUST put on the front side

TP4CLK TP4\_RESET

Near CN2

DRV4	1	AFTE14P-GP	AFTP49
DRV5	1	AFTE14P-GP	AFTP48
DRV6	1	AFTE14P-GP	AFTP45
DRV7	1	AFTE14P-GP	AFTP42
DRV8	1	AFTE14P-GP	AFTP46
DRV9	1	AFTE14P-GP	AFTP39
DRV10	1	AFTE14P-GP	AFTP38
DRV11	1	AFTE14P-GP	AFTP36
DRV12	1	AFTE14P-GP	AFTP43
DRV13	1	AFTE14P-GP	AFTP33
DRV14	1	AFTE14P-GP	AFTP40
DRV15	1	AFTE14P-GP	AFTP34
DRV16	1	AFTE14P-GP	AFTP30
DRV17	1	AFTE14P-GP	AFTP32
DRV18	1	AFTE14P-GP	AFTP28
DRV19	1	AFTE14P-GP	AFTP27
SENSE5	1	AFTE14P-GP	AFTP50
SENSE6	1	AFTE14P-GP	AFTP47
SENSE7	1	AFTE14P-GP	AFTP44
SENSE8	1	AFTE14P-GP	AFTP41
SENSE9	1	AFTE14P-GP	AFTP37
SENSE10	1	AFTE14P-GP	AFTP35
SENSE11	1	AFTE14P-GP	AFTP31
SENSE12	1	AFTE14P-GP	AFTP29
SENSE13	1	AFTE14P-GP	AFTP25
SENSE14	1	AFTE14P-GP	AFTP24
SENSE15	1	AFTE14P-GP	AFTP23
SENSE16	1	AFTE14P-GP	AFTP26
SENSE17	1	AFTE14P-GP	AFTP51
IPDDATA	1	AFTE14P-GP	AFTP25
IPDCLK	1	AFTE14P-GP	AFTP24
TP4_RESET	1	AFTE14P-GP	AFTP23
VDD_TP	1	AFTE14P-GP	AFTP26
-HOTKEY	1	AFTE14P-GP	AFTP51

HOTKEY# DRV4

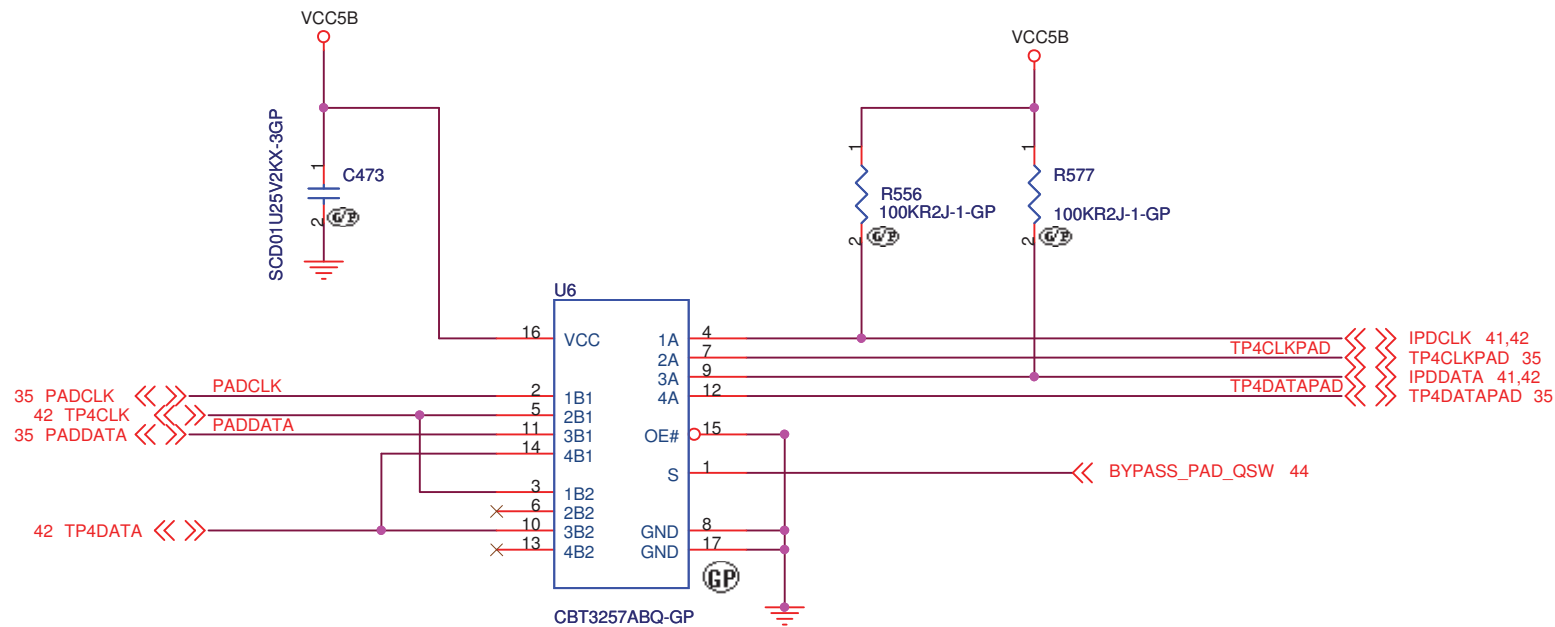
Keyboard Connector Top View

<Core Design>

緯創資通

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

Title			
KEYBOARD CONN			
Size	Document Number	Rev	
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<Core Design>

緯創資通

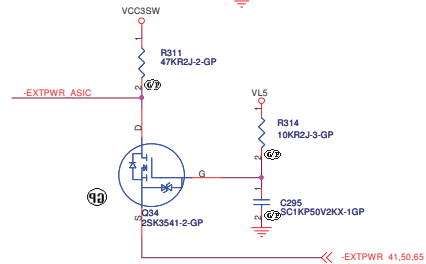
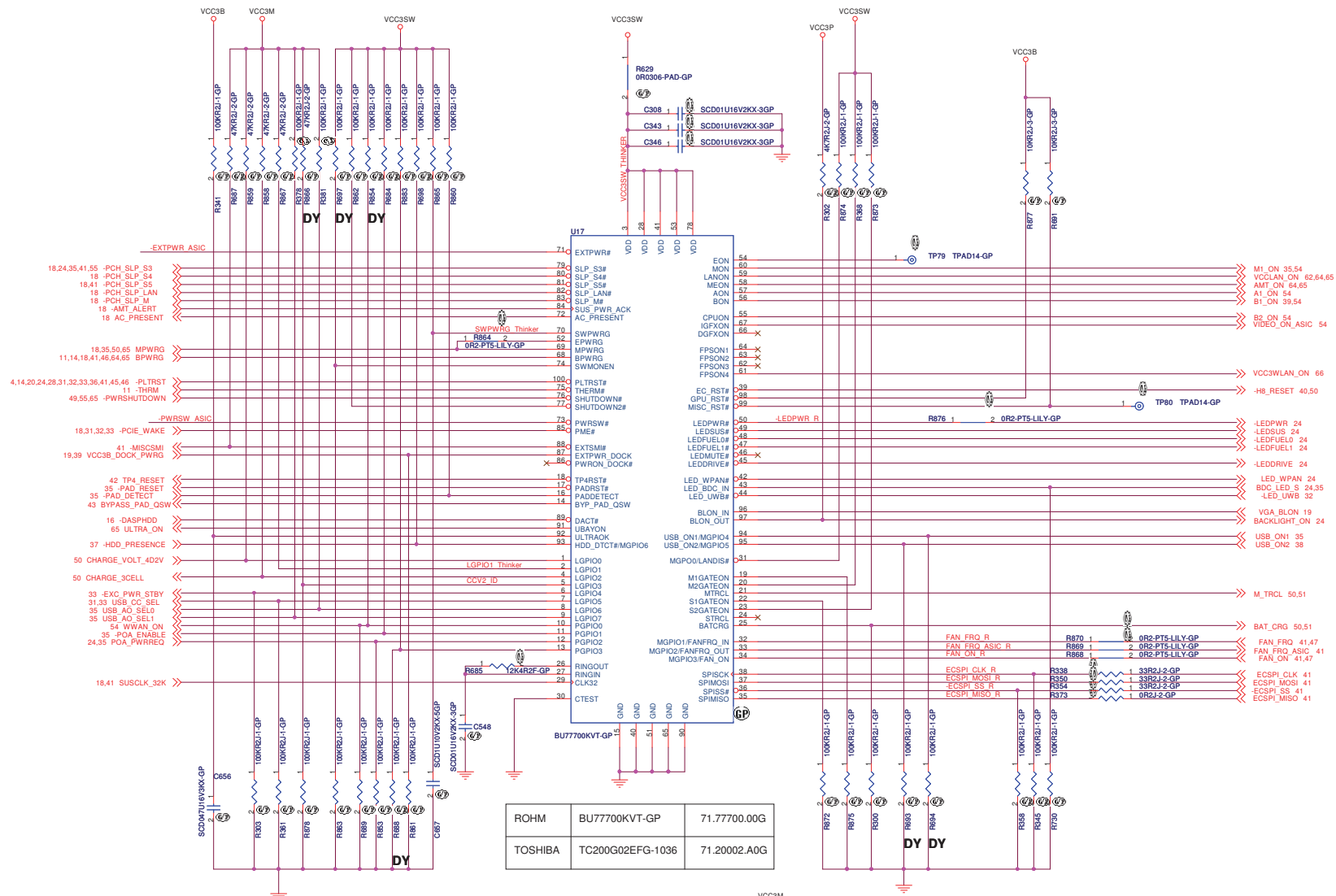
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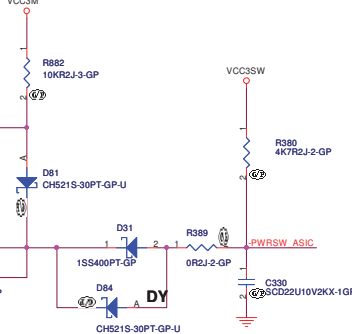
Title **TOUCH PAD CONNECTOR**

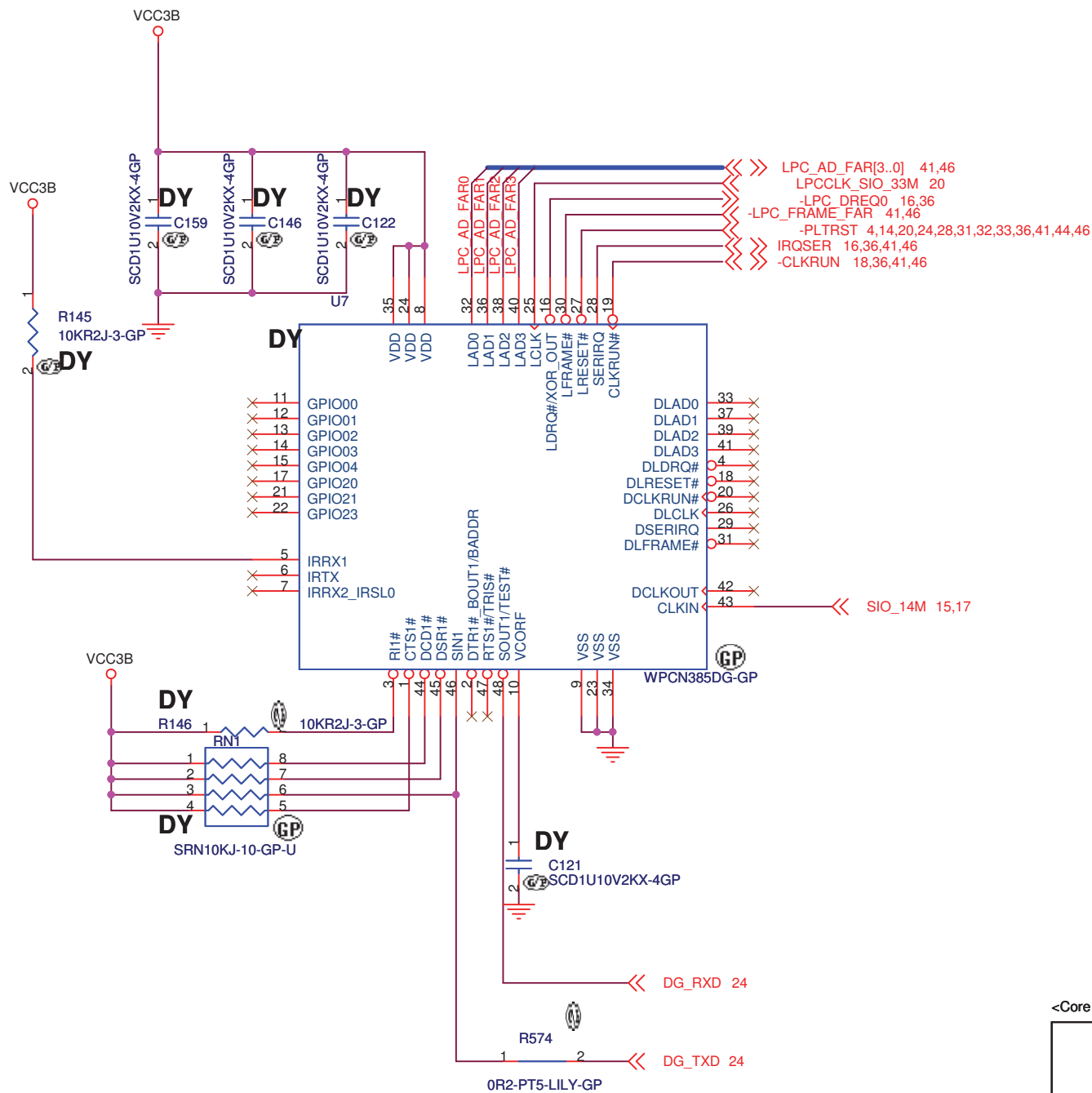
Size A4	Document Number <b>Mocha-3</b>	Rev <b>-2</b>
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ROHM	BU77700KVT-GP	71.77700.00G
TOSHIBA	TC200G02EFG-1036	71.20002.A0G





	MP	Caramel
U7	DY	ASM
C159	DY	ASM
C146	DY	ASM
C122	DY	ASM
R145	DY	ASM
R146	DY	ASM
RN1	DY	ASM
R574	DY	ASM
C121	DY	ASM

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Title

**WPCN385SDG**

Size  
A4

Document Number

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-2

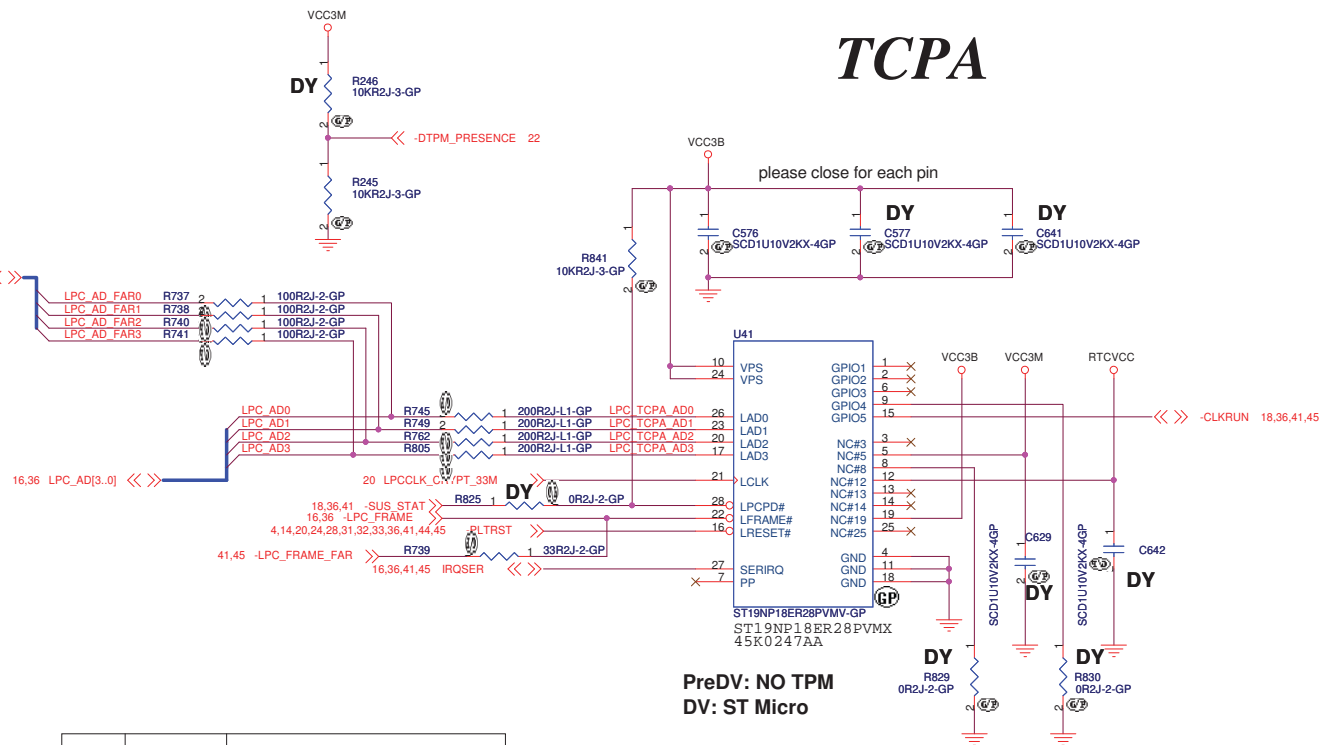
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1st	Fairchild	NC7SZ384	77P2644CA
2nd	TI	SN74CBT1G384DCKR	77P2644BA
3rd	Toshiba	TC7SB384FU	77P2644AA

*TCPA*



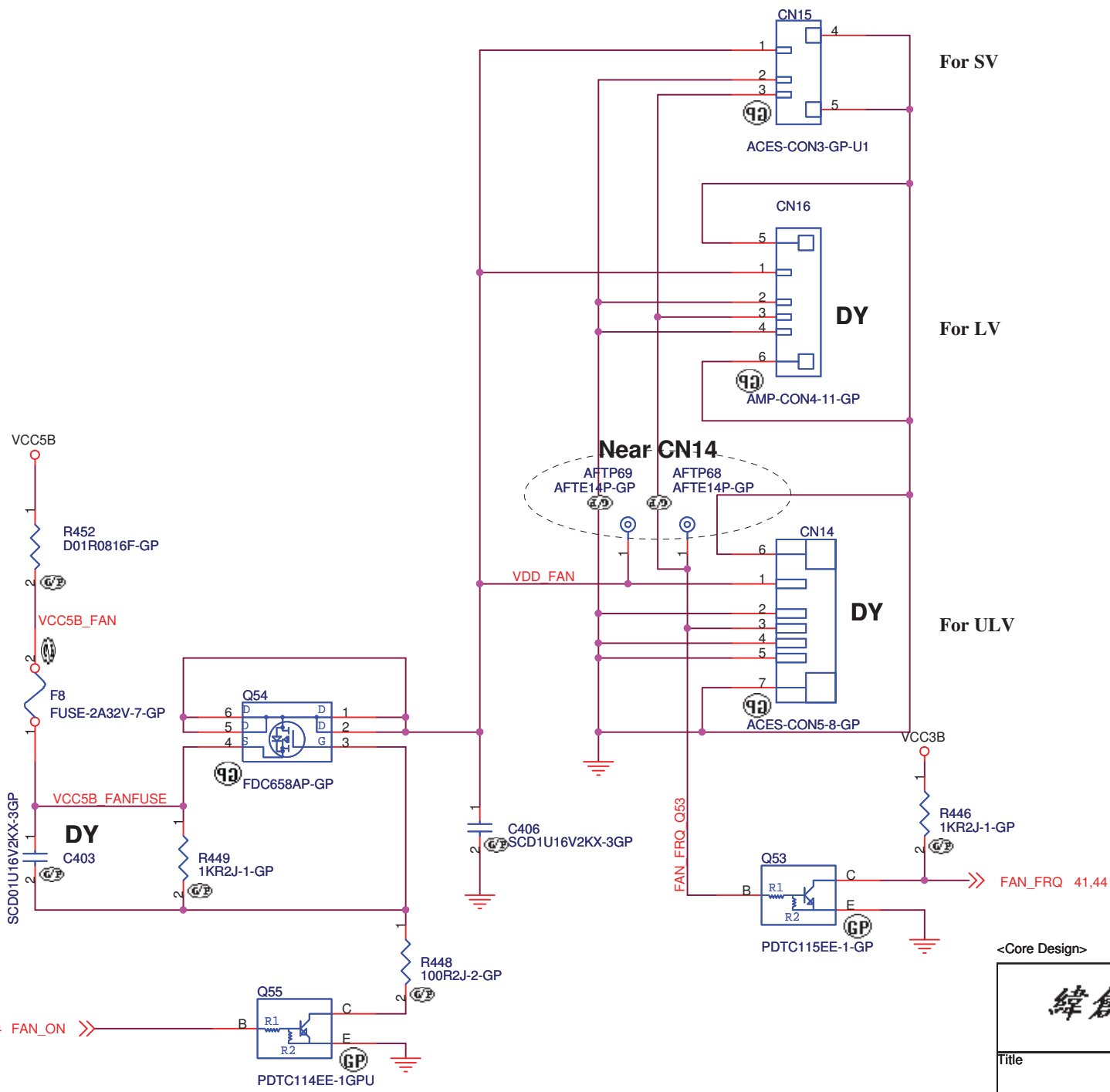
	Vendor	U37	Part Number
1st	PHILIPS	PCA24S08D TSSOP 8P	72.24S08.00Q
2nd	ROHM	BUL08-1FVJ-W	72.BUL08.00Q

	NO TPM	ST Micro ST19NP18-TPM-A
U41	NO_ASM	ASM
C576	NO_ASM	ASM
C577	NO_ASM	NO_ASM
R825	NO_ASM	ASM
R829	NO_ASM	NO_ASM
R830	NO_ASM	NO_ASM
R841	NO_ASM	NO_ASM
R246	ASM	NO_ASM
R245	NO_ASM	ASM

**Change U41 ST Microelectronics TPM  
from ST19NP18ER28PVMV (F/W Rev: 1.2.8.C)  
to ST19NP18ER28PVMX (F/W Rev: 1.2.8.10)**

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Title			
<b>EEPROM/TCPA</b>			
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CN15		
1st	20.F0714.003	Aces
2nd	20.D0201.103	Tyco

CN16		
1st	20.D0201.104	Tyco
2nd	20.F0714.004	Aces

CN14		
1st	20.F0714.005	Aces
2nd		

<Core Design>

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Title

FAN CONTROL

Size A4

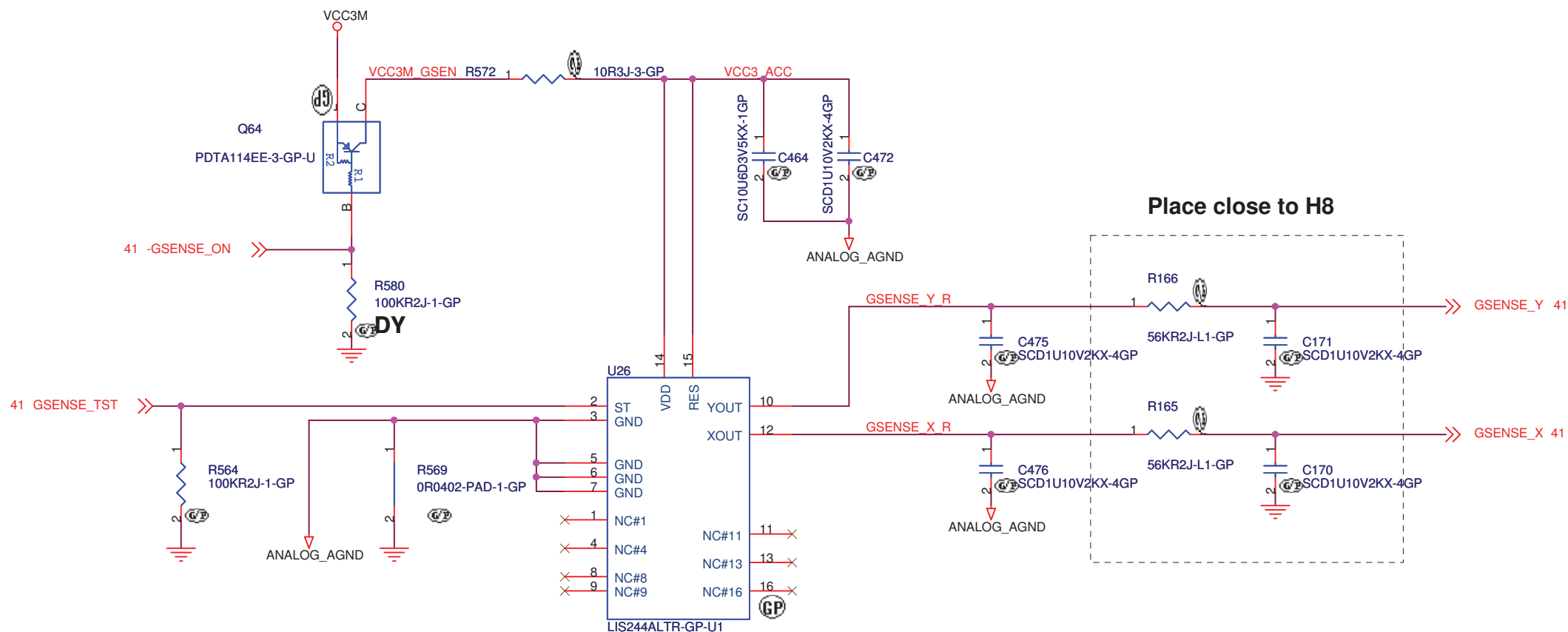
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	LIS244AL LIS34AL	No Accel
R580	NO_ASM	ASM
R564	ASM	ASM
All other	ASM	NO_ASM

#### U26

Primary	STMicro LIS244AL	74.00244.0BZ
Second	STMicro LIS34AL	74.00034.0BZ

#### Layout Comment :

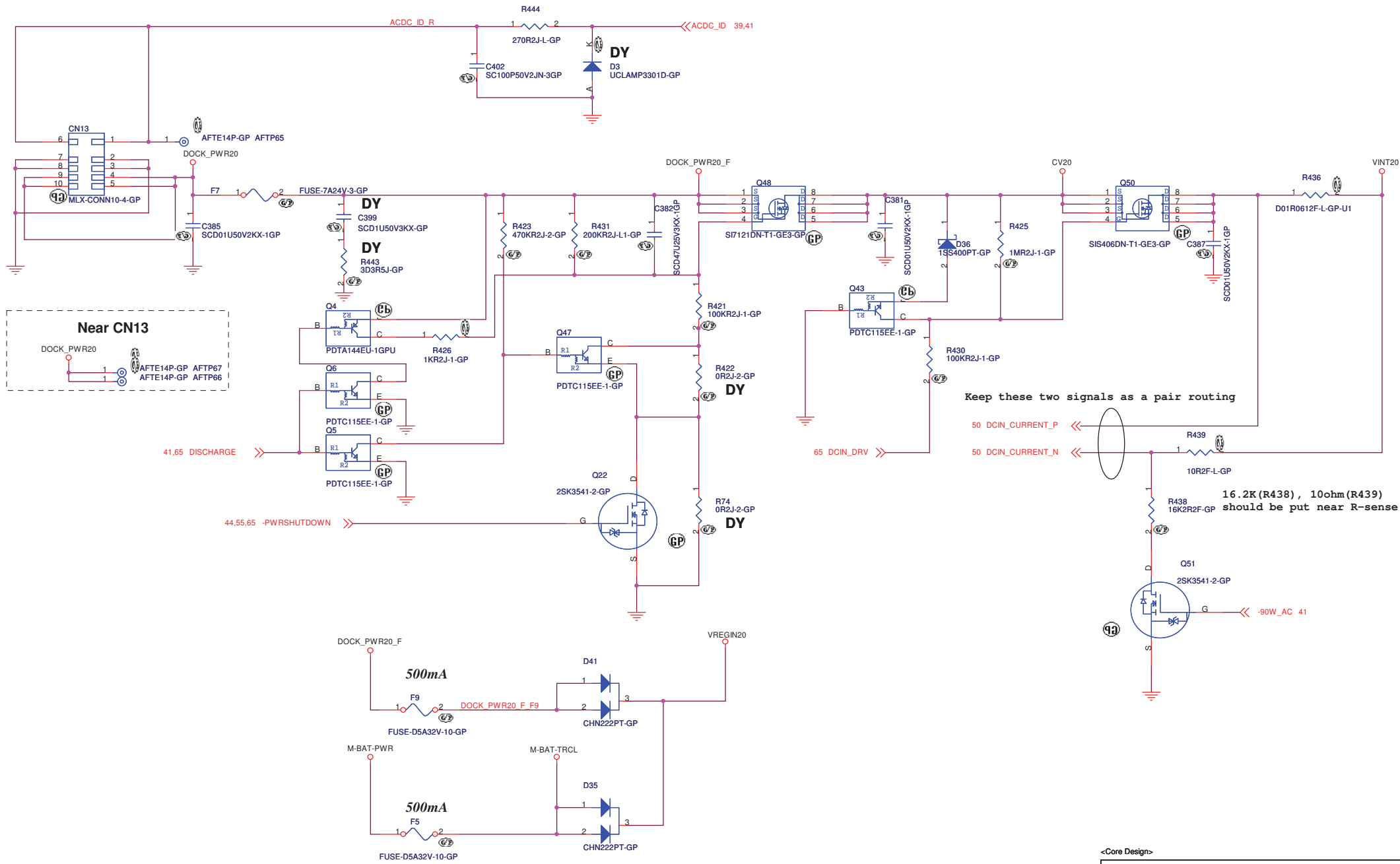
(1) Place C475,C476,Q64,R572,R580  
C464,C472,R564,R569 close to U26

(2) Avoid routing under DCDC switching area.

Width = 6 mil & Spacing = 10 mil  
for three Output traces

<Core Design>

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Title	
<b>G-SENSOR</b>	
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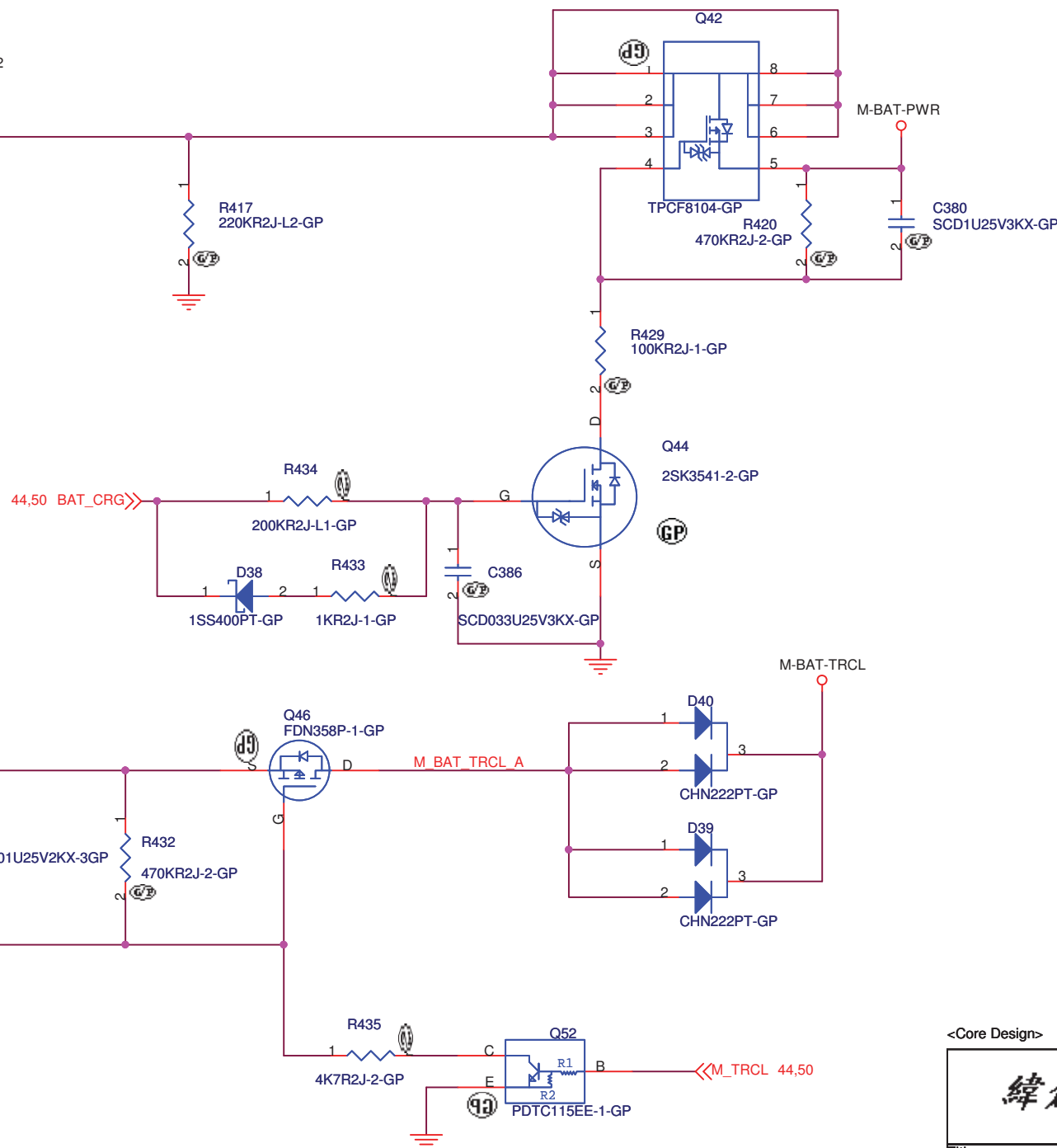
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Title			<b>DC-IN AND CHARGER (1/2)</b>	
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CHARGER\_OUT12



<Core Design>

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Title

**CHARGER SELECT**

Size  
A4

Document Number

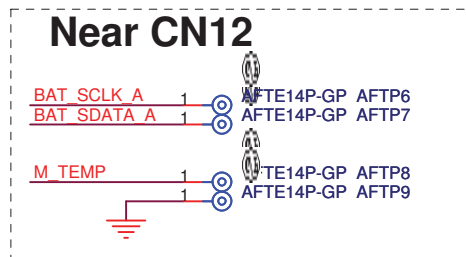
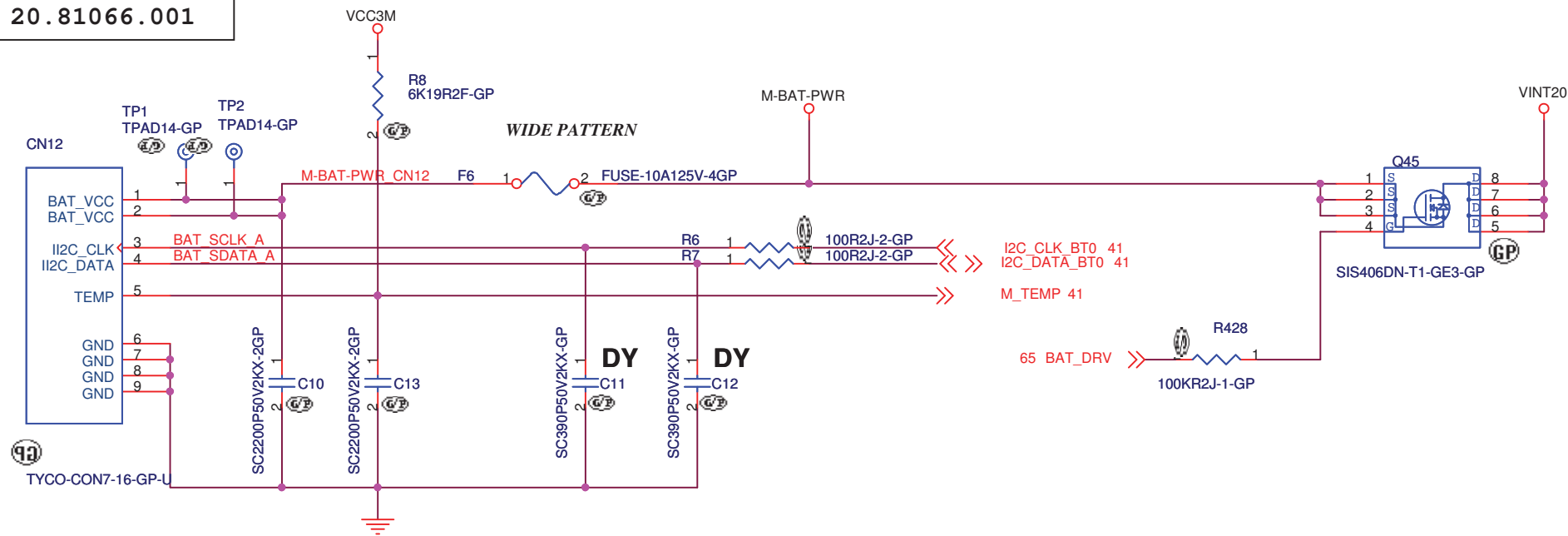
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CN12  
AMP 2041614-1  
20.81066.001



<Core Design>

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Title

**BATTERY INPUT**

Size  
A4

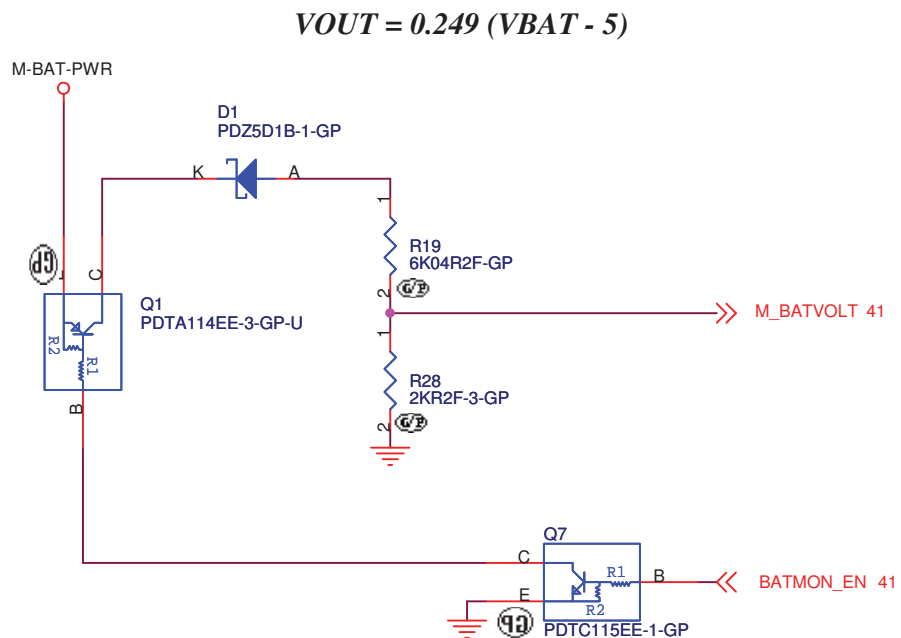
Document Number

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<Core Design>

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Title

**BATTERY MONITOR**

Size  
A4

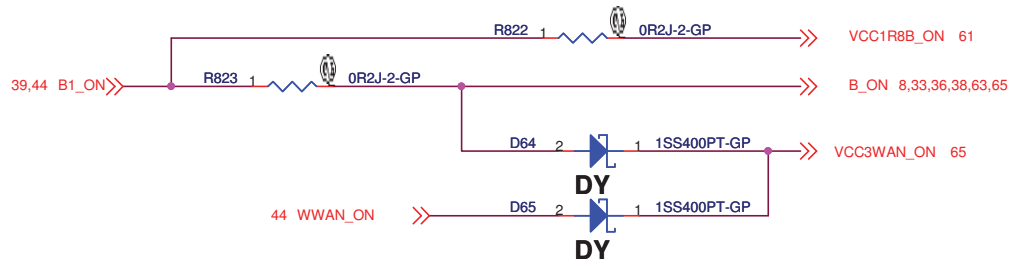
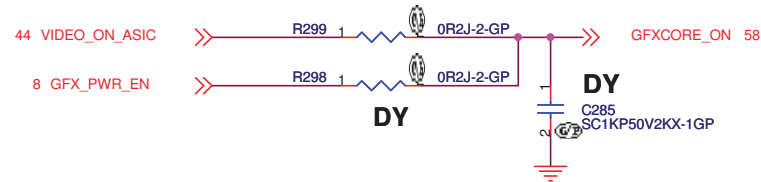
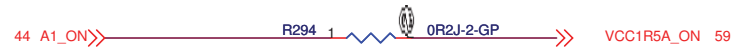
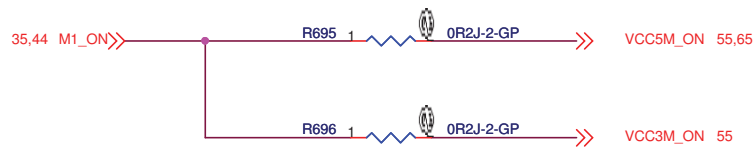
Document Number

**Mocha-3**

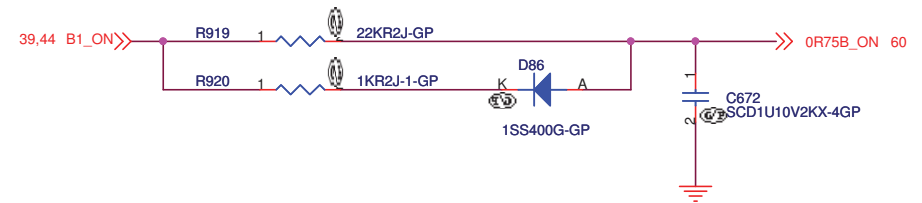
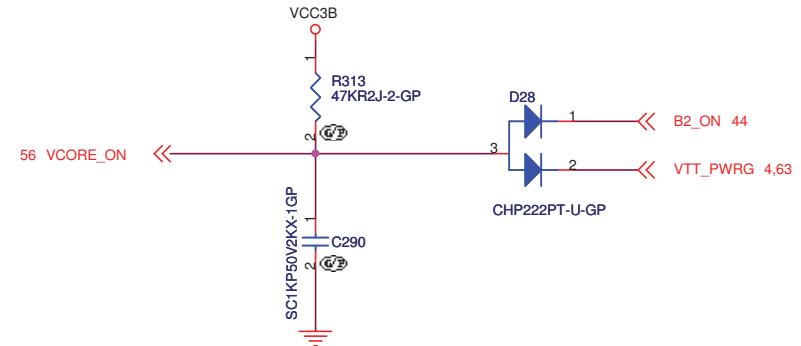
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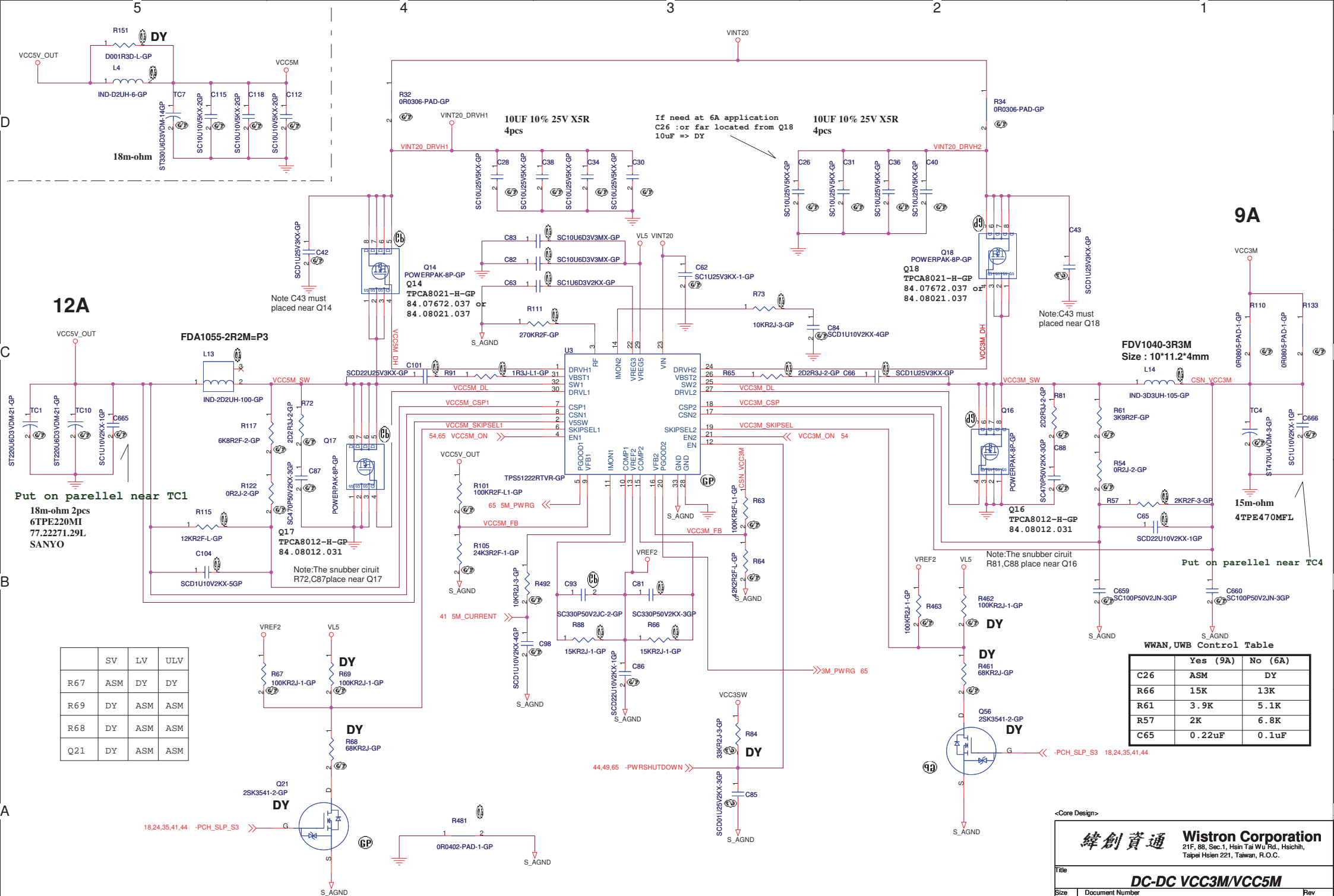


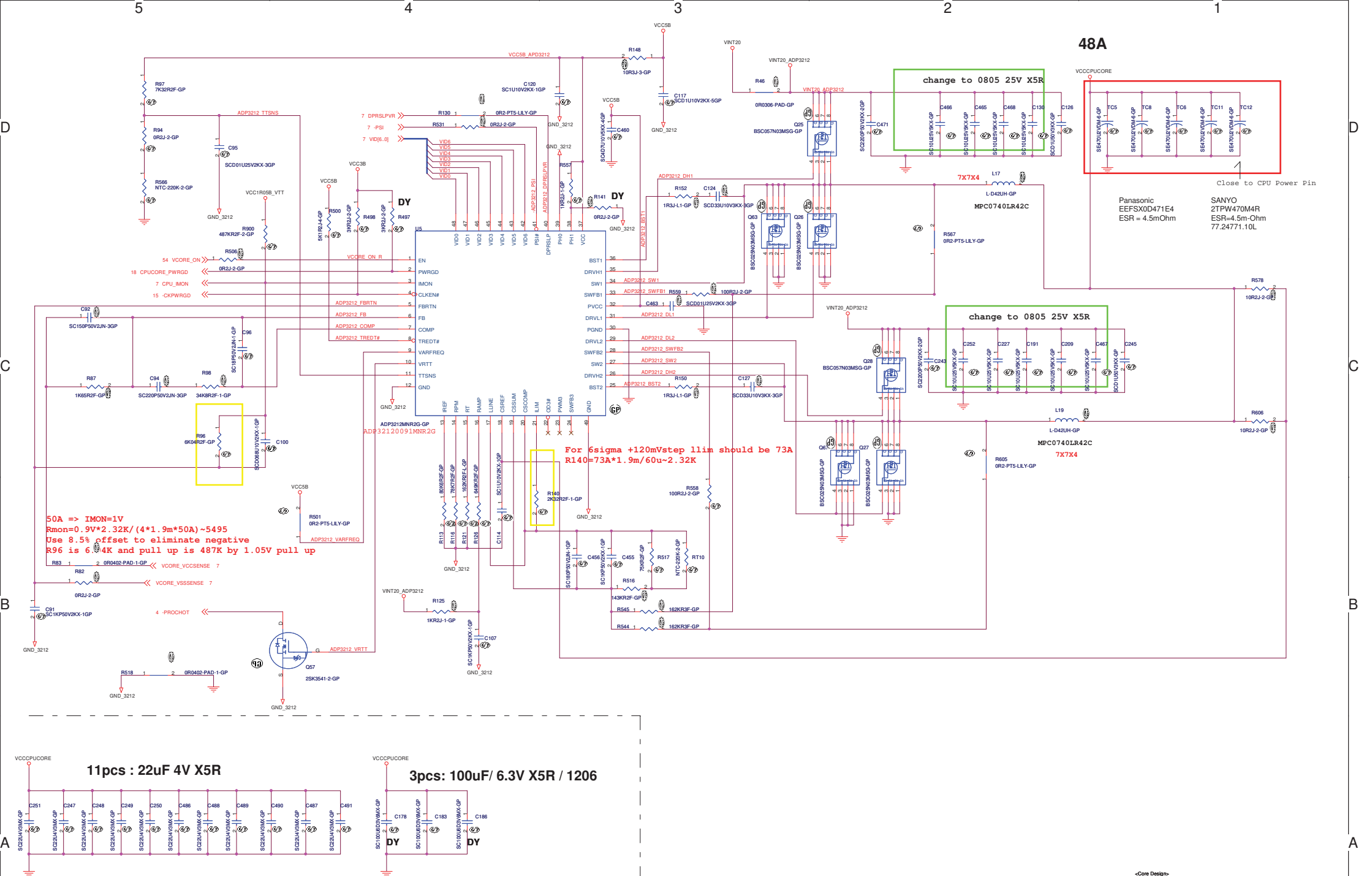
Constant Connect	Enable	Disable
D64	ASM	NoASM
D65	ASM	NoASM



<Core Design>

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Title			
<b>POWER SEQUENCE</b>			
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	SV 2-phase(48A)	LV 2-phase(35A)	ULV 2-phase(27A)
OCP	73A	52A	42A
R96	6.04K	5.36K	5.76K
R140	2.32K	2.61K	2.1K
R545	162K	102K	102K
R544	162K	102K	102K
Q63	ASM	DY	DY
Q67	ASM	DY	DY
TC5	470uF / 4.5m-ohm	330uF / 6m-ohm	330uF / 6m-ohm
TC8	470uF / 4.5m-ohm	330uF / 6m-ohm	330uF / 6m-ohm
TC6	470uF / 4.5m-ohm	330uF / 6m-ohm	330uF / 6m-ohm
TC11	470uF / 4.5m-ohm	DY	DY
TC12	470uF / 4.5m-ohm	DY	DY
R900	487K	432K	464K

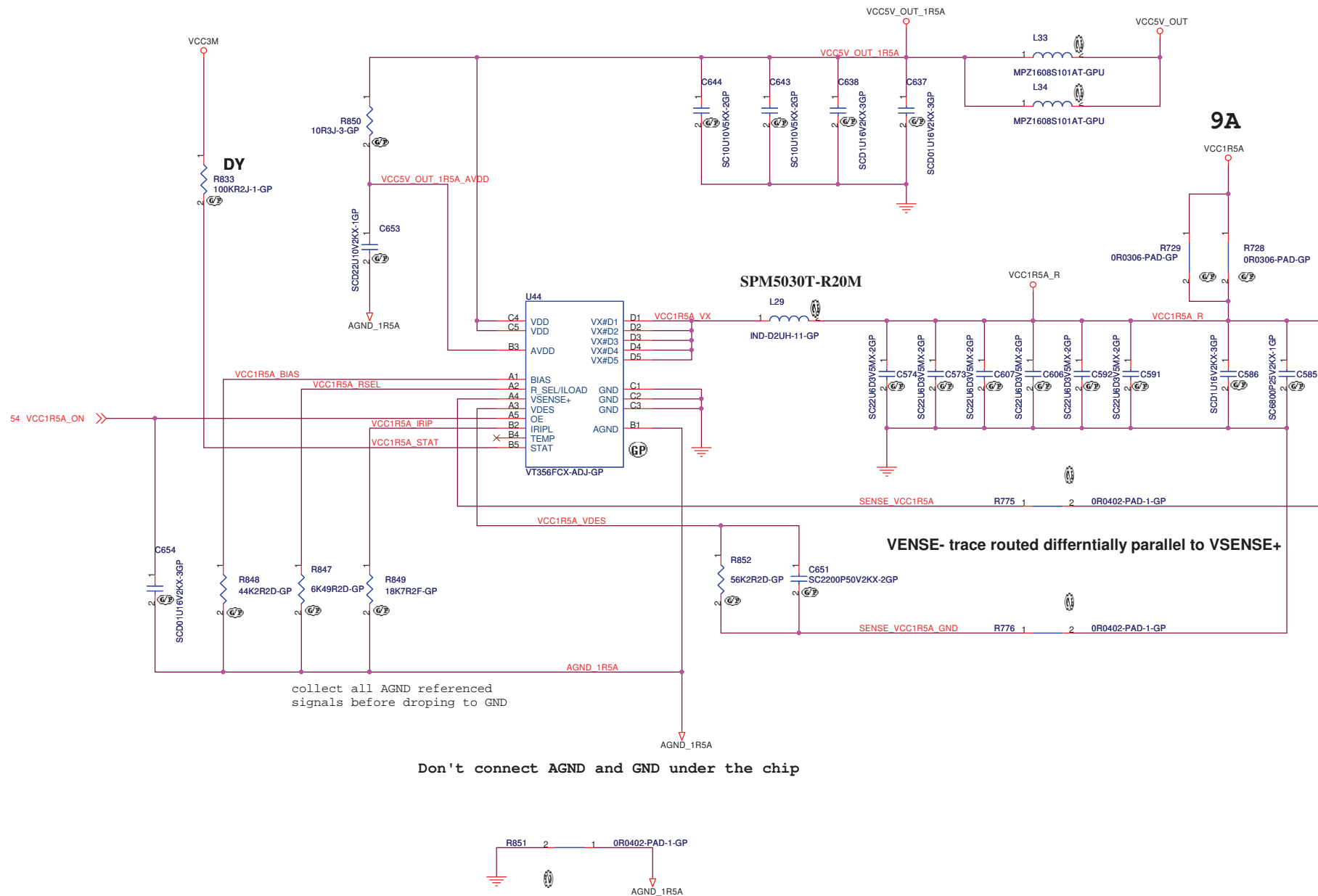
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Title			
<b>DC-DC VCCCPUCORE</b>			
Size A4	Document Number <b>Mocha-3</b>		Rev <b>-2</b>
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$I_{out}=22A \Rightarrow G_{FX\_IMON}=1V$   
 Ideal  $R_{mon}(900mV):0.9*13.3K/$   
 $(10*7m-ohm*22A)$   
 Adding positive offset for 8.5%:  
 $8.66K+681K$  pull-up

OCP setting should be 38A to cover 22A  
 with Max rush current for cap with 120mV  
 rising with regarding to max. spec. R535~13.3K

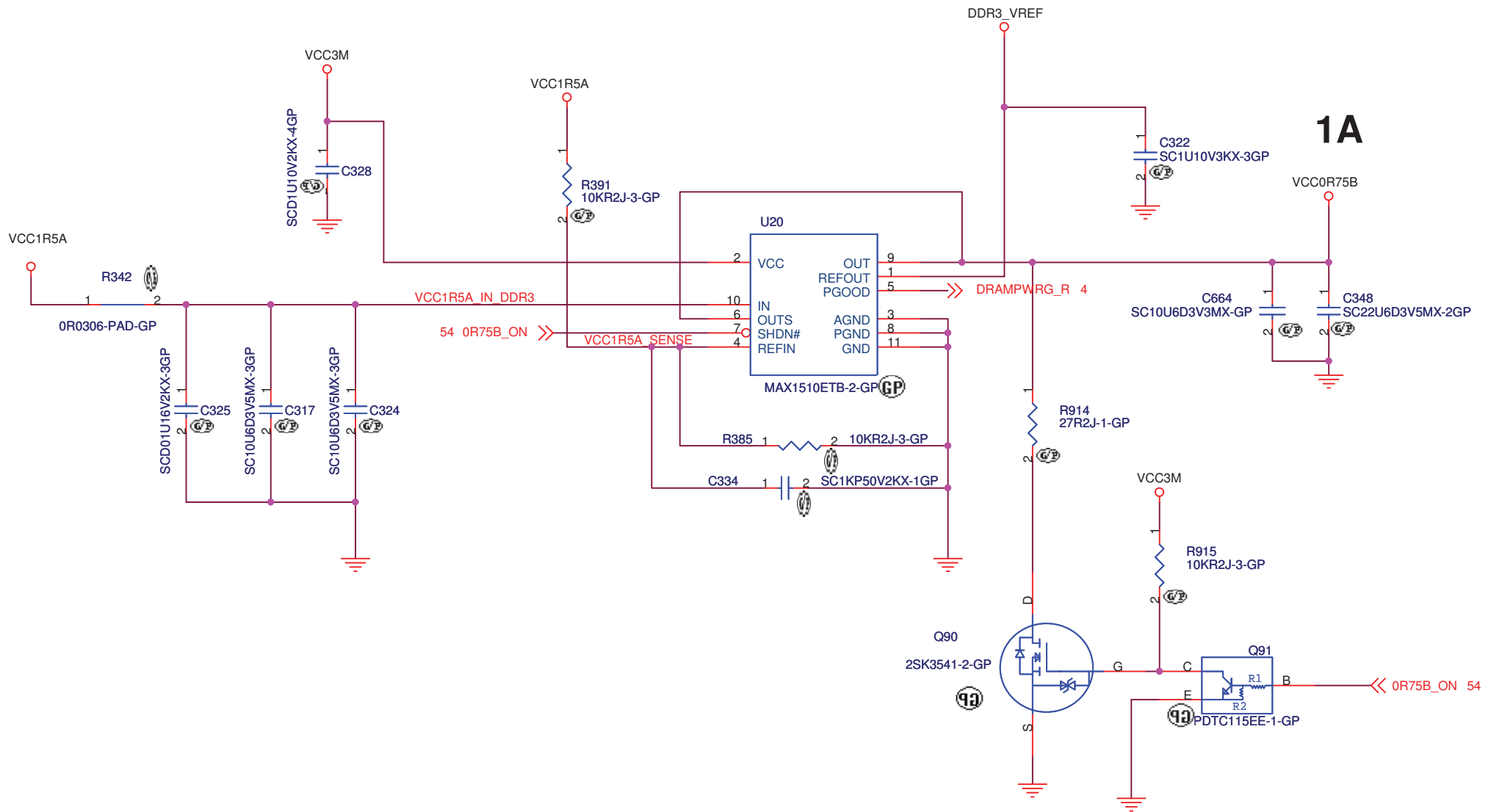
	SV(22A)	LV(15A)	ULV(12A)
OCP	38A	30A	23A
C52	ASM	DY	DY
R507	8.66K	10K	9.53K
R535	13.3K	10.5K	8.06K
R899	681K	787K	750K
TC2	470uF	330uF	220uF
TC3	470uF	330uF	220uF



<Core Design>

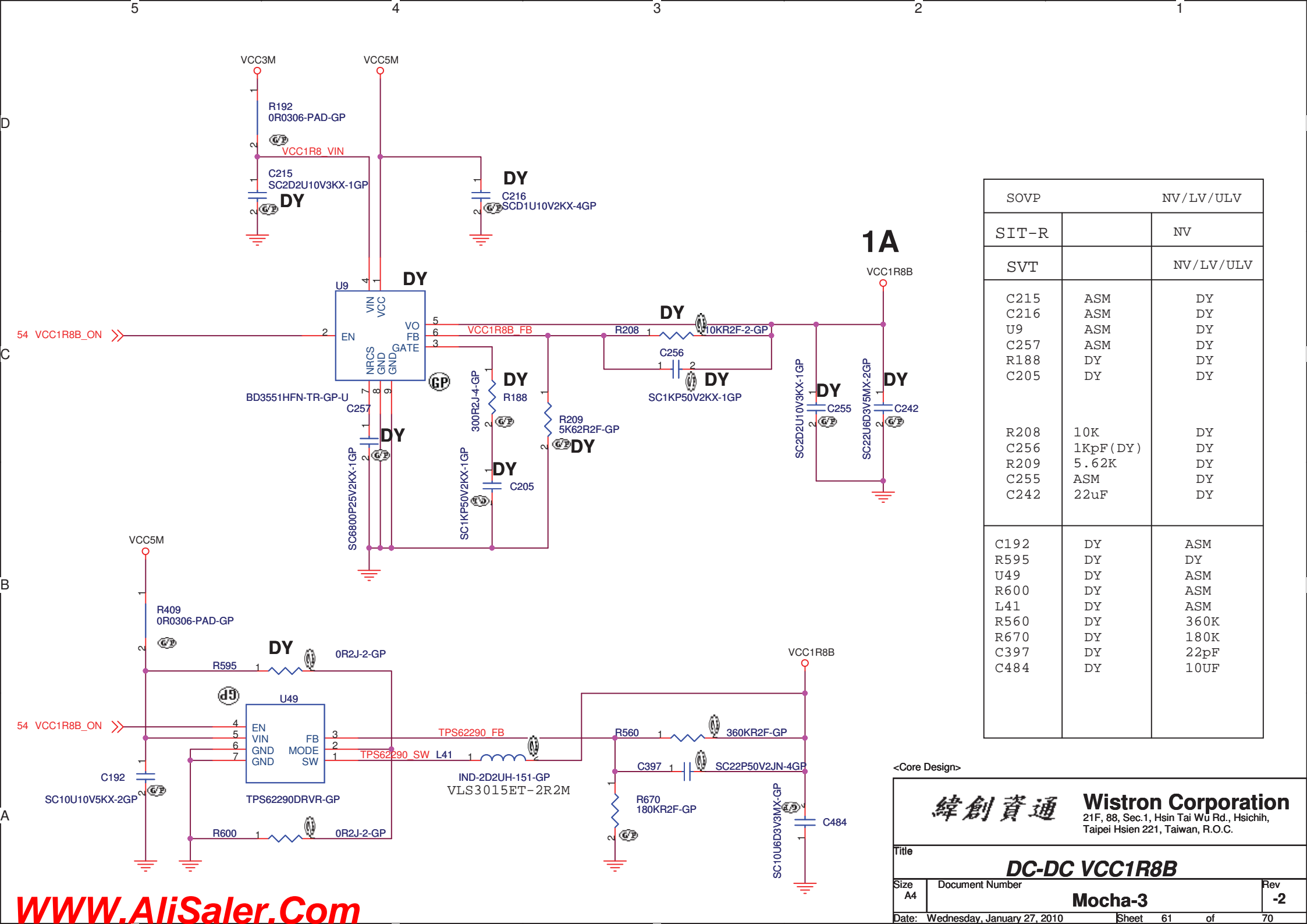
緯創資通 Wistron Corporation  
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Title			DC-DC VCC1R5A	
Size	Document Number	Mocha-3		Rev
A3				-2
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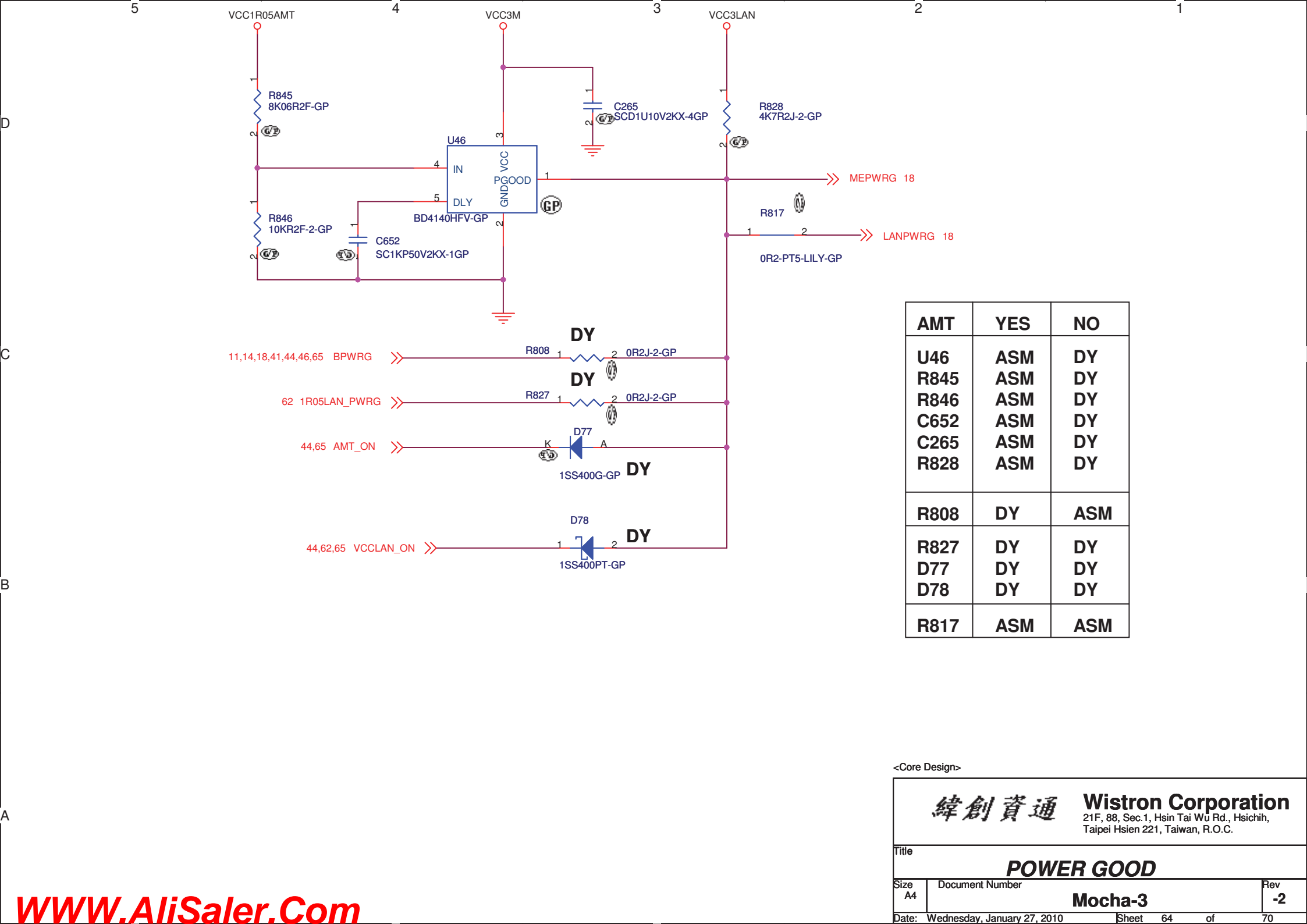
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緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	
DC-DC VCC0R75B	
Size A4	Document Number
Mocha-3	
Date: Wednesday, January 27, 2010	Sheet 60 of 70
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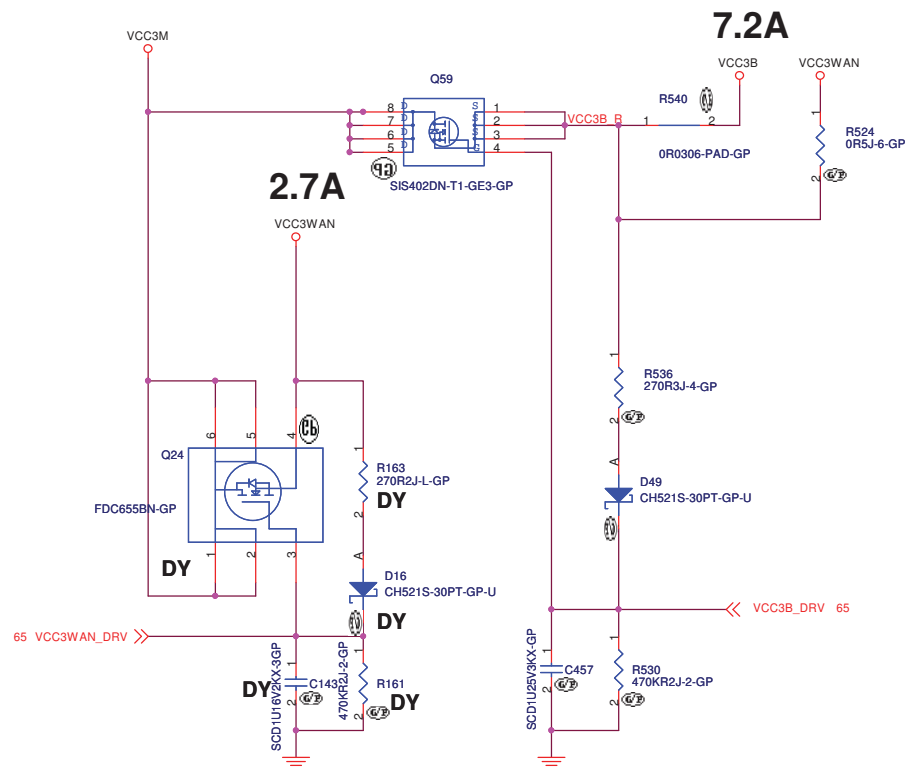
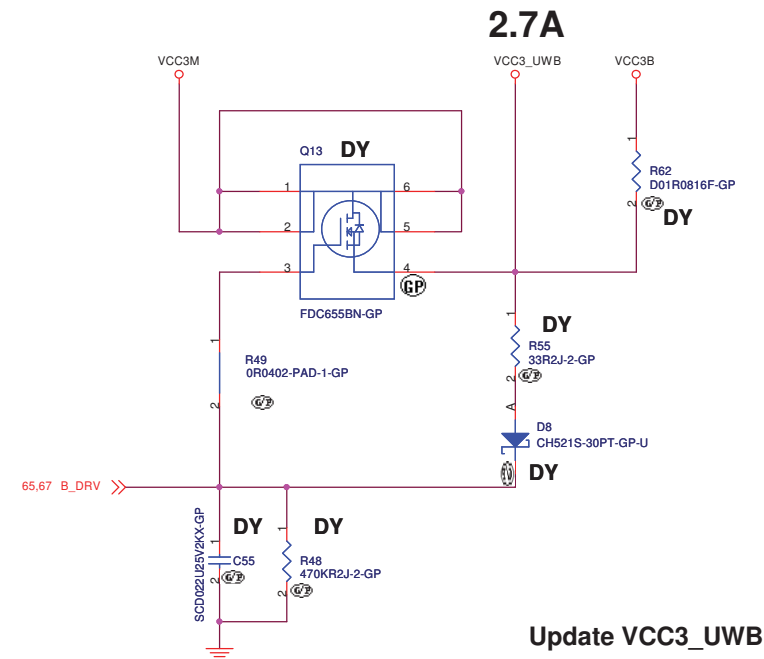
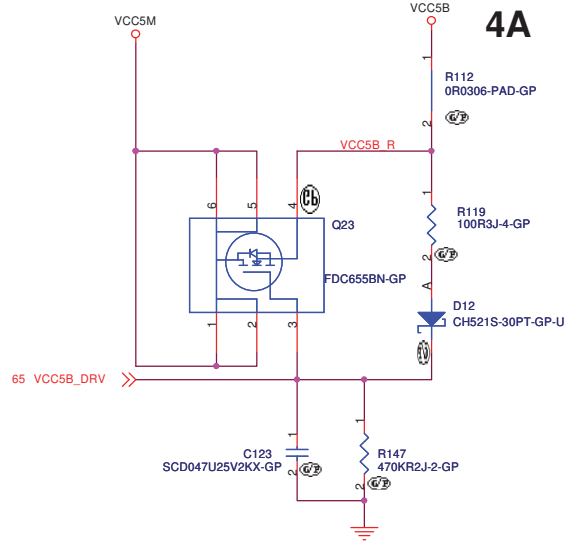
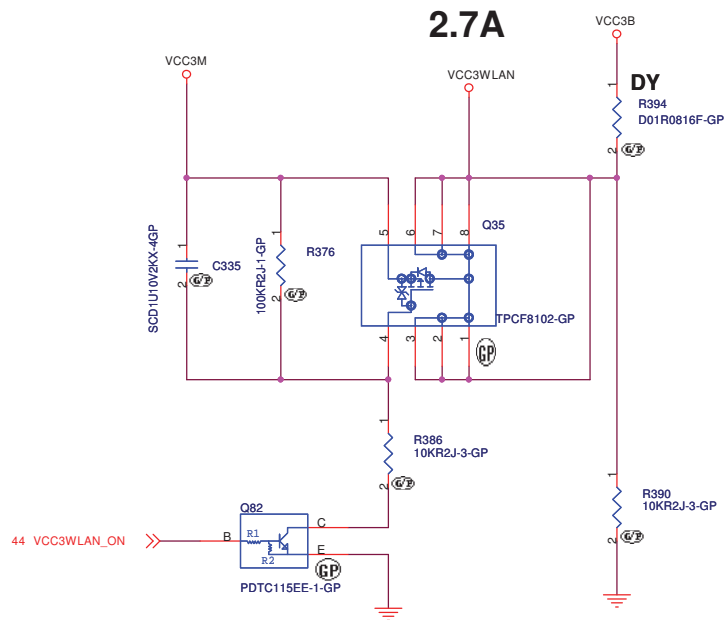












No-asm for no WWAN CONN. MODEL

Always-ON	Enable	Disable
Q24	ASM	NoASM
R163	ASM	NoASM
D16	ASM	NoASM
R161	ASM	NoASM
C143	ASM	NoASM
R524	NOASM	ASM

<Core Design>

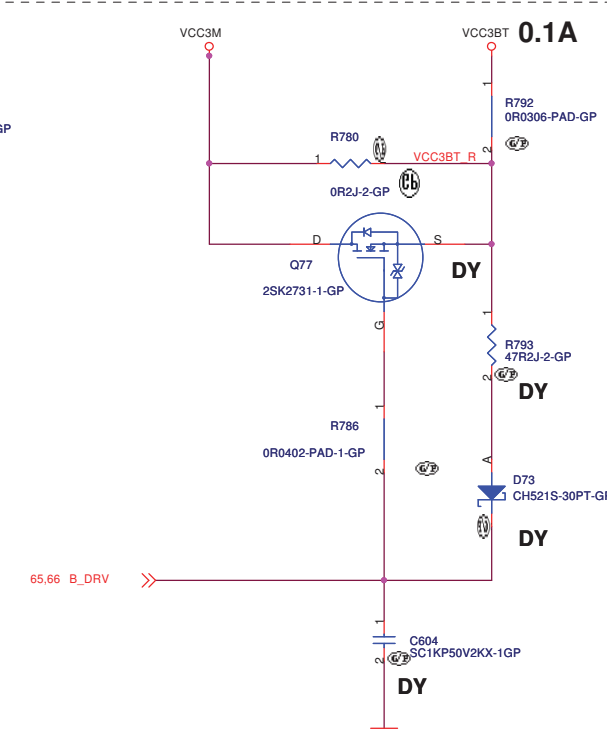
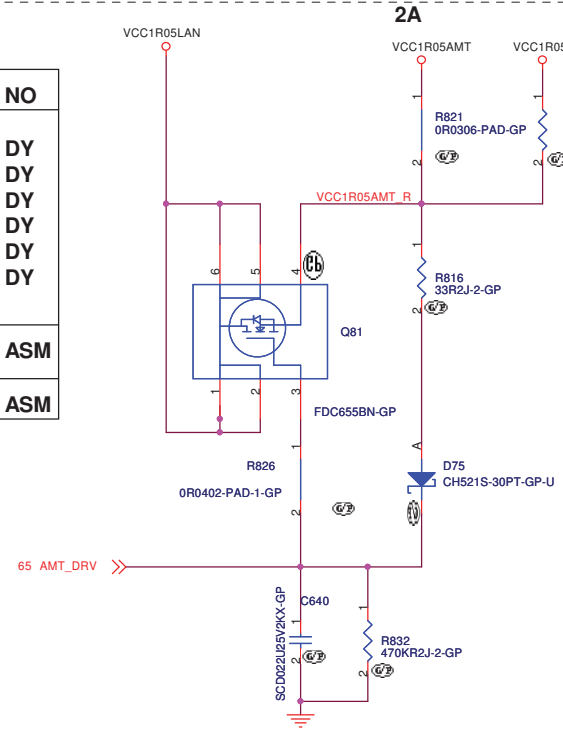
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Title		
<b>LOAD SW 1</b>		
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Mocha-3

-2

AMT	YES	NO
Q81	ASM	DY
R826	ASM	DY
R816	ASM	DY
R832	ASM	DY
D75	ASM	DY
C640	ASM	DY
R802	DY	ASM
R821	ASM	ASM



Q77

1st	ROHM	2SK2731	84.02731.A31	DY
2nd	TOSHIBA	2SK2009	84.22009.031	DY

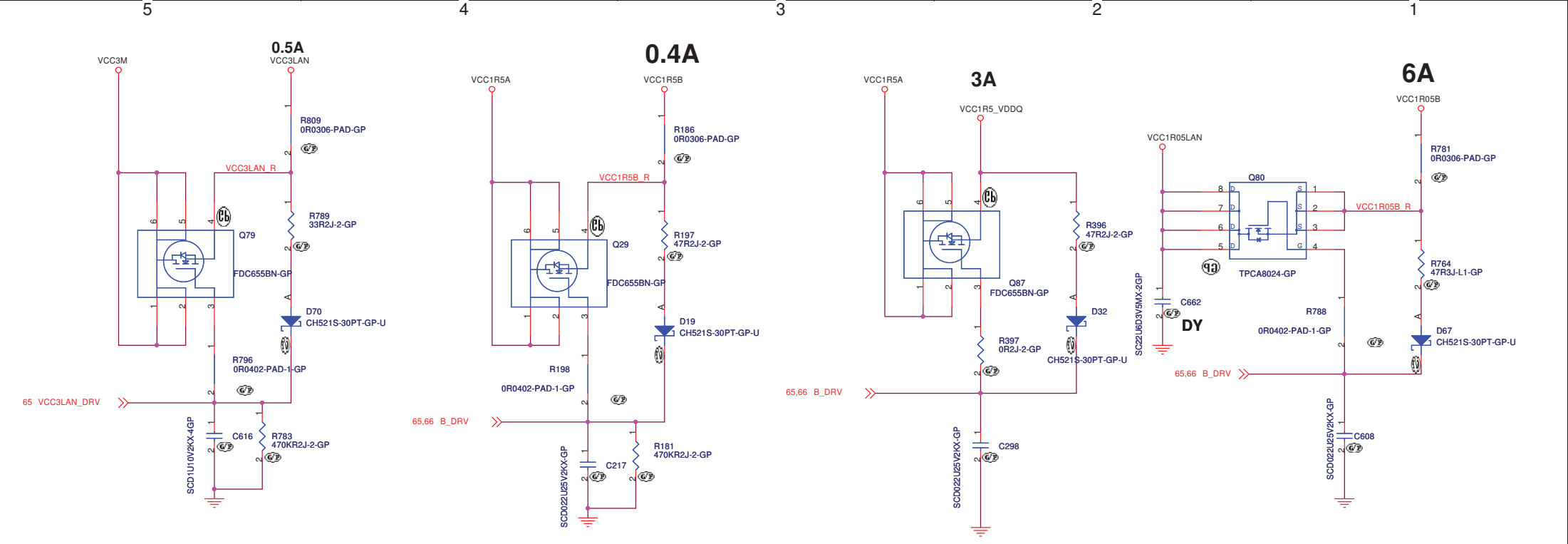
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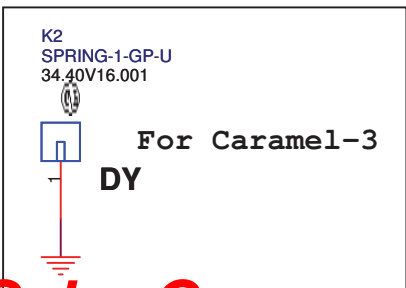
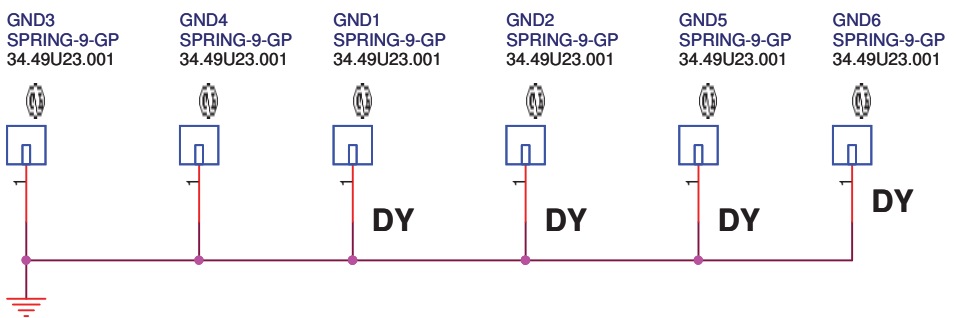
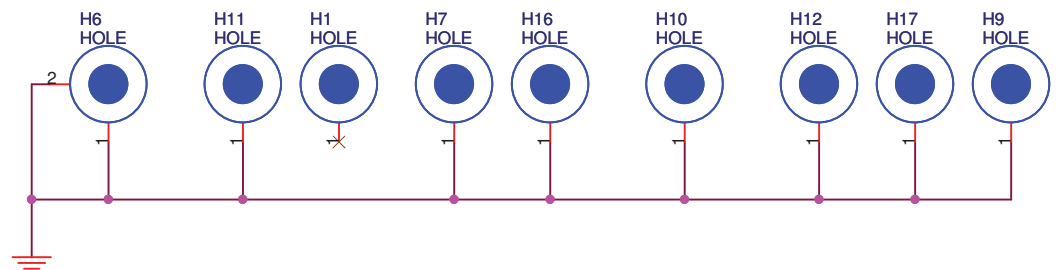
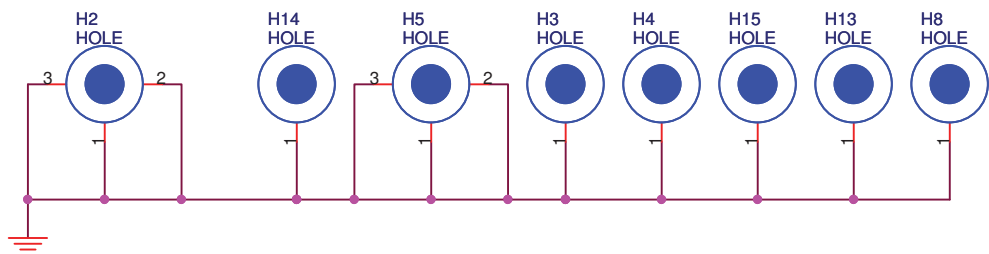
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Title: **LOAD SW 2**

Size A3	Document Number	Rev -2
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### For Caramel-3

H2	HOLE276R95-3P-S
H5	HT7B75R24-3P-S
H6	HOLE276R95-3P-S
H11	HOLE256R98
H12	HOLE315R95-2P-S
H3	HOLET295B236R138
H4	HOLET295B236R138

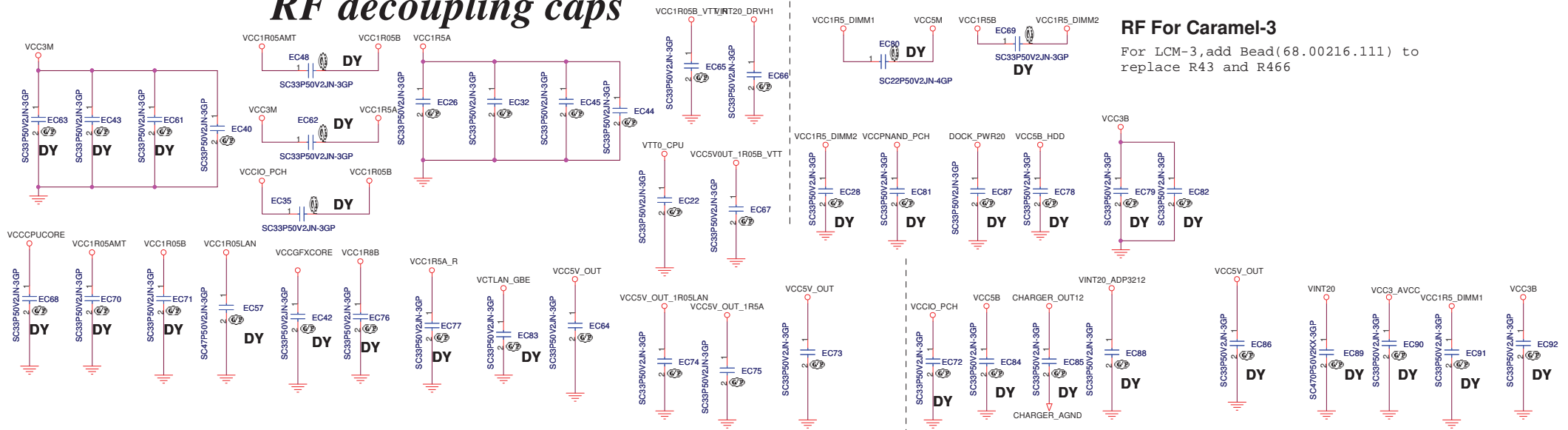
### For Caramel-3

Standoff	34.4Y421.001	H3 ,H4	ASM
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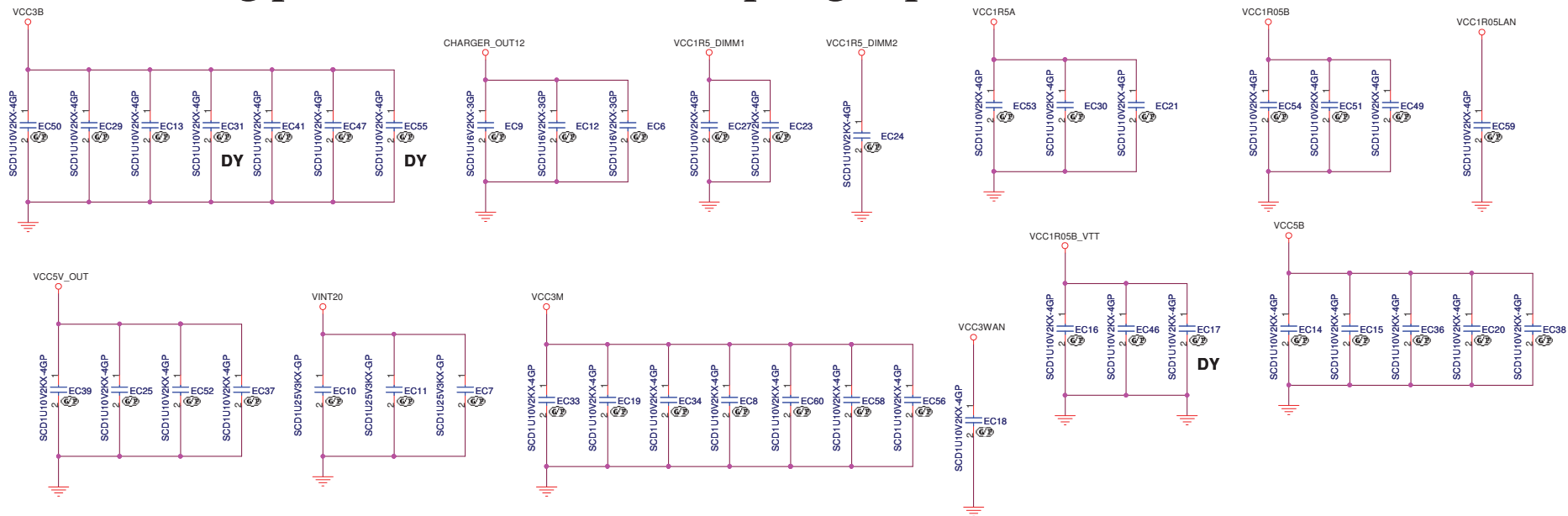
<Core Design>

<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>HOLES/GND/PADS</b>	
Size A4	Document Number
<b>Mocha-3</b>	
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### *RF decoupling caps*



### *Long power trace EMI decoupling caps*



### <Core Design>

緯創資通

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Title	<b>EMI DECOUPLING</b>
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Size	Document Number	Rev
Custom	<b>Mocha-3</b>	<b>-2</b>

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Function	Location	Mocha-3	Pecan-3	Caramel-3	Function	Location	Mocha-3	Pecan-3	Caramel-3	Function	Location	Mocha-3	Pecan-3	Caramel-3		
USB	R327	ASM	ASM	DY	Fingerprint	R584	DY	DY	DY	LCD Conn	R9	DY	DY	ASM		
	R328	ASM	ASM	DY		R585	ASM	ASM	DY		R10	ASM	ASM	DY		
	R329	DY	DY	ASM		F11	ASM	ASM	DY		R1	DY	DY	ASM		
	R330	DY	DY	ASM		C483	ASM	ASM	DY		R5	ASM	ASM	DY		
	C377	DY	DY	ASM	Touch PAD	R168 R169 F3 C226 R178 R180 CN3 U6 C473 R556 R577 R483 R474 R491 R71	ASM	ASM	ASM		R450	ASM	ASM	DY		
	C376	DY	DY	ASM			ASM	ASM	ASM		R447	DY	DY	ASM		
	J1	DY	DY	ASM			ASM	ASM	ASM		R36	DY	DY	ASM		
	U23	DY	DY	ASM			ASM	ASM	ASM		R35	ASM	ASM	DY		
	C378	DY	DY	ASM			ASM	ASM	ASM		R453	ASM	ASM	DY		
Bluetooth	R411	ASM	ASM	DY			ASM	ASM	ASM		R451	DY	DY	ASM		
	R412	ASM	ASM	DY			ASM	ASM	ASM		R455	ASM	ASM	DY		
	R413	DY	DY	ASM			ASM	ASM	ASM		R454	DY	DY	ASM		
	R414	DY	DY	ASM			ASM	ASM	ASM		R37	DY	DY	ASM		
	CN10	DY	DY	ASM			ASM	ASM	ASM		R38	DY	DY	ASM		
	F4	DY	DY	ASM			ASM	ASM	ASM		Q10	ASM	ASM	DY		
	C372	DY	DY	ASM			ASM	ASM	ASM		Q11	ASM	ASM	DY		
Super IO	U7	DY	DY	ASM	Pen Sensor	CN11 R418 C375	DY	DY	ASM		Q12	ASM	ASM	DY		
	C159	DY	DY	ASM			ASM	ASM	ASM		R886	ASM	ASM	DY		
	C146	DY	DY	ASM			ASM	ASM	ASM		R364	ASM	ASM	DY		
	C122	DY	DY	ASM			ASM	ASM	ASM		R594	ASM	ASM	DY		
	R145	DY	DY	ASM	Pecan ID	R293 R286	ASM	DY	DY		ASM	ASM	ASM	DY		
	R146	DY	DY	ASM			Support Caramel-3 TouchPAD for SIV		ASM		ASM	ASM	ASM	ASM	DY	
	RN1	DY	DY	ASM					ASM		ASM	ASM	R887	DY	DY	ASM
	R574	DY	DY	ASM					ASM		ASM	ASM	R604	DY	DY	ASM
	C121	DY	DY	ASM					ASM		ASM	ASM	R857	DY	DY	ASM
	R743	DY	DY	ASM					ASM		ASM	ASM	R871	DY	DY	ASM
	R754	DY	DY	ASM					ASM		ASM	ASM	R885	DY	DY	ASM
	R639	DY	DY	ASM					ASM		ASM	ASM				

MP-3 change to Caramel-3 planar					
Cut off portion			HOLE Geometry		
Location	Location		Location	PCB FootPrint	
R40	DEL	U24	DEL	H2	HOLE276R95-3P-S
R41	DEL	C527	DEL	H5	HT7B75R24-3P-S
FL1	DEL	U1	DEL	H6	HOLE276R95-3P-S
C41	DEL	K1	DEL	H11	HOLE256R98
C39	DEL	C284	DEL	H12	HOLE315R95-2P-S
C32	DEL	C286	DEL	H3	HOLET295B236R138
SKT3	DEL			H4	HOLET295B236R138

Location	Mocha-3	Pecan-3	Caramel-3
L21 (VCC5B_HDD)	ASM	ASM	ASM
R43	DEL	DEL	DEL
L31	NO	NO	ADD
R47	ASM	ASM	DEL
L32	NO	NO	ADD
R220	ASM	ASM	DEL
L33	ASM	ASM	ASM
L34	ASM	ASM	ASM
R790	DEL	DEL	DEL
L35	ASM	ASM	ASM
R794	DEL	DEL	DEL
L36	NO	NO	ADD
R821	ASM	ASM	DEL
L37	ASM	ASM	ASM
L38	ASM	ASM	ASM
R457	DEL	DEL	DEL
L39	NO	NO	ADD
R587	ASM	ASM	DEL
L40	NO	NO	ADD
R502	ASM	ASM	DEL
L42	ASM	ASM	NO
R466	DEL	DEL	ASM

Location	Mocha-3	Pecan-3	Caramel-3
EC63	DY	DY	DY
EC43	DY	DY	DY
EC61	DY	DY	DY
EC48	DY	DY	DY
EC62	DY	DY	DY
EC35	DY	DY	DY
EC68	DY	DY	DY
EC70	DY	DY	DY
EC71	DY	DY	DY
EC57	DY	DY	DY
EC42	DY	DY	DY
EC46	DY	DY	DY
EC76	DY	DY	DY
EC77	DY	DY	DY
EC83	DY	DY	DY
EC40	ASM	ASM	ASM
EC64	ASM	ASM	ASM
EC22	ASM	ASM	ASM
EC66	ASM	ASM	ASM
EC26	ASM	ASM	ASM
EC32	ASM	ASM	ASM
EC45	ASM	ASM	ASM
EC44	ASM	ASM	ASM
EC65	ASM	ASM	ASM
EC67	DY	ASM	ASM
EC80	DY	DY	ASM
EC69	DY	DY	ASM
EC28	DY	DY	ASM
EC81	DY	DY	ASM
EC87	DY	DY	ASM
EC78	DY	DY	ASM
EC79	DY	DY	ASM
EC82	DY	DY	ASM
EC74	DY	DY	ASM
EC75	DY	DY	ASM
EC72	DY	DY	DY
EC84	DY	DY	ASM
EC85	DY	DY	ASM
EC88	DY	DY	ASM
EC73	DY	DY	ASM
EC86	DY	DY	ASM
EC89	DY	DY	ASM
EC90	DY	DY	ASM
EC91	DY	DY	ASM
EC92	DY	DY	ASM
K2	DY	DY	ASM
EC93	DEL	DEL	DY
EC94	DEL	DEL	DY
EC95	DEL	DEL	DY
EC96	DEL	DEL	DY
EC97	DEL	DEL	ASM
EC98	DEL	DEL	DY
EC99	DEL	DEL	DY
EC100	DEL	DEL	DY
EC102	DEL	DEL	ASM
EC103	DEL	DEL	ASM
EC104	DEL	DEL	ASM
EC105	DEL	DEL	ASM

緯創資通

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Title

MP&Caramel difference list

Size

Document Number

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