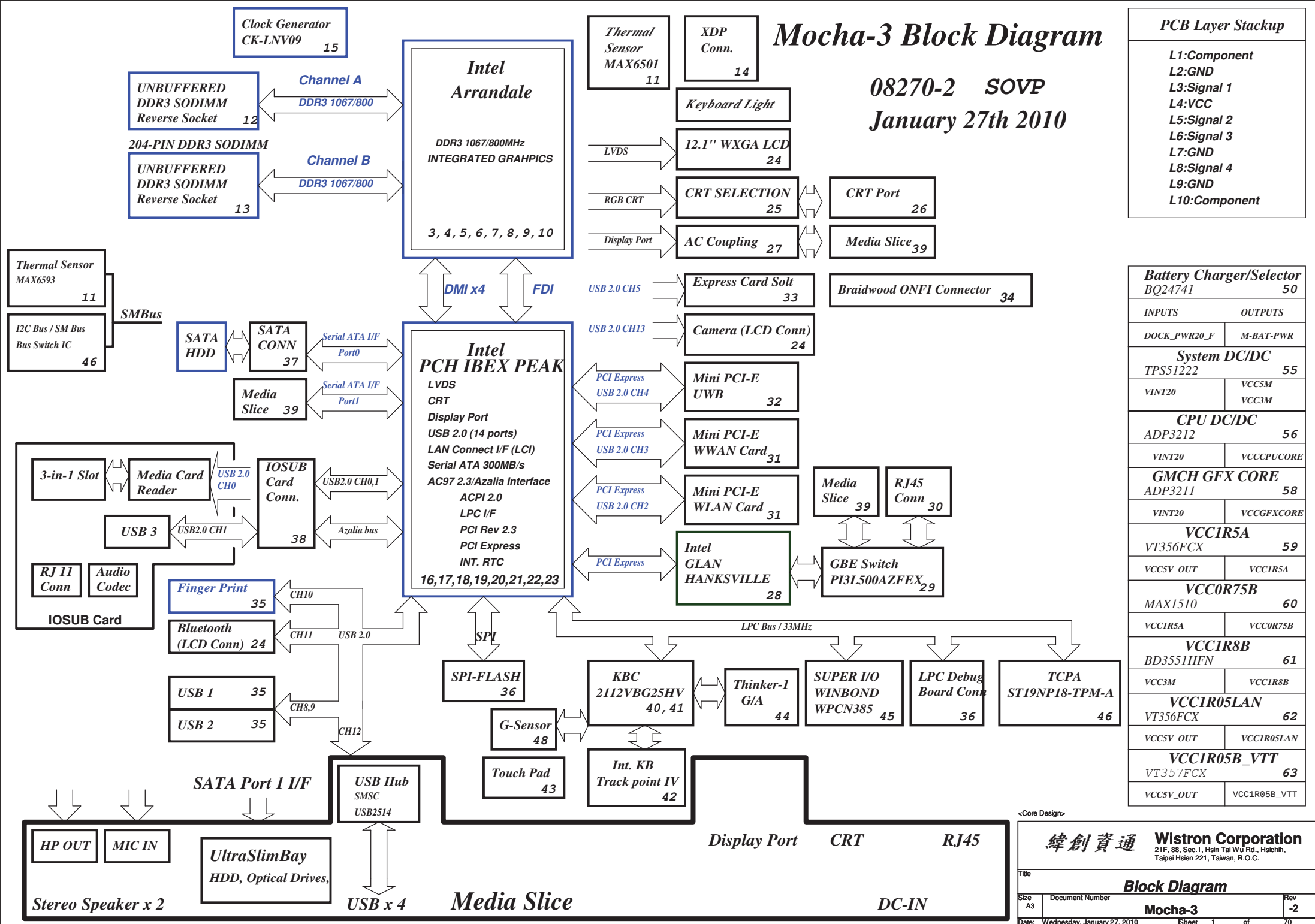




RESISTOR

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

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

CAPACITOR

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

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

PLANAR_ID[3..0]

IBEXPEAK-M	39	38	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		

EC HISTORY

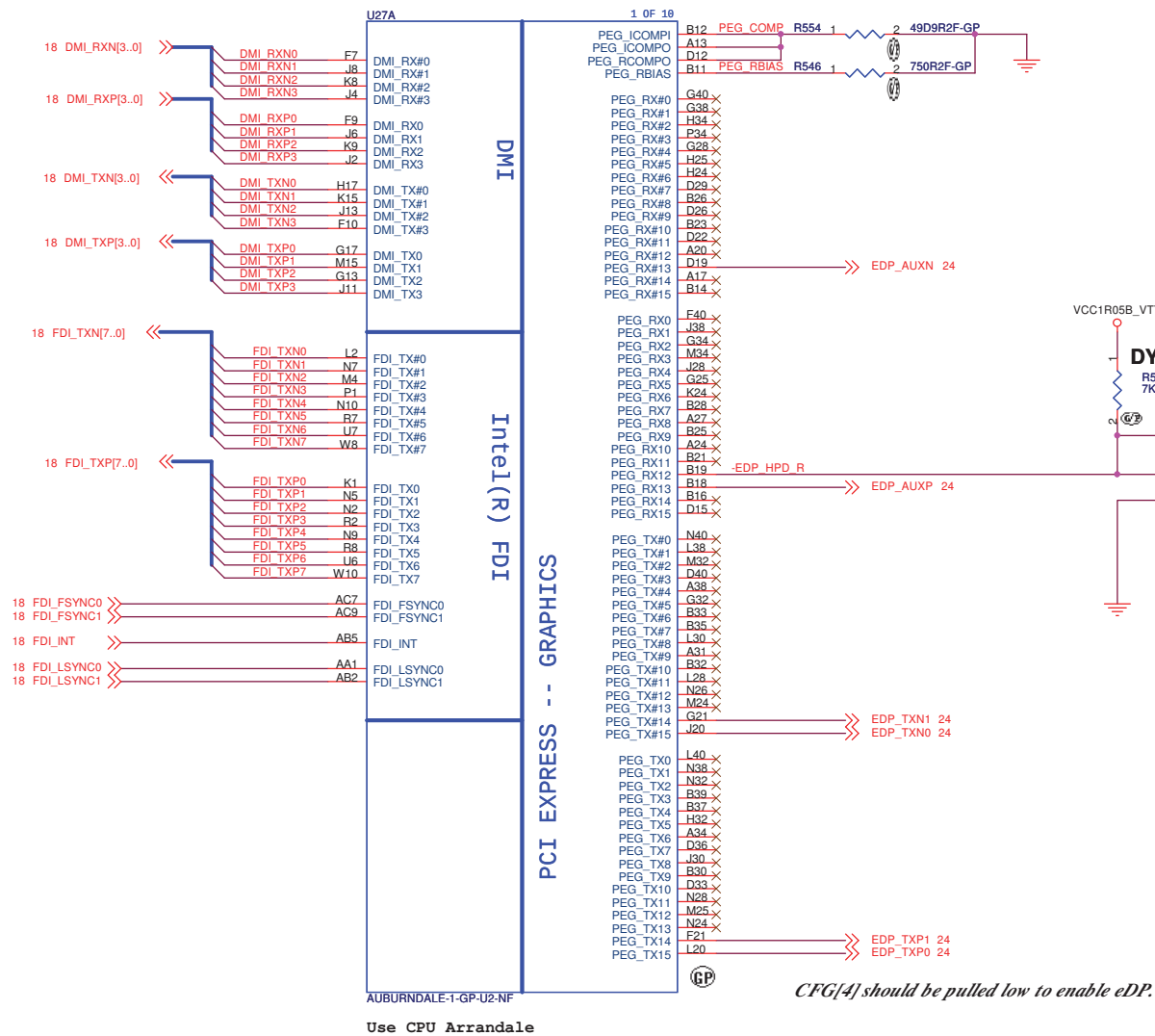
[illegible]

PCI TABLE

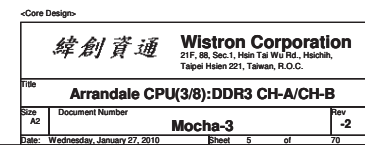
DEVICE	IDSEL	IRQ (Default)	REQ# / GNT#
USB UHCI	AD29	A, C, D	
USB 2.0 EHCI	AD29	H	
DMI-to-PCI/ AC97 Modem/ AC97 Audio	AD30	B B	
LPC Bridge IDE SATA SMBus	AD31	C C B	
PCI Express	AD28	A, B, C, D	

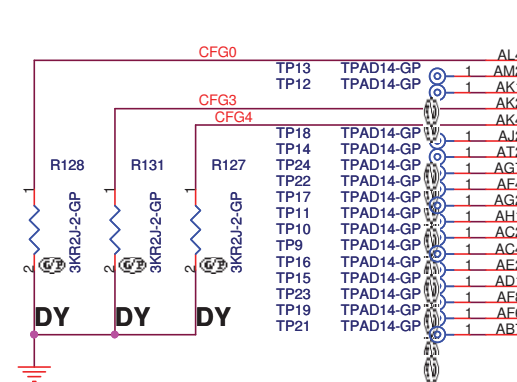
<Core Design>

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

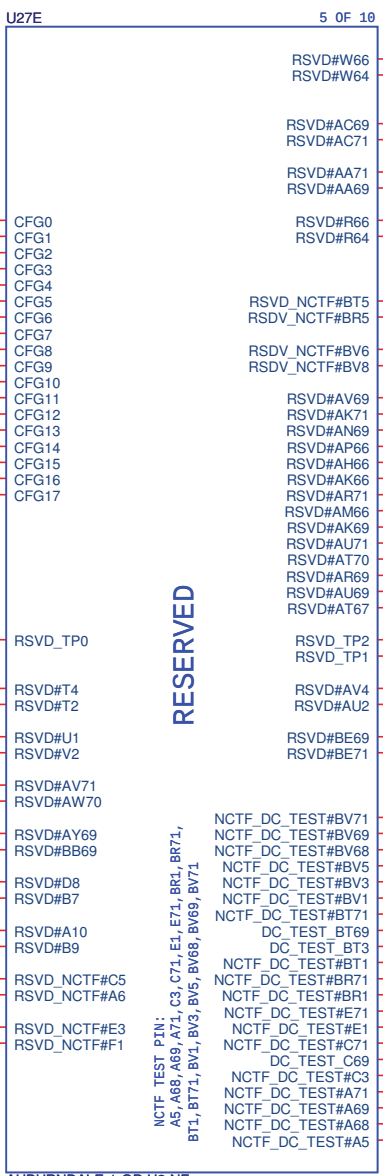


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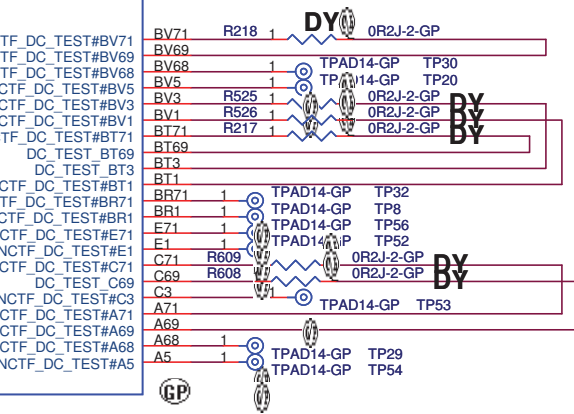
		ASM	DY
CFG[0]	PEG CONFIG	BIFURCATION	SINGLE
CFG[3]	PEG LANE REVERSAL	REVERSE	NORMAL
CFG[4]	DISPLAY PORT PRESENCE	ENABLE	DISABLE



RESERVED

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

AUBURNDALE-1-GP-U2-NF
Use CPU Arrandale

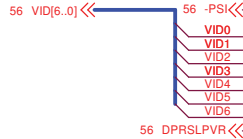


<Core Design>

緯創資通		Wistron Corporation	
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichin, Taipei Hsien 221, Taiwan, R.O.C.			
Title			
Arrandale CPU(4/8):CFG/RSVD			
Size	Document Number	Rev	
Custom		-2	
Date: Wednesday, January 27, 2010		Sheet	6 of 70

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

VCC1R05B_VTT



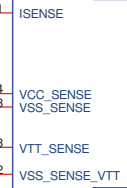
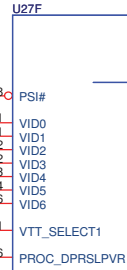
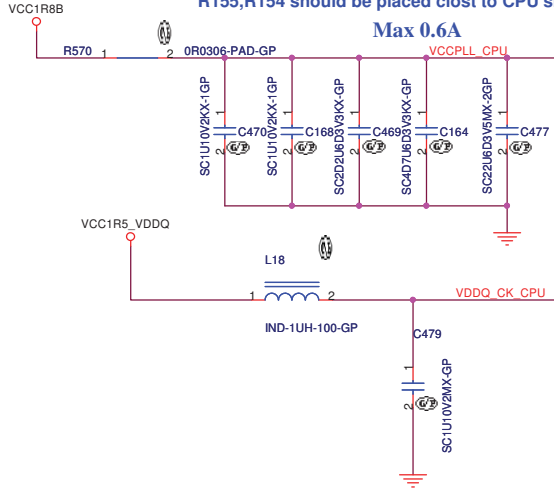
IMAX	VID<5..3>
DISABLE	000
20A	001
30A	010
40A	011
50A	100
60A	101
70A	110
90A	111

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



AUBURNDAL-1-GP-U2-NF

Use CPU Arrandale

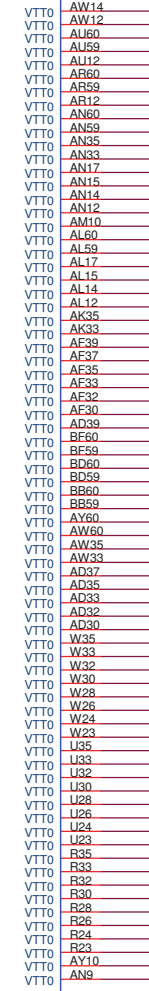
POWER

CPU VIDS

SENSE LINES

1.1V RAIL POWER

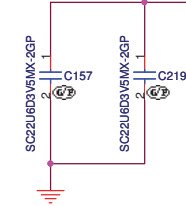
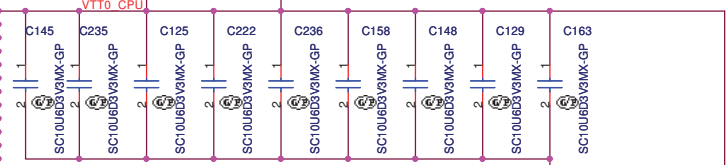
6 0F 10



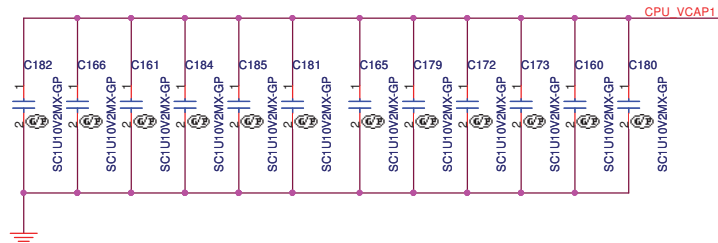
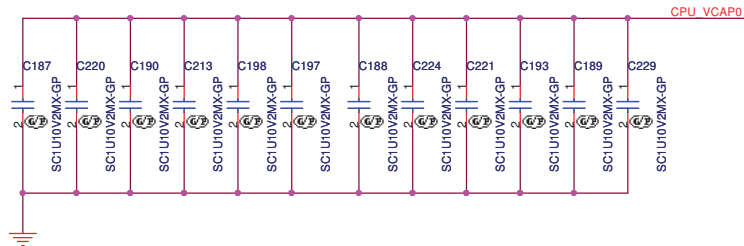
VCC1R05B_VTT

VTT0_CPU
VTT0_CPU

R159
0R0306-PAD-GP



<Core Design>



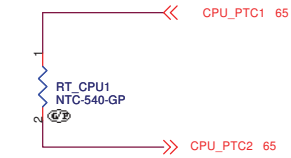
CPU CORE SUPPLY

Use CPU Arrandale

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	F60
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

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

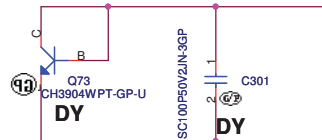
Date: Wednesday, January 27, 2010 Sheet 9 of 70



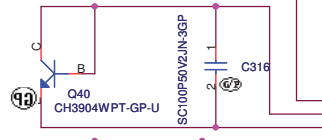
It should be arranged near CPU instead of CPU thermal sensor

THESE CAPS MUST BE PLACED AS CLOSE AS POSSIBLE TO MAX6593

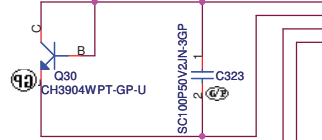
TO NVM



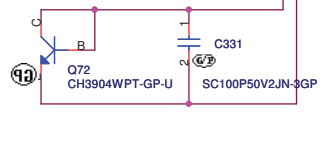
TO Express Card



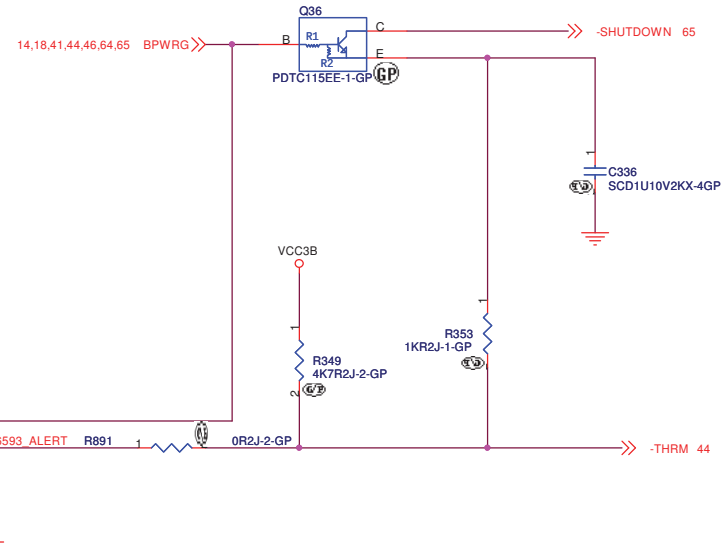
TO VCORE FET



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>

緯創資通		Wistron Corporation 21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
THERMAL SENSOR			
Size A3	Document Number Mocha-3		Rev -2
Date: Wednesday, January 27, 2010		Sheet 11 of 70	

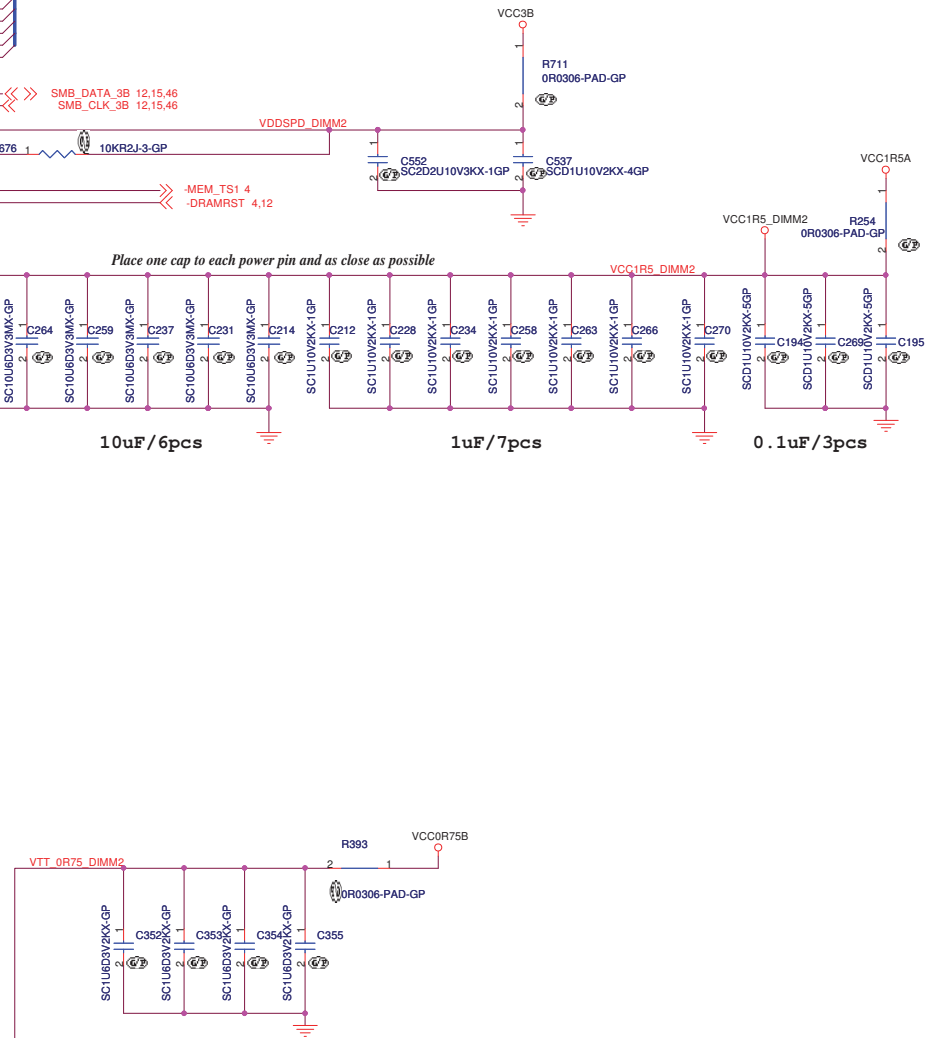
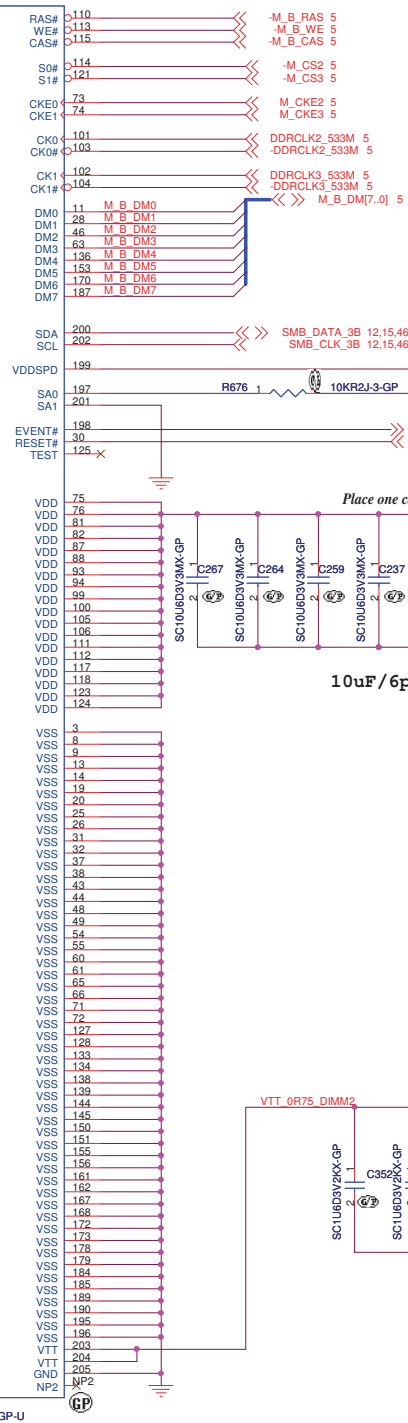
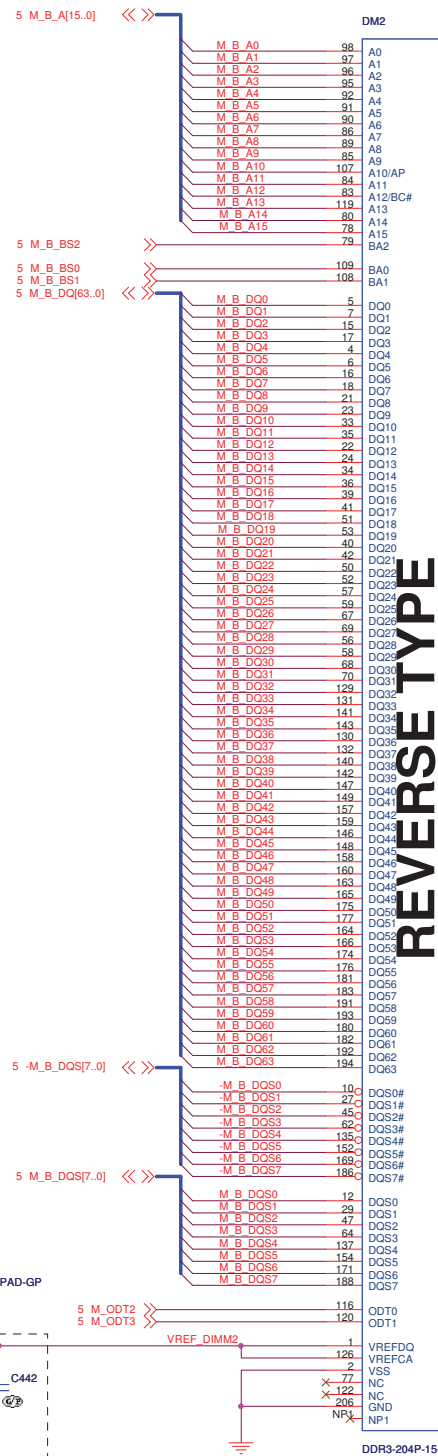
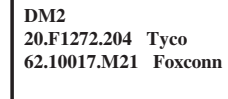
DM1
20.F1272.204 Tyco
62.10017.M21 Foxconn

REVERSE TYPE

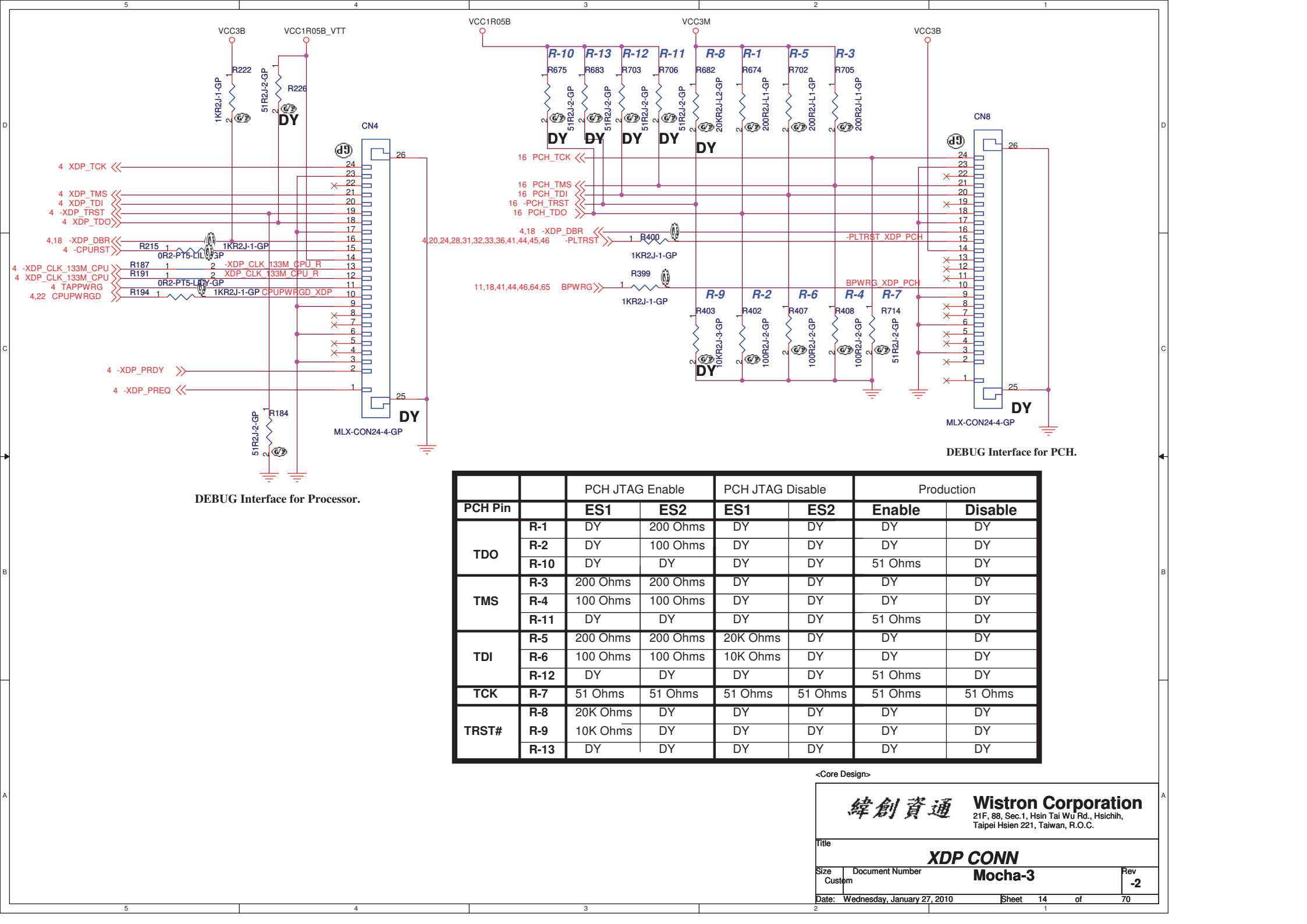
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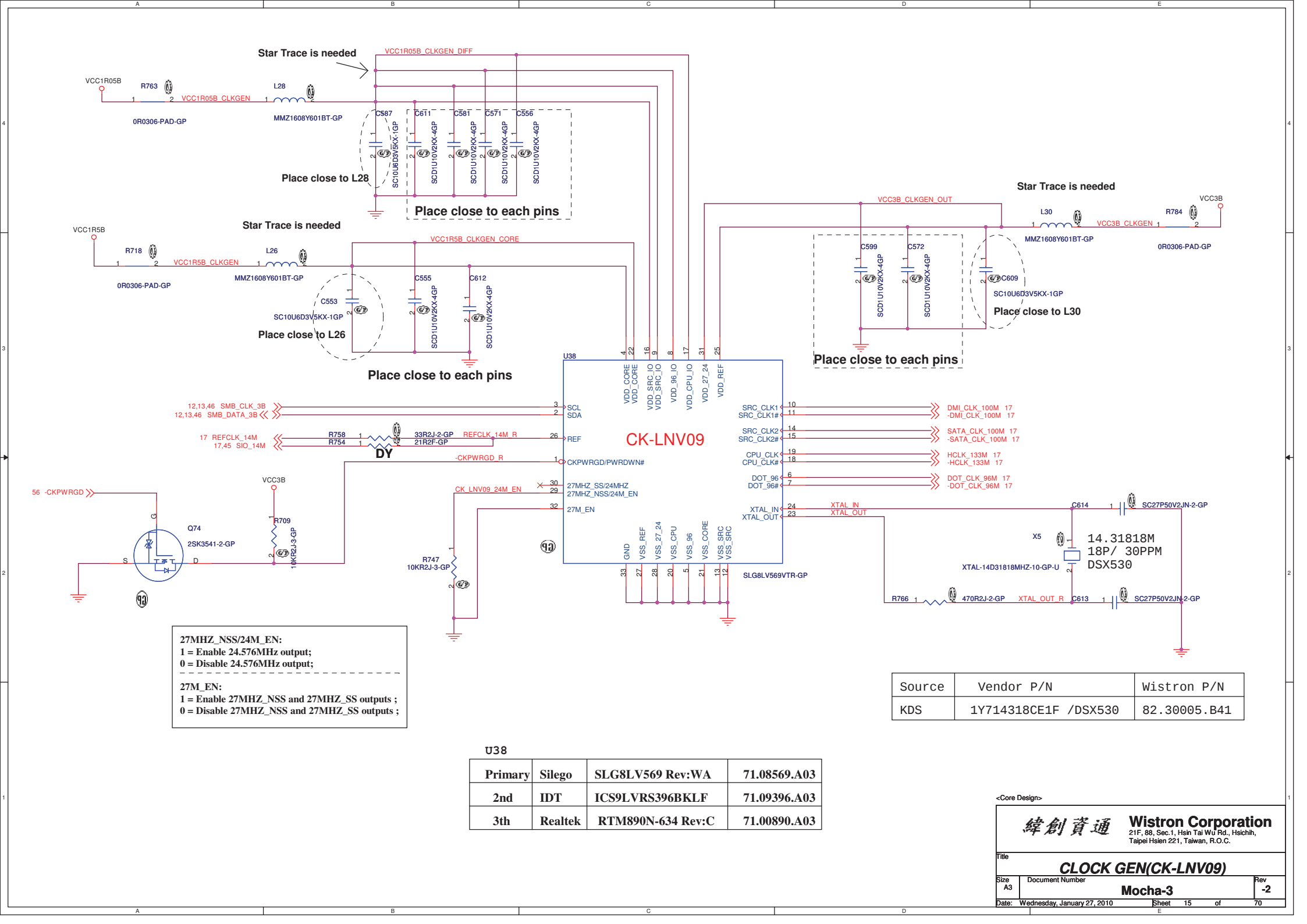
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

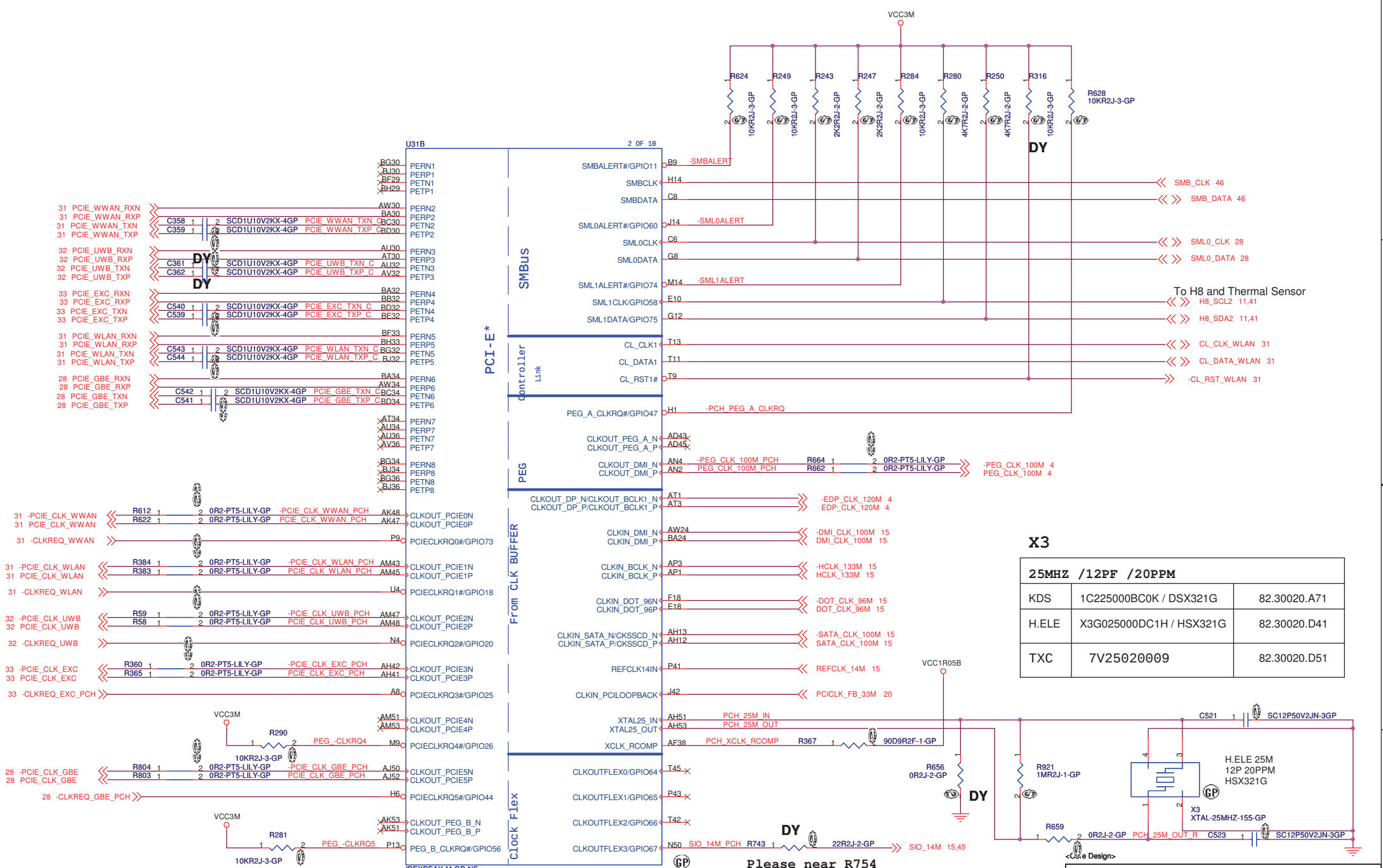
Title
DDR3 SODIMM-A (REVERSE TYPE)
Size Document Number
Custom Mocha-3 Rev
Date: Wednesday, January 27, 2010 Sheet 12 of 70



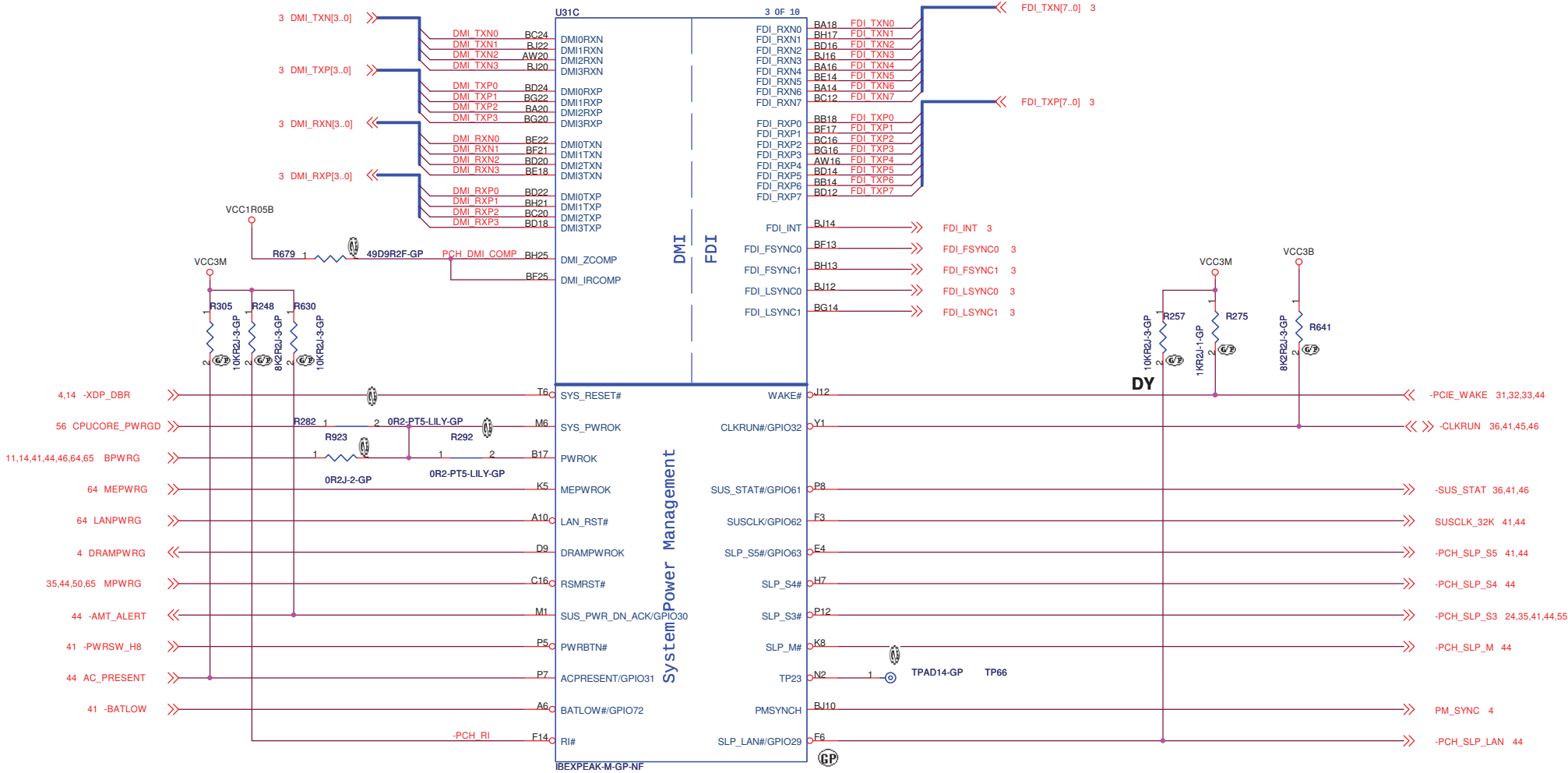
Place caps close to pin 1 as possible



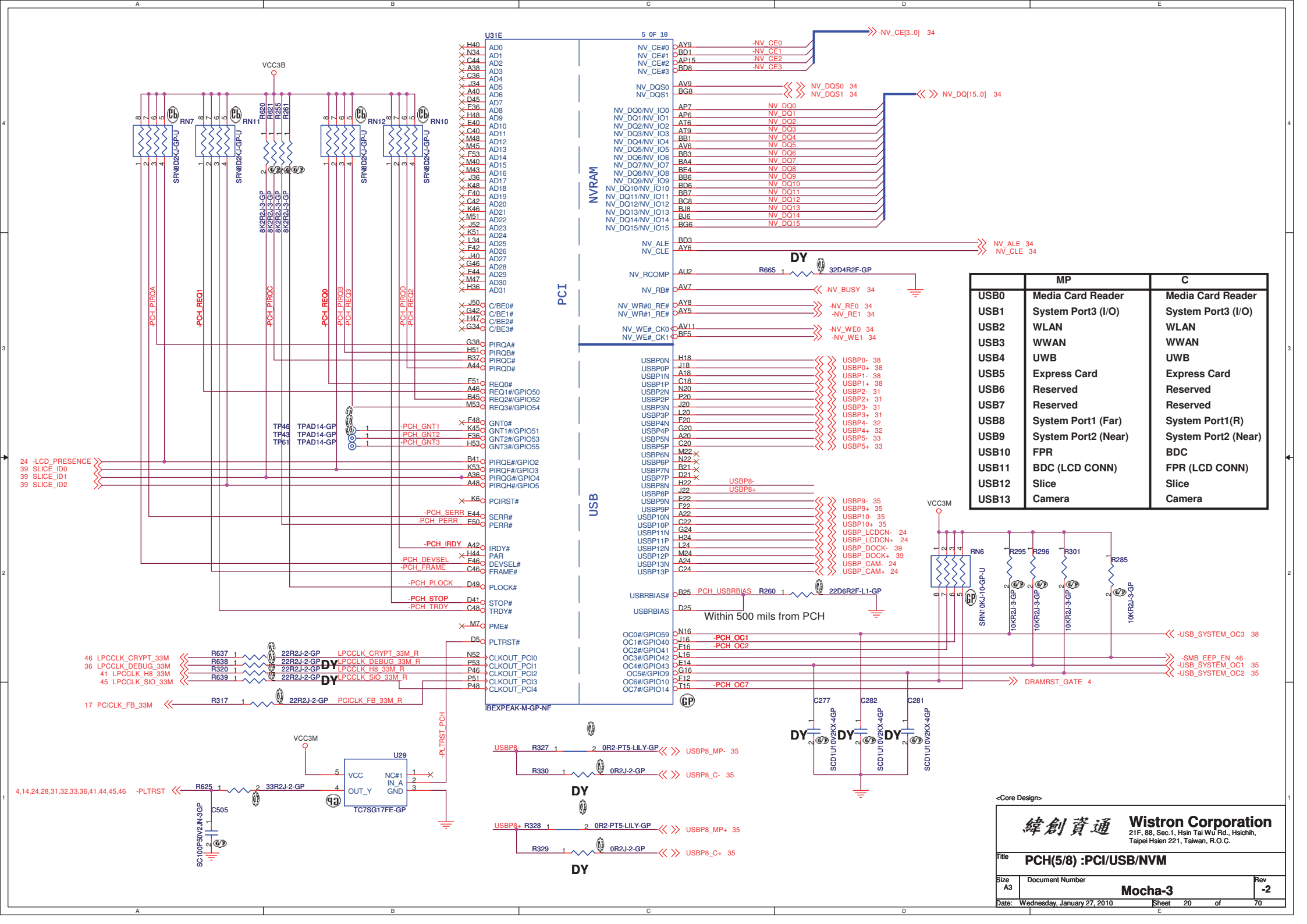




25MHZ /12PF /20PPM		
KDS	1C225000BC0K / DSX321G	82.30020.A71
H.ELE	X3G025000DC1H / HSX321G	82.30020.D41
TXC	7V25020009	82.30020.D51

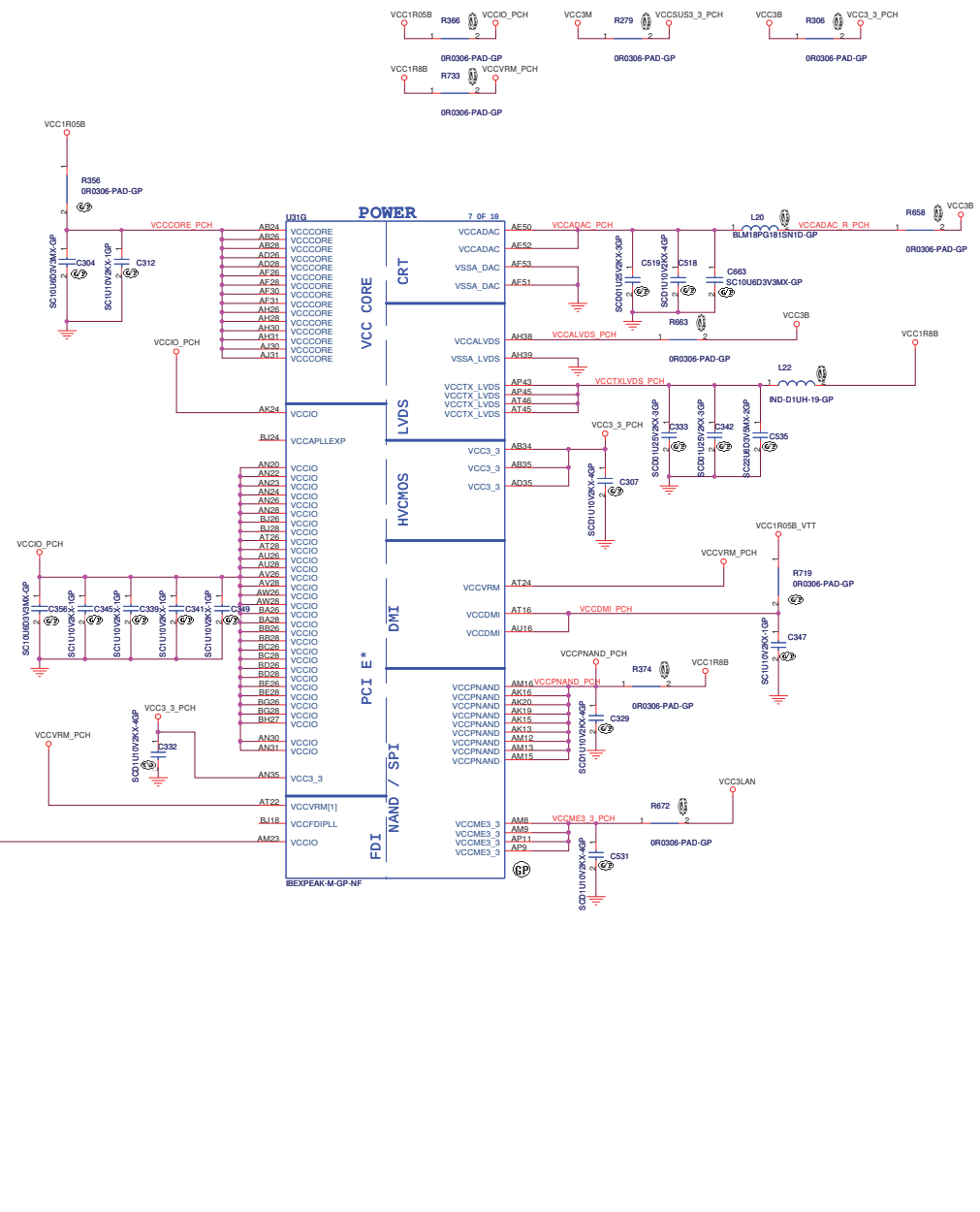






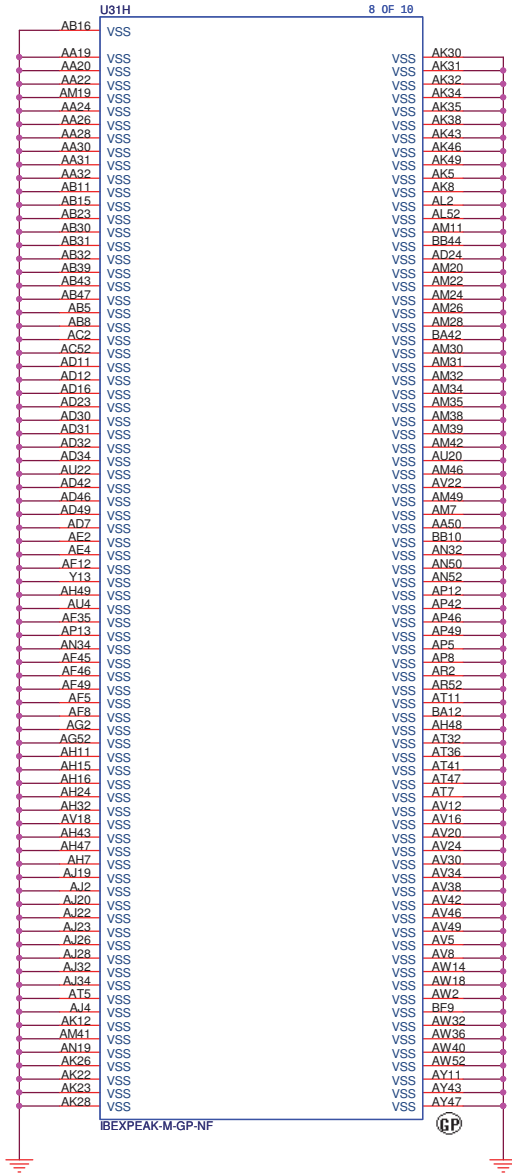
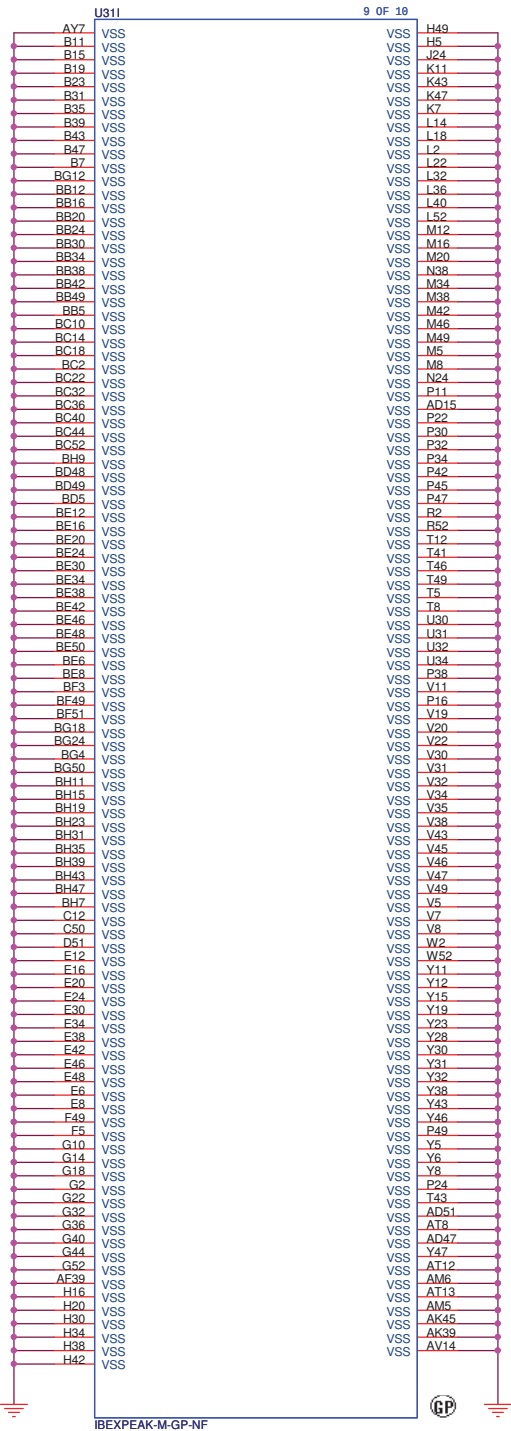
	MP	C
USB0	Media Card Reader	Media Card Reader
USB1	System Port3 (I/O)	System Port3 (I/O)
USB2	WLAN	WLAN
USB3	WWAN	WWAN
USB4	UWB	UWB
USB5	Express Card	Express Card
USB6	Reserved	Reserved
USB7	Reserved	Reserved
USB8	System Port1 (Far)	System Port1(R)
USB9	System Port2 (Near)	System Port2 (Near)
USB10	FPR	BDC
USB11	BDC (LCD CONN)	FPR (LCD CONN)
USB12	Slice	Slice
USB13	Camera	Camera

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

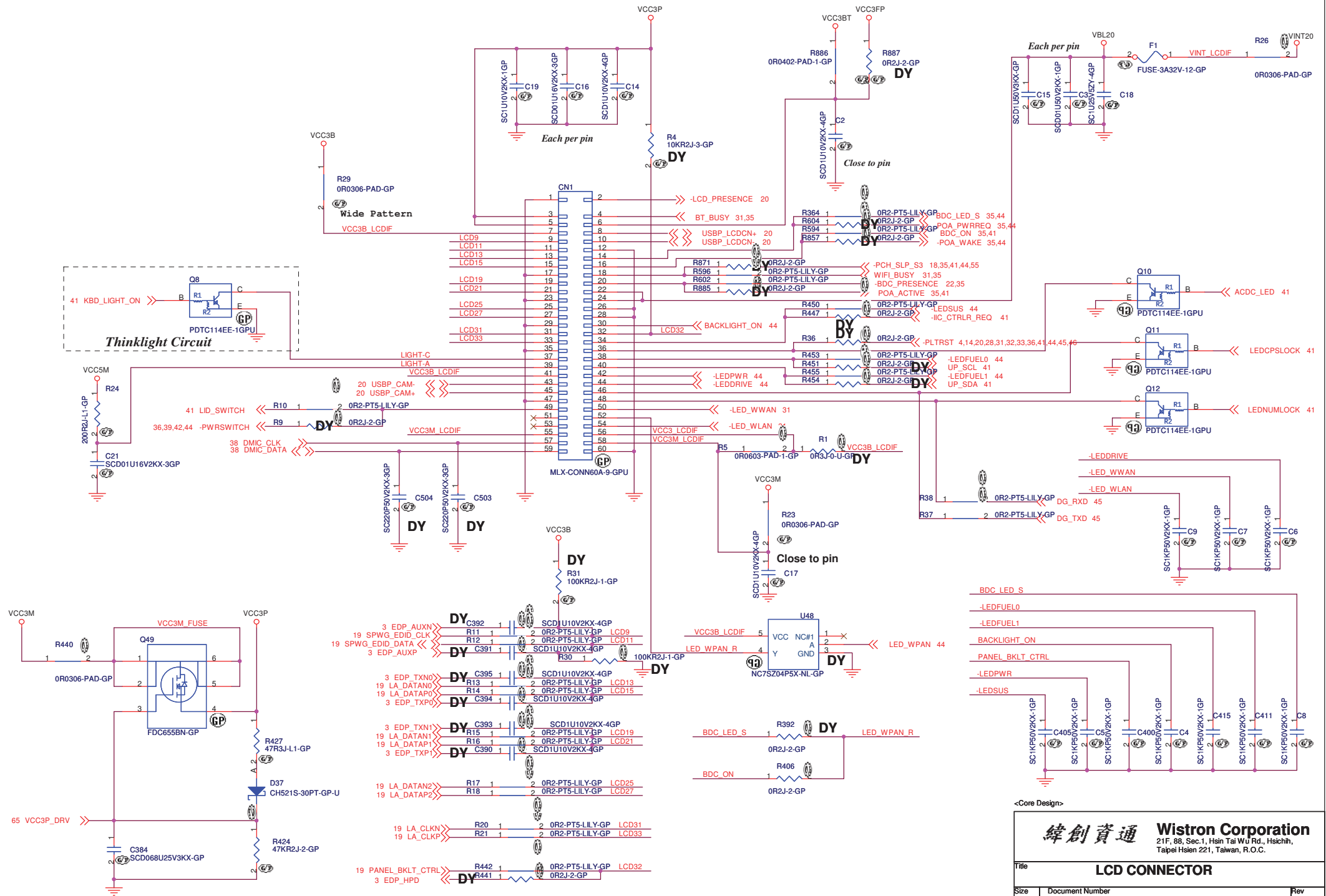


緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title PCH(6/8) :Power			
Size A2	Document Number Mocha-3	Rev -2	
Date: Wednesday, January 27, 2010	Sheet 21	of	70



LCD / Inverter Connector



<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	LCD CONNECTOR
-------	----------------------

Size
A3

Document Number

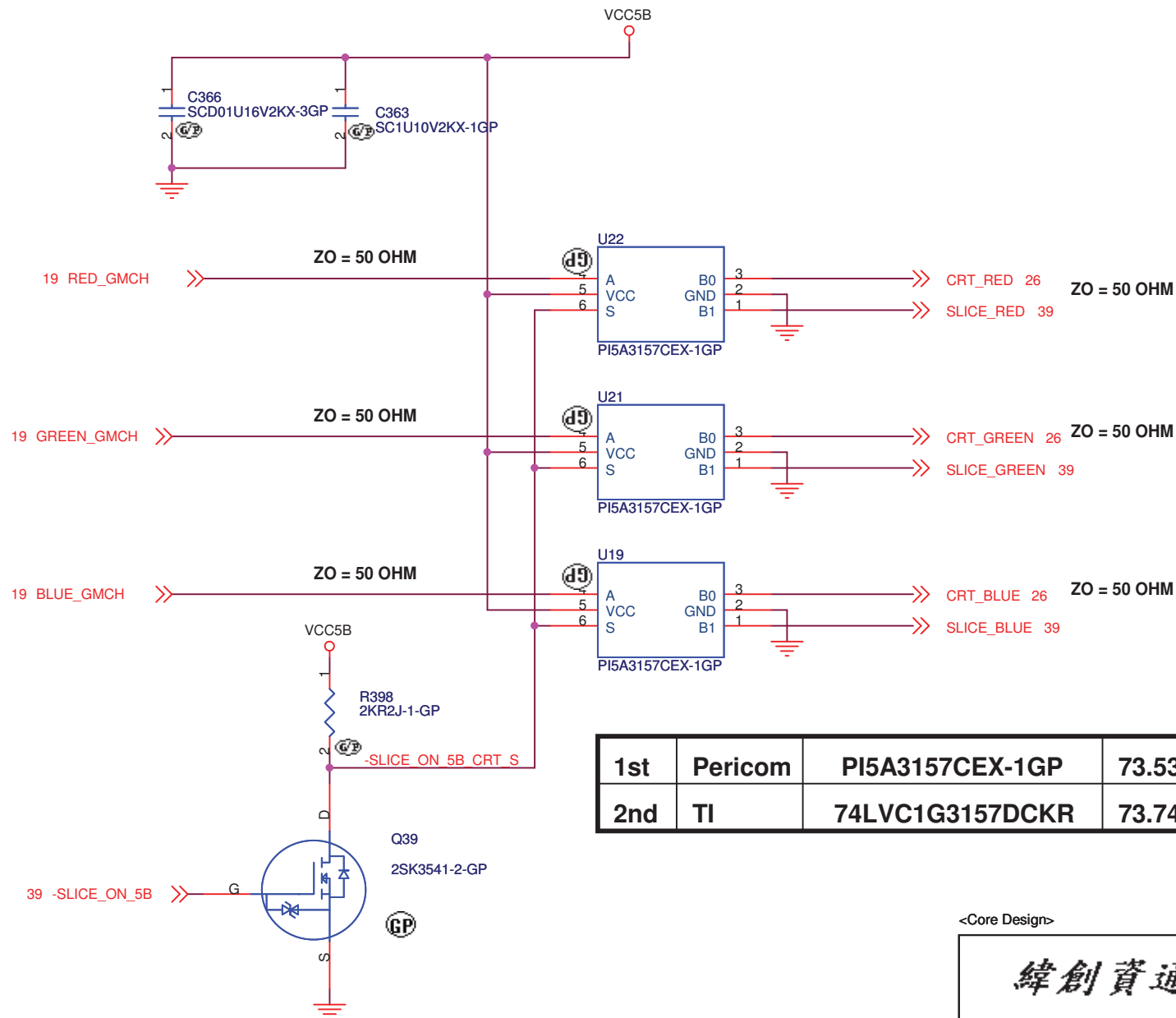
Mocha-3

Rev
-2

Date: Wednesday, January 27, 2010

Sheet 24

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

CRT SELECTOR

Size
A4

Document Number

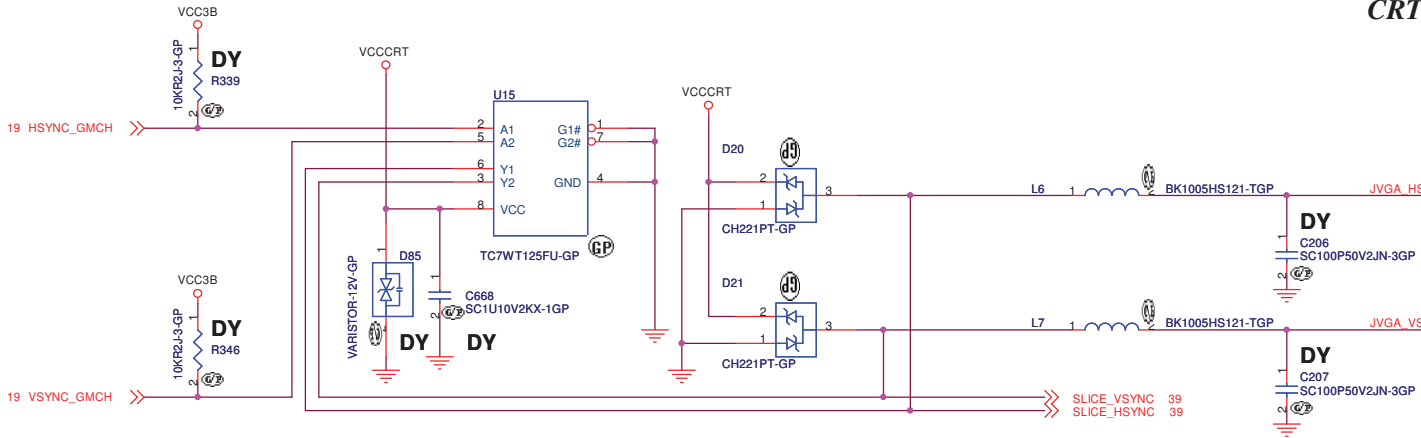
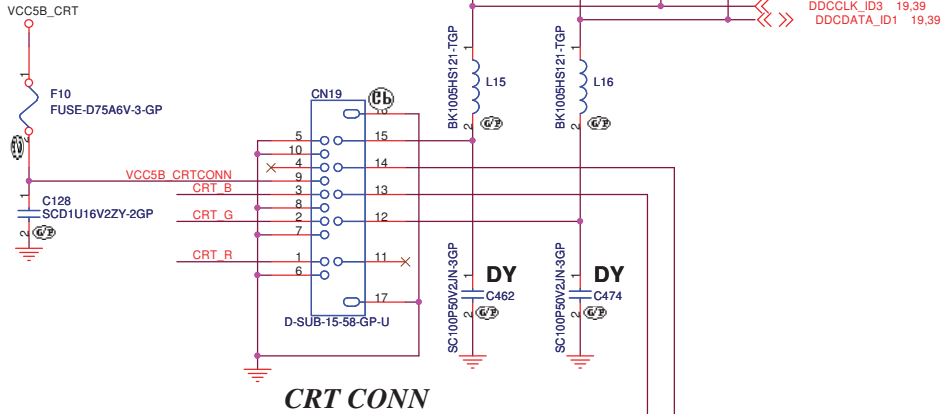
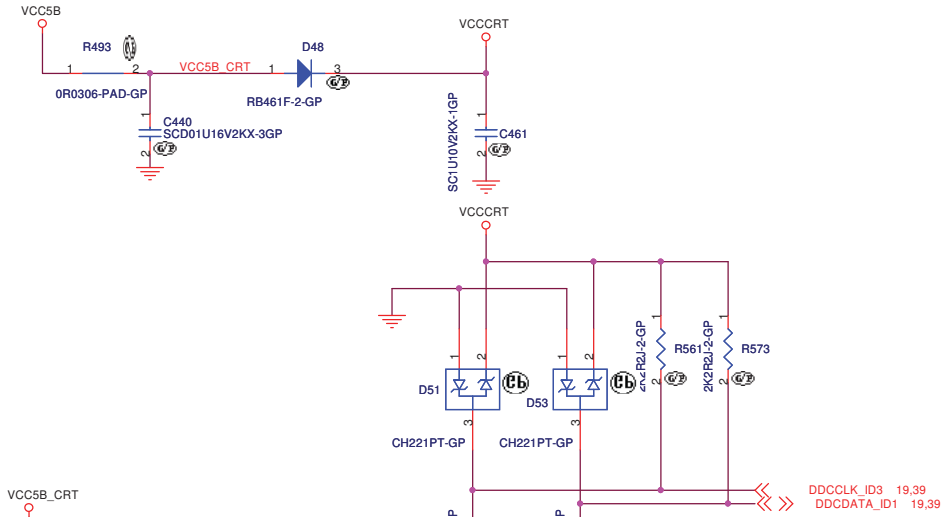
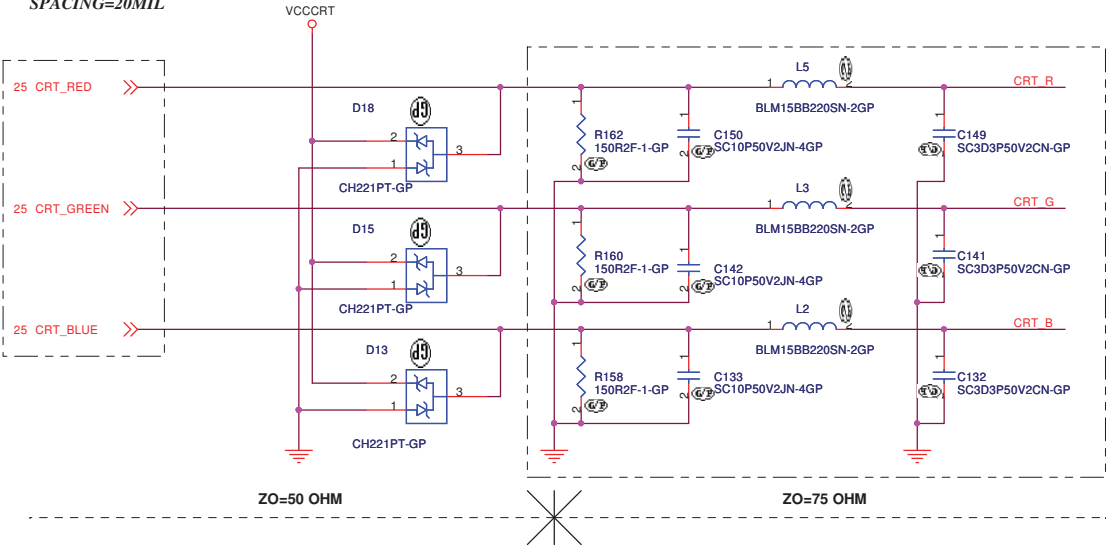
Mocha-3

Rev
-2

Date: Wednesday, January 27, 2010

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



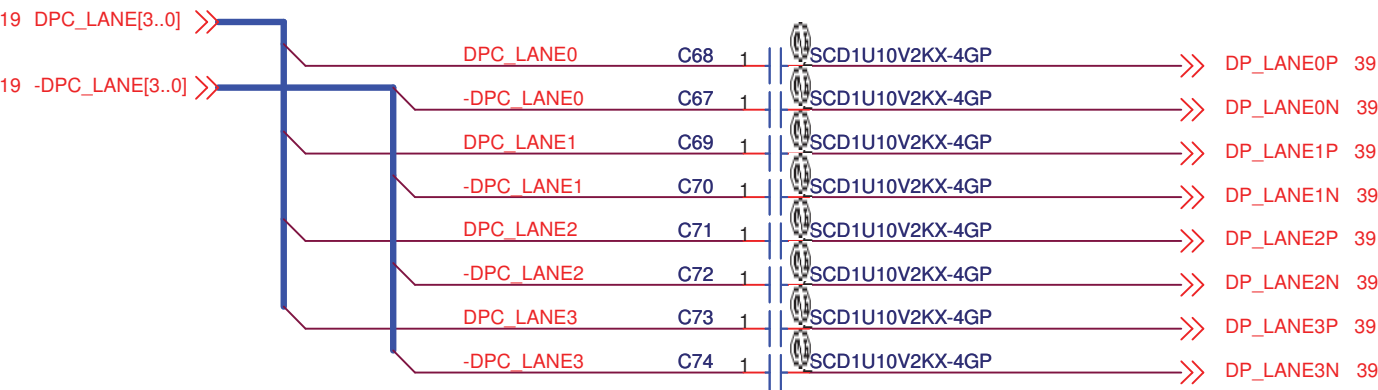
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichin,
Taipei Hsien 221, Taiwan, R.O.C.

EXT CRT INTERFACE

Size	Document Number	Rev
A3	Mocha-3	-2

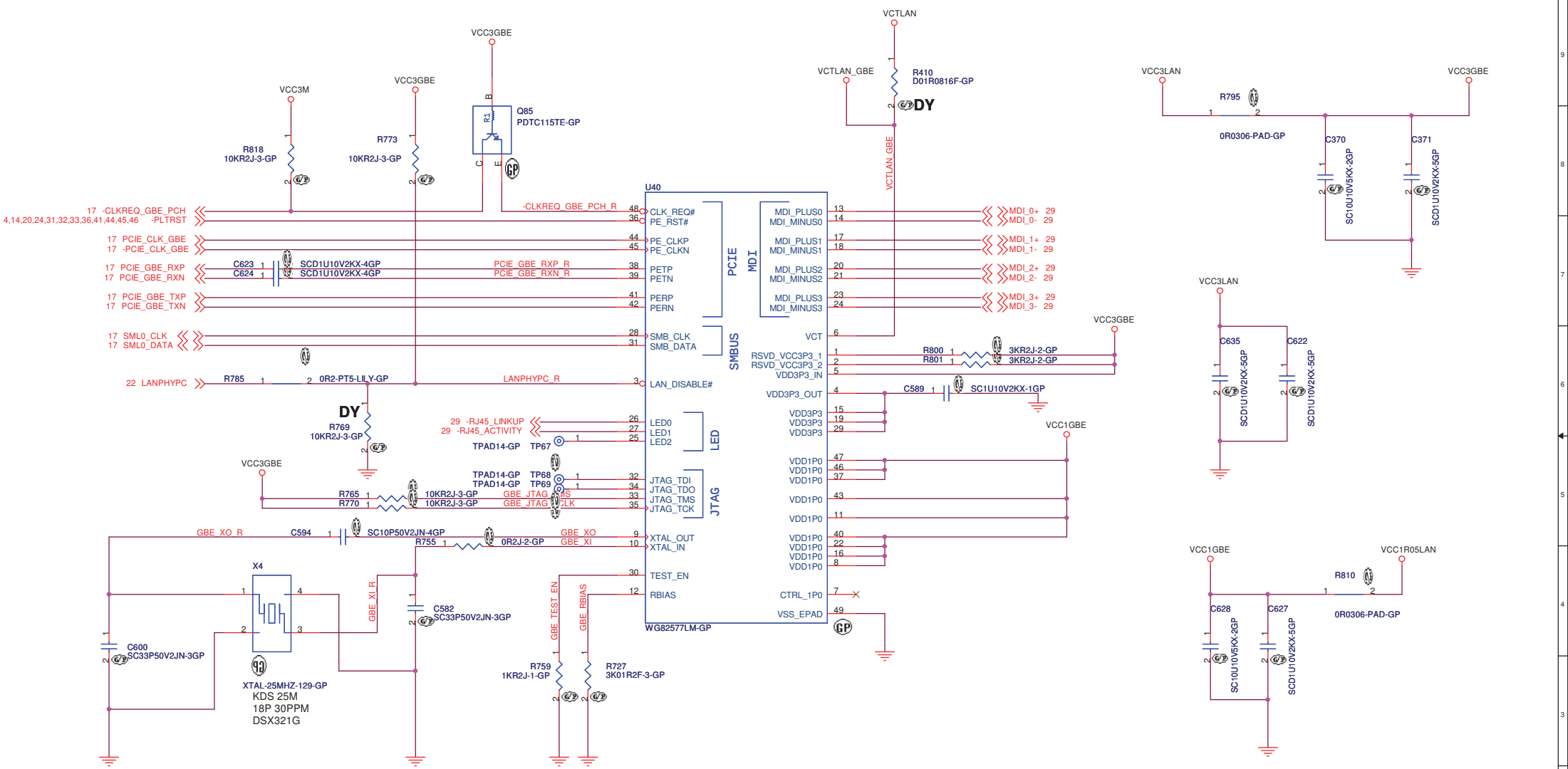
Date: Wednesday, January 27, 2010 Sheet 26 of 70

System DP: GMCH to SLICE Connector



<Core Design>

		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
<i>Display Port AC Coupling</i>			
Size A	Document Number Mocha-3		Rev -2
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

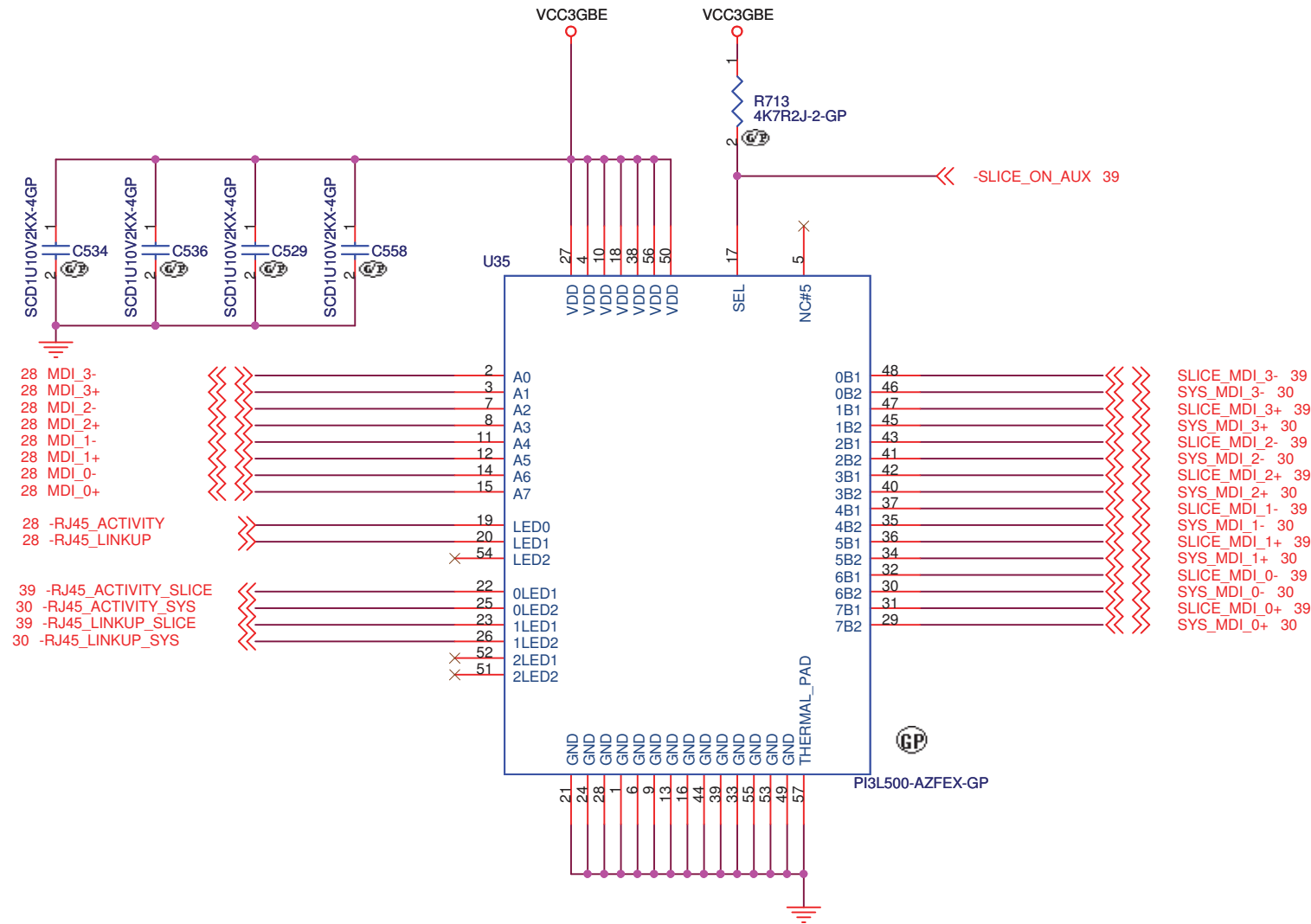
Document Number

Mocha-3

Rev -2

Date: Wednesday, January 27, 2010

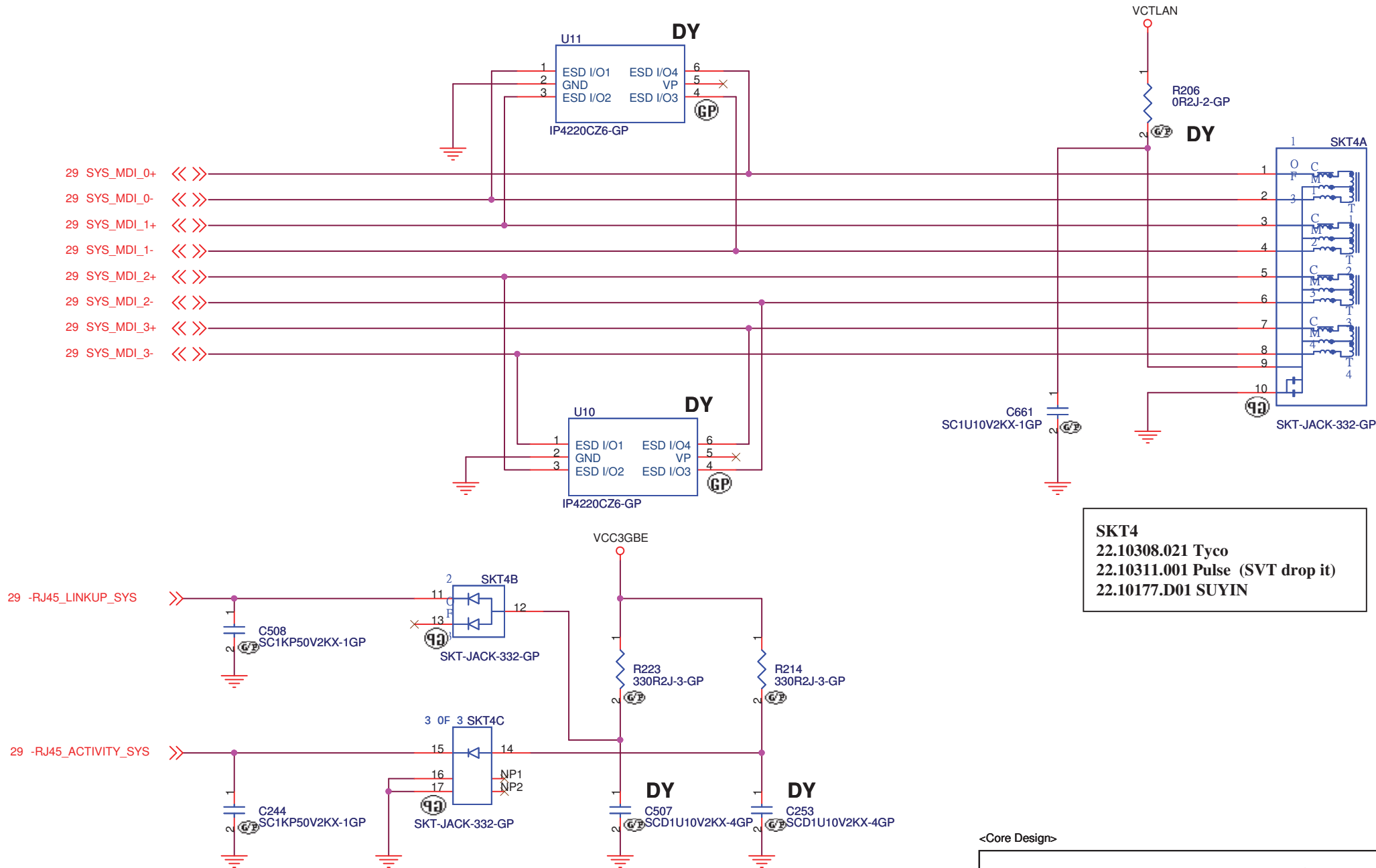
Sheet 28 of 70



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

<Core Design>

緯創資通		Wistron Corporation	
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.			
Title			
GBE LAN SW			
Size A4	Document Number		Rev -2
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

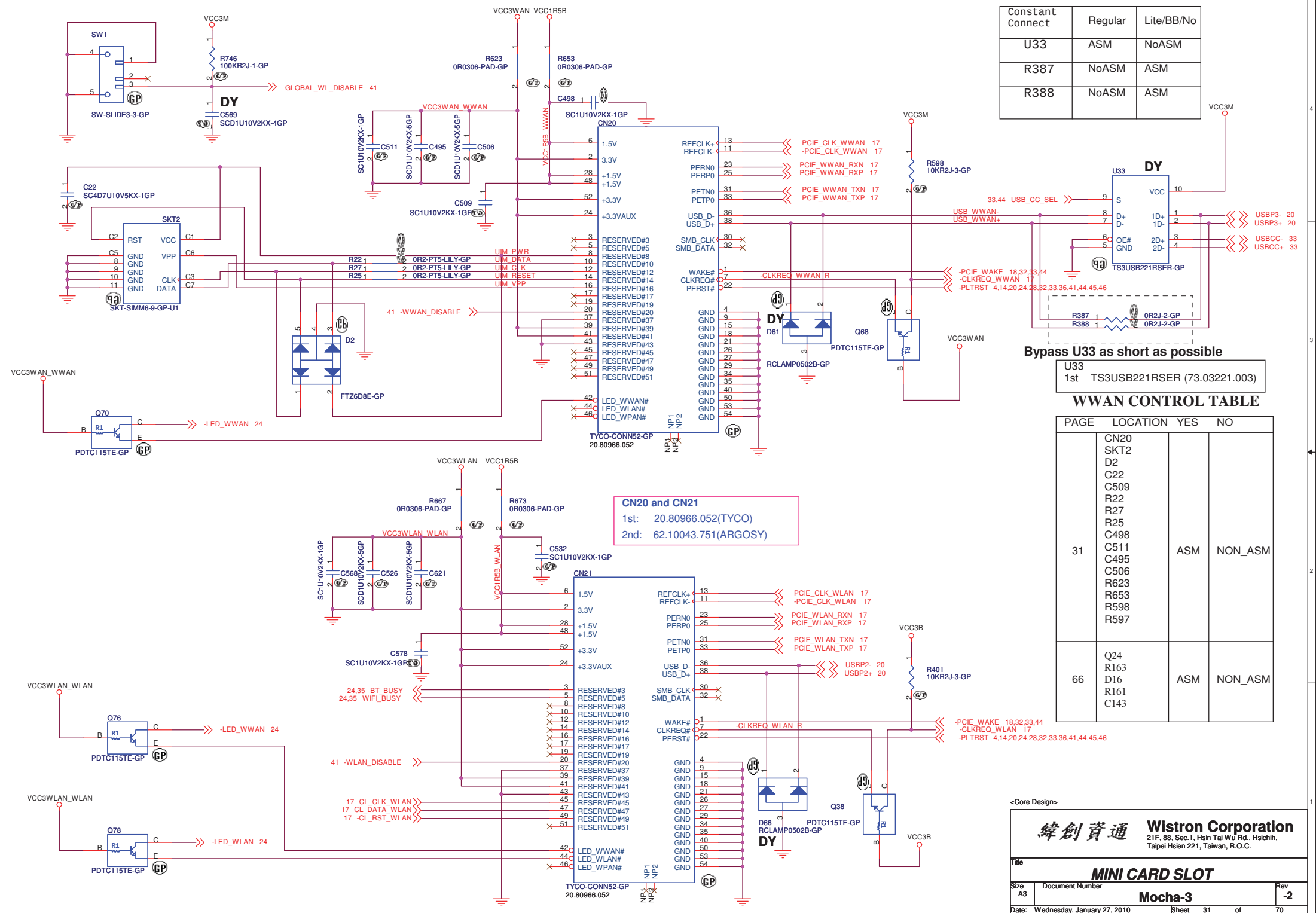
Document Number

Mocha-3

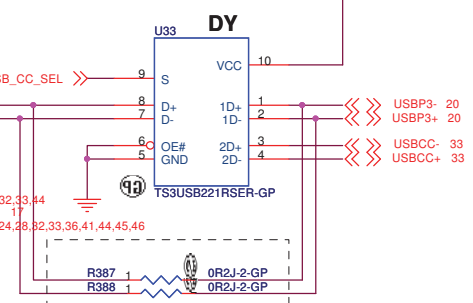
Rev
-2

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 TS3USB221RSER (73.03221.003)

WWAN CONTROL TABLE

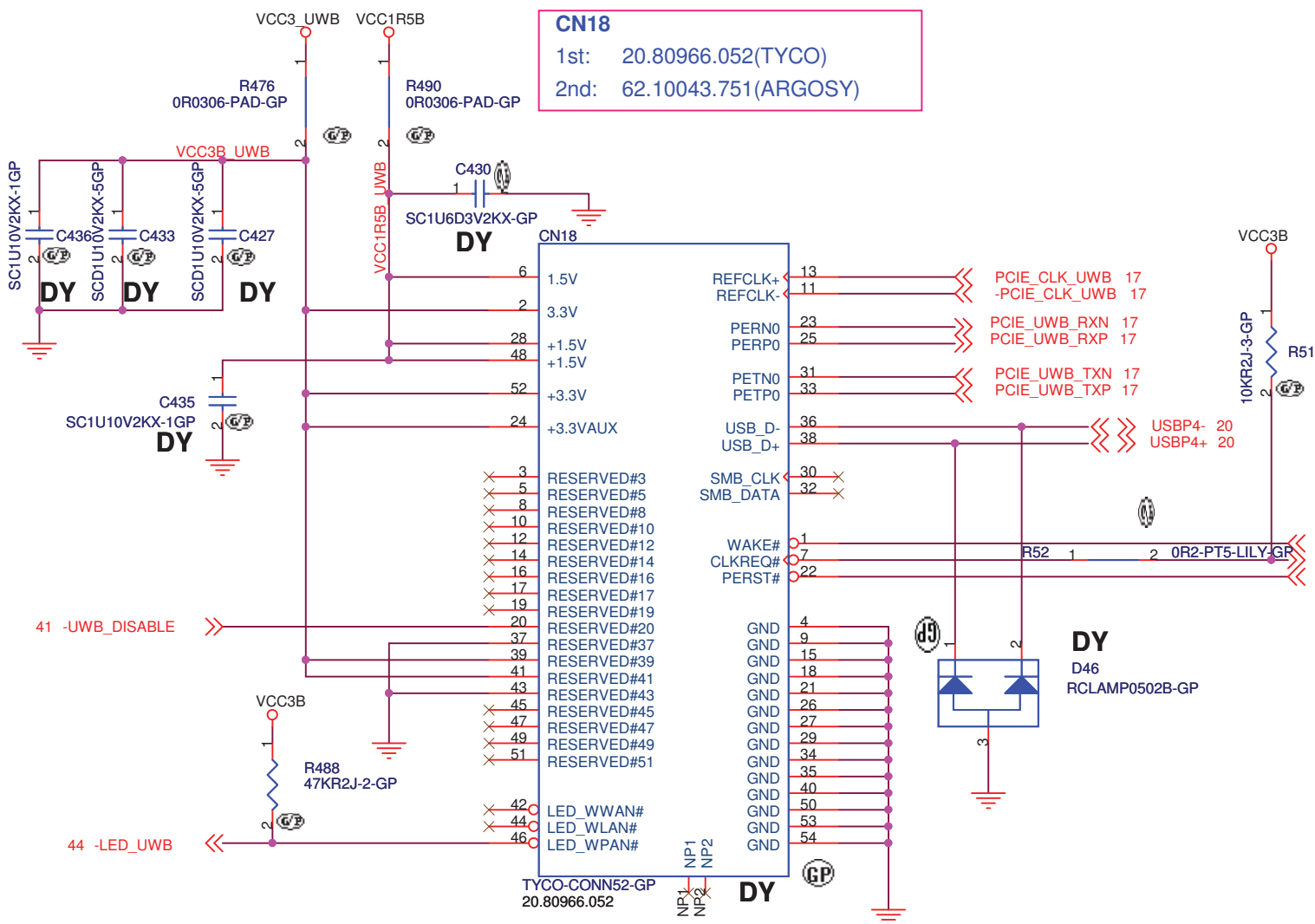
PAGE	LOCATION	YES	NO
31	CN20 SKT2 D2 C22 C509 R22 R27 R25 C498 C511 C495 C506 R623 R653 R598 R597	ASM	NON_ASM
66	Q24 R163 D16 R161 C143	ASM	NON_ASM

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

<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			Rev		
Size			Document Number		
A3			Mocha-3		
Date: Wednesday, January 27, 2010			Sheet 31 of 70		



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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Title

MINI CARD SLOT 2

Size A4

Document Number

Rev -2

Date: Wednesday, January 27, 2010

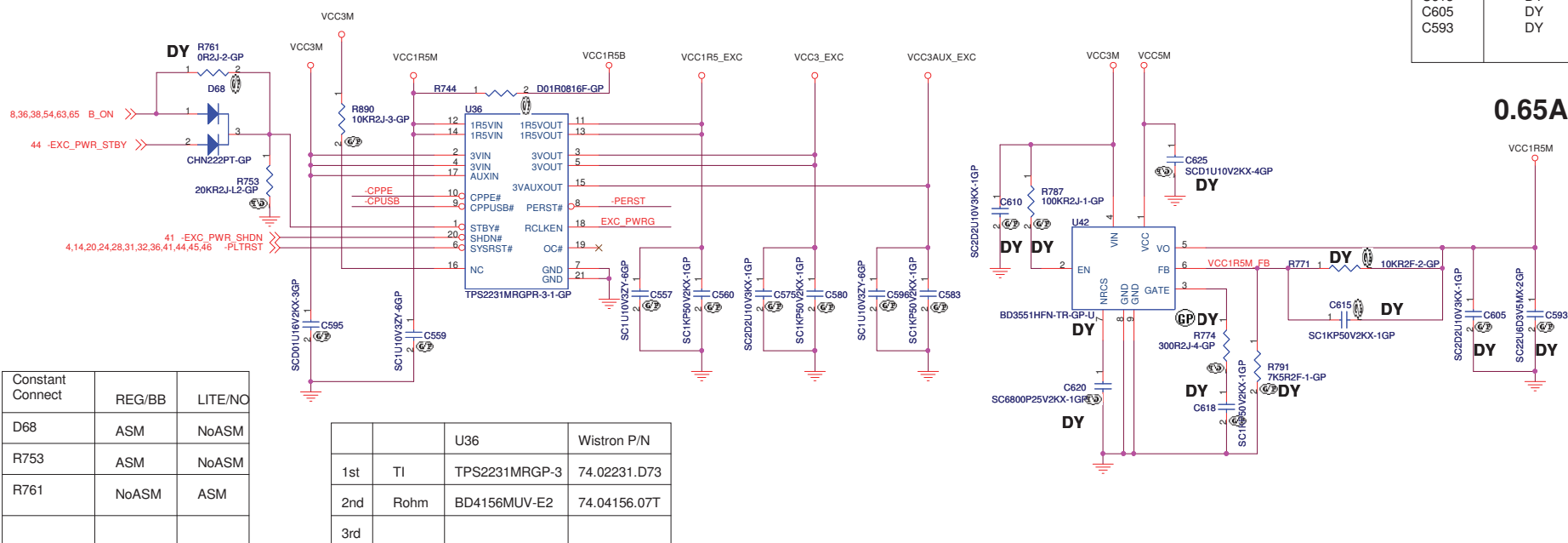
Sheet 32 of 70

Mocha-3



Constant Connect	REG	LITE/BB/NO
U32	ASM	NoASM
R362	NoASM	ASM
R363	NoASM	ASM

Constant Connect	REG/BB	REG/BB	LITE/NO
U36	BD4156MUV TPS2231MRGPR-3	BD4156MUV TPS2231MRGPR	BD4156MUV TPS2231MRGPR
R890	ASM	DY	DY
R744	ASM	DY	ASM
U42	DY	ASM	DY
R787	DY	ASM	DY
C610	DY	ASM	DY
C625	DY	ASM	DY
C620	DY	ASM	DY
R774	DY	DY	DY
C618	DY	DY	DY
R771	DY	ASM	DY
R791	DY	ASM	DY
C615	DY	DY	DY
C605	DY	ASM	DY
C593	DY	ASM	DY



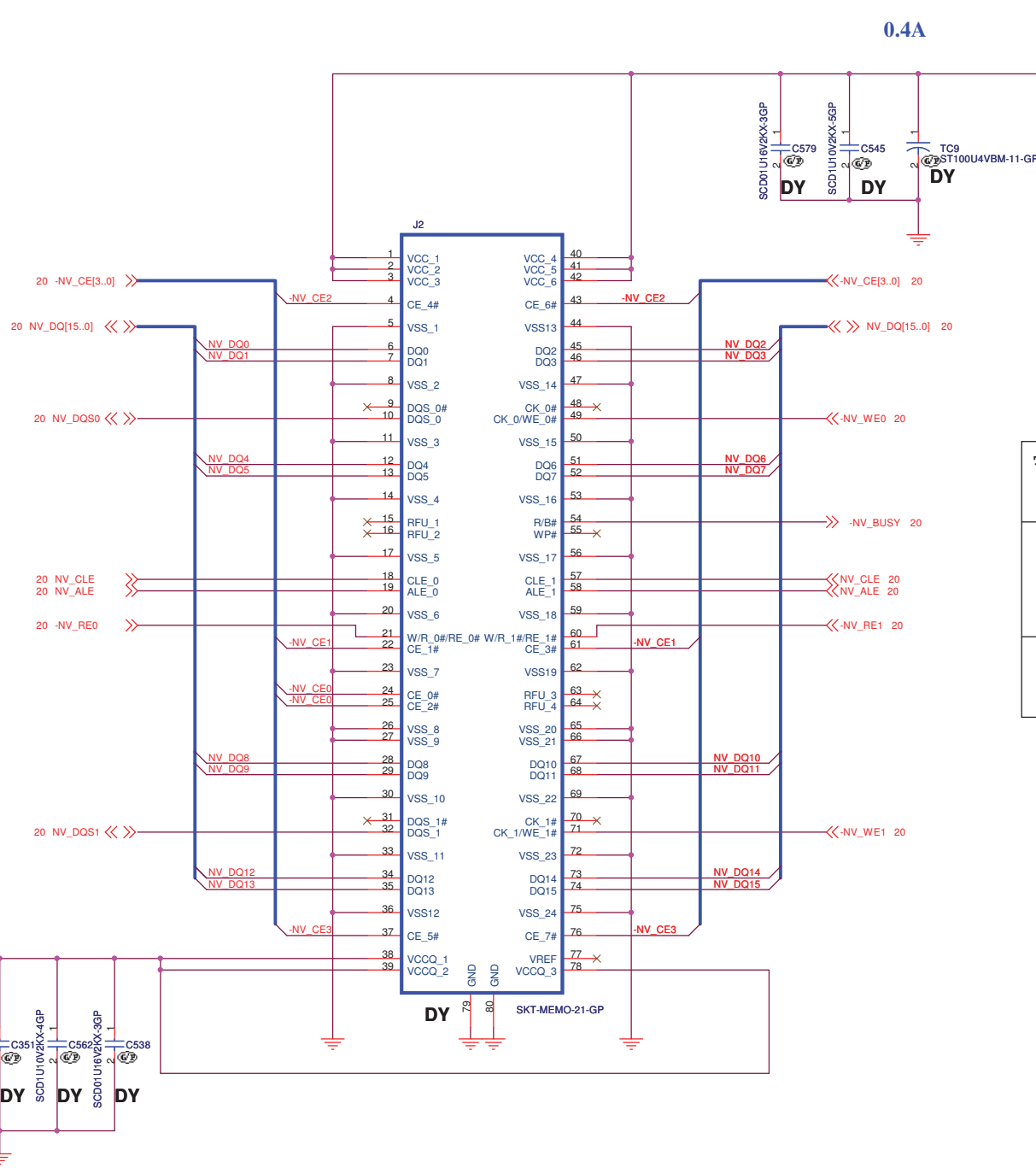
Constant Connect	REG/BB	LITE/NO
D68	ASM	NoASM
R753	ASM	NoASM
R761	NoASM	ASM

		U36	Wistron P/N
1st	TI	TPS2231MRGP-3	74.02231.D73
2nd	Rohm	BD4156MUV-E2	74.04156.07T
3rd			

J2
62.10034.331

0.4A
VCC1R8B

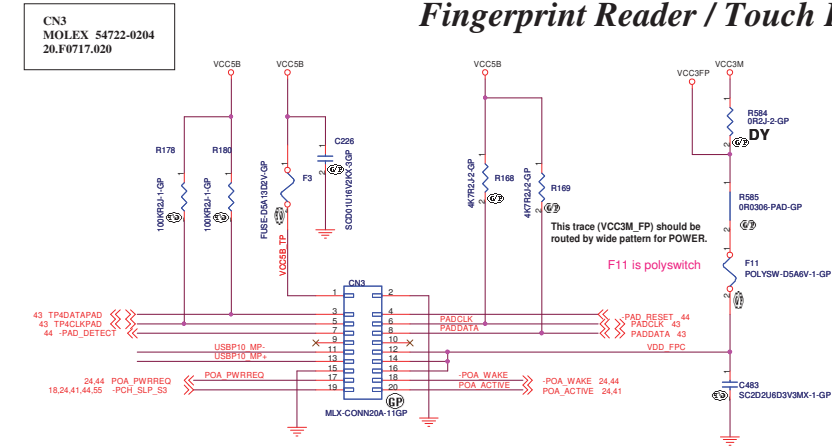
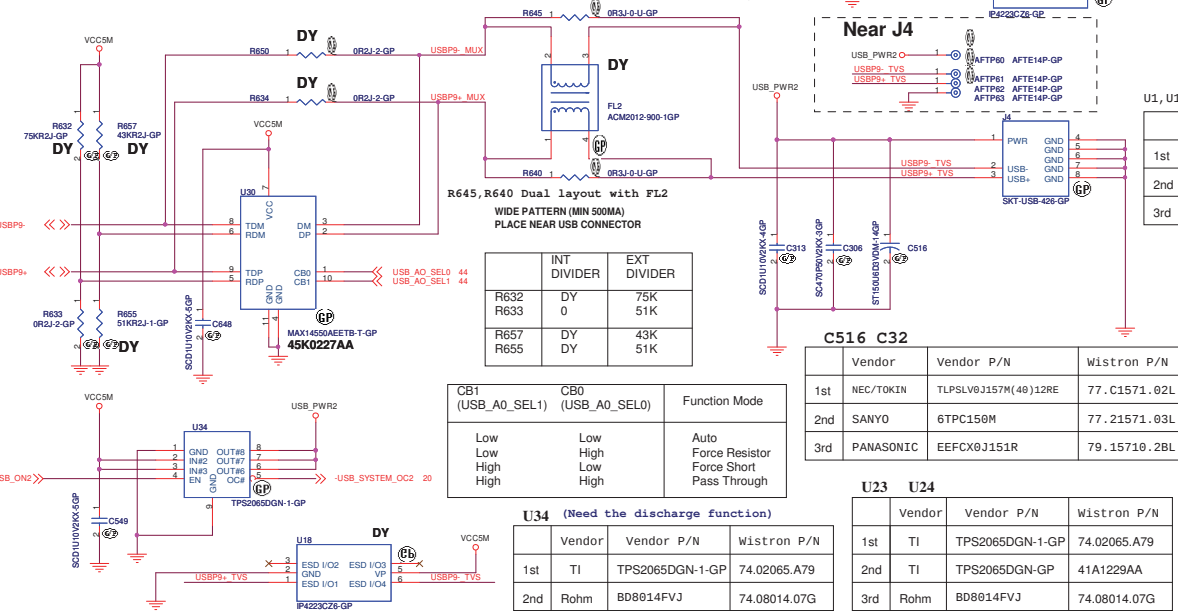
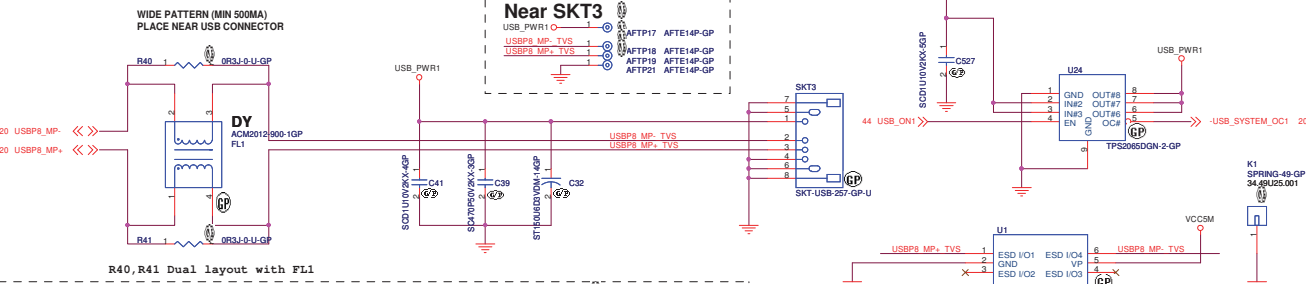
0.4A
VCC3B



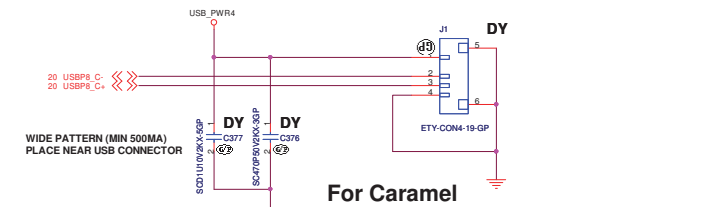
Turbo memory Braidwood Support	YES	NO
J2	ASM	DY
TC9	ASM	DY
C545	DY	DY
C579	DY	DY
C351	ASM	DY
C562	DY	DY
C538	DY	DY

Near SKT3

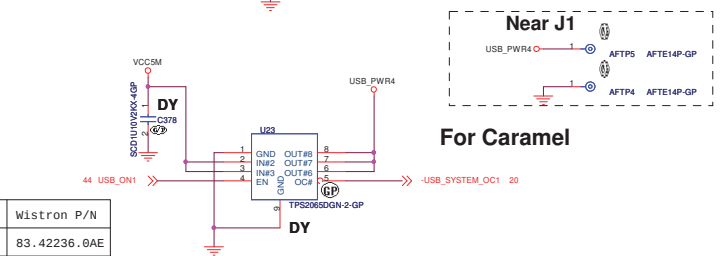
USB_PWR1 ○ ———— 1 ● AFPT17 AFTE14P-GP
USBP6 MP+ TVS 1 ● AFPT18 AFTE14P-GP
USBP8 MP+ TVS 1 ● AFPT19 AFTE14P-GP
————— 1 ● AFTP21 AFTE14P-GP
⏚



Please put CN3 on TOP side

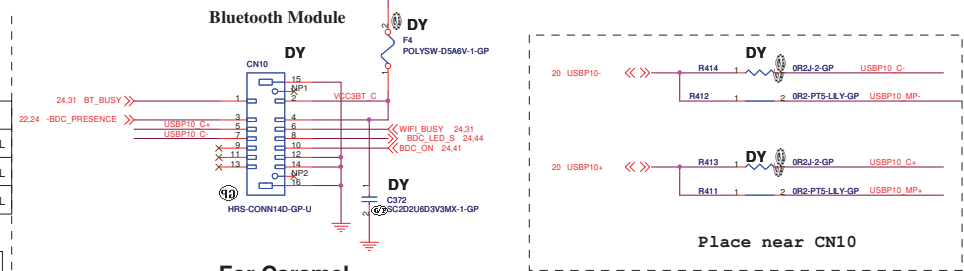


For Caramel

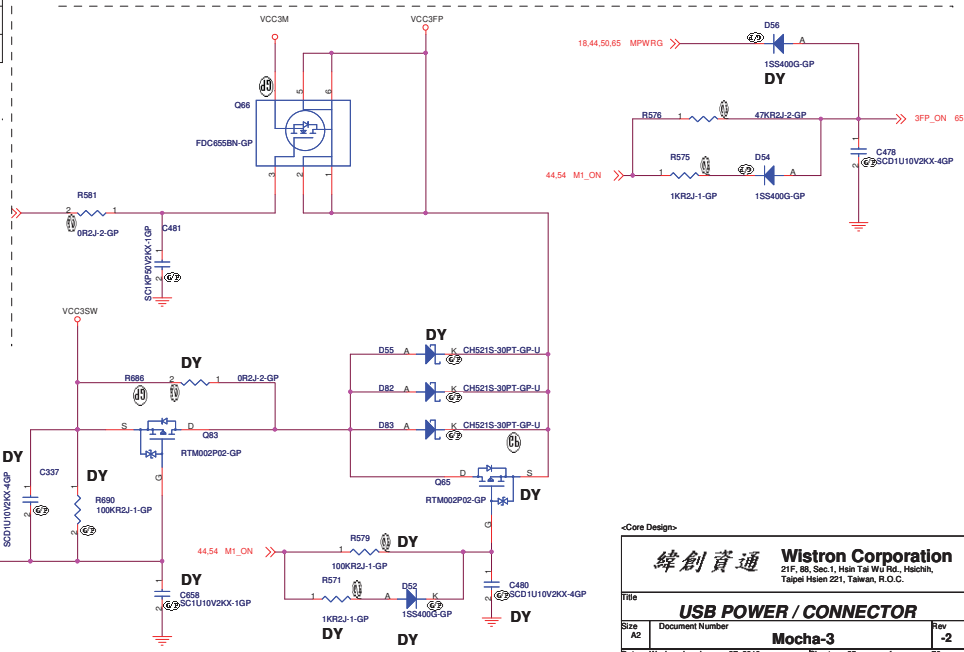


For Caramel

	Vendor	Vendor P/N	Wistron P/N
1st	NXP	IP4223CZ6	83.42236.0AB
2nd	SEMTECH	SRV95-4.TCT	83.00095.BAE /41U5451AA
3rd	AOS	A028904CIL	83.08904.0AB



Place near CN10

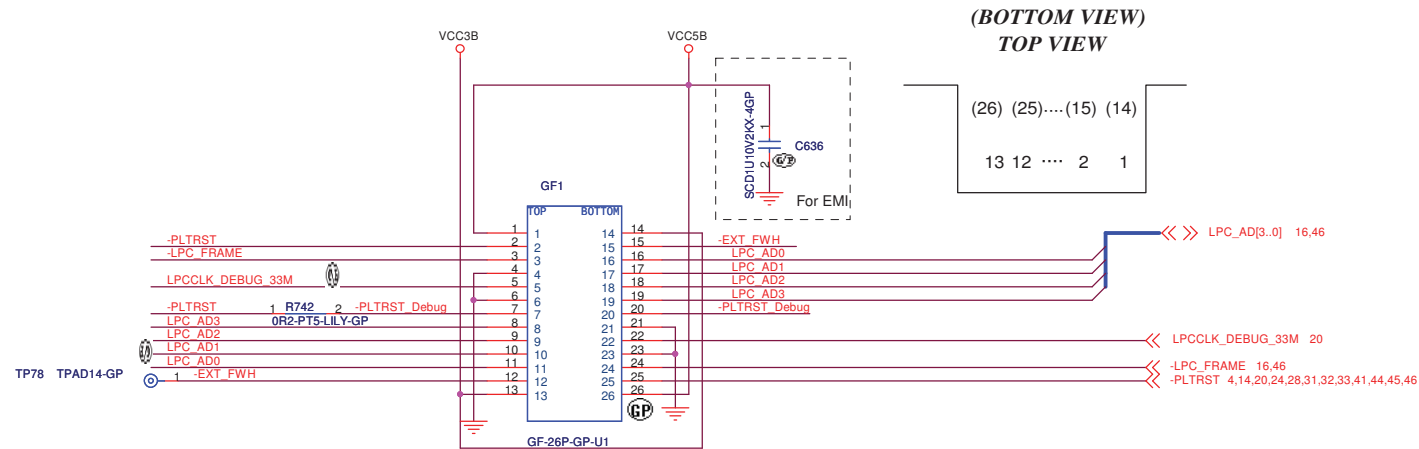


&ltCore Design>

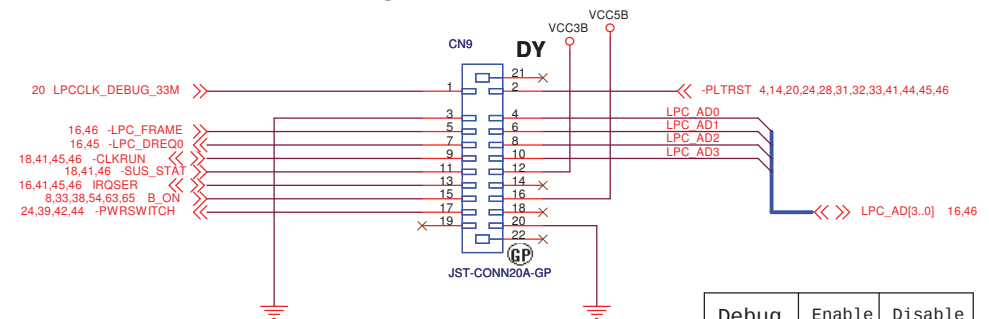
緯創資通 **Wistron Corporation**
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Taichung, Taiwan 401, Taiwan, R.O.C.

Title		
USB POWER / CONNECTOR		
Size A2	Document Number Mocha-3	Rev -2

Golden Finger for Debug Board



Debug card connector



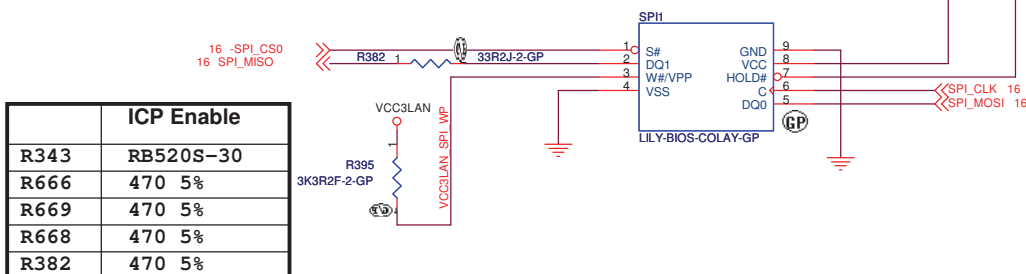
Put "easy-to -access" place

Debug	Enable	Disable
CN9	ASM	DY
R638	ASM	DY

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

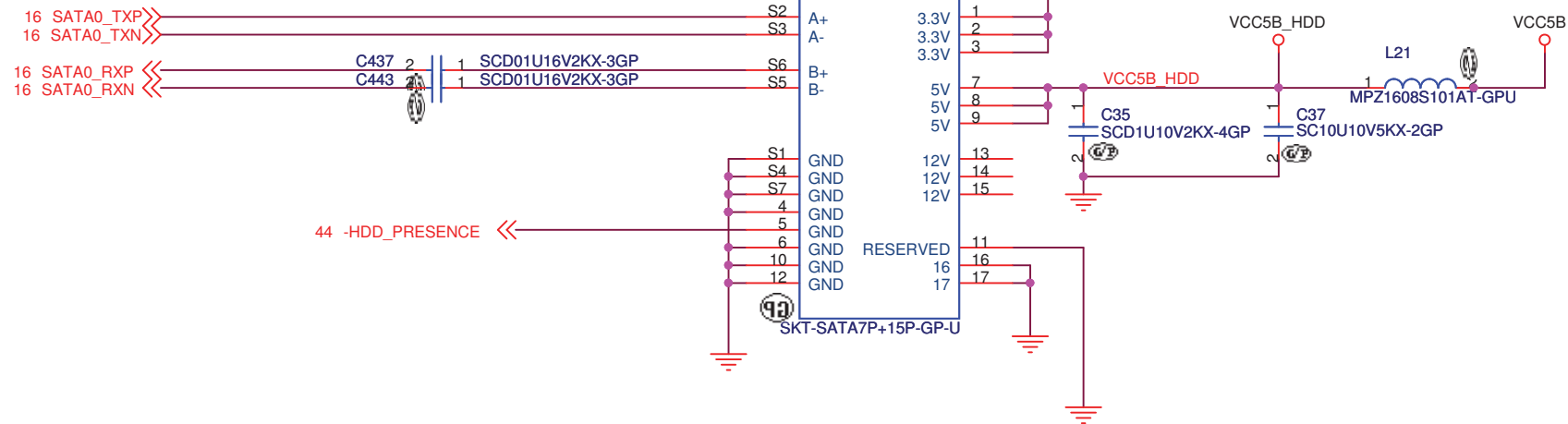


SO8 and WSON8 are both supported!

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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		21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
		SPI&LPC debug card	
Size	Document Number	Rev	
A3		-2	
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<Core Design>

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

Title

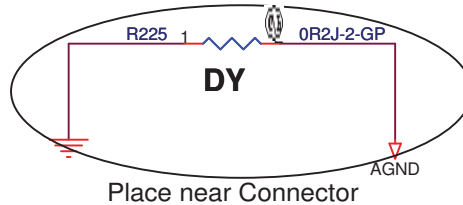
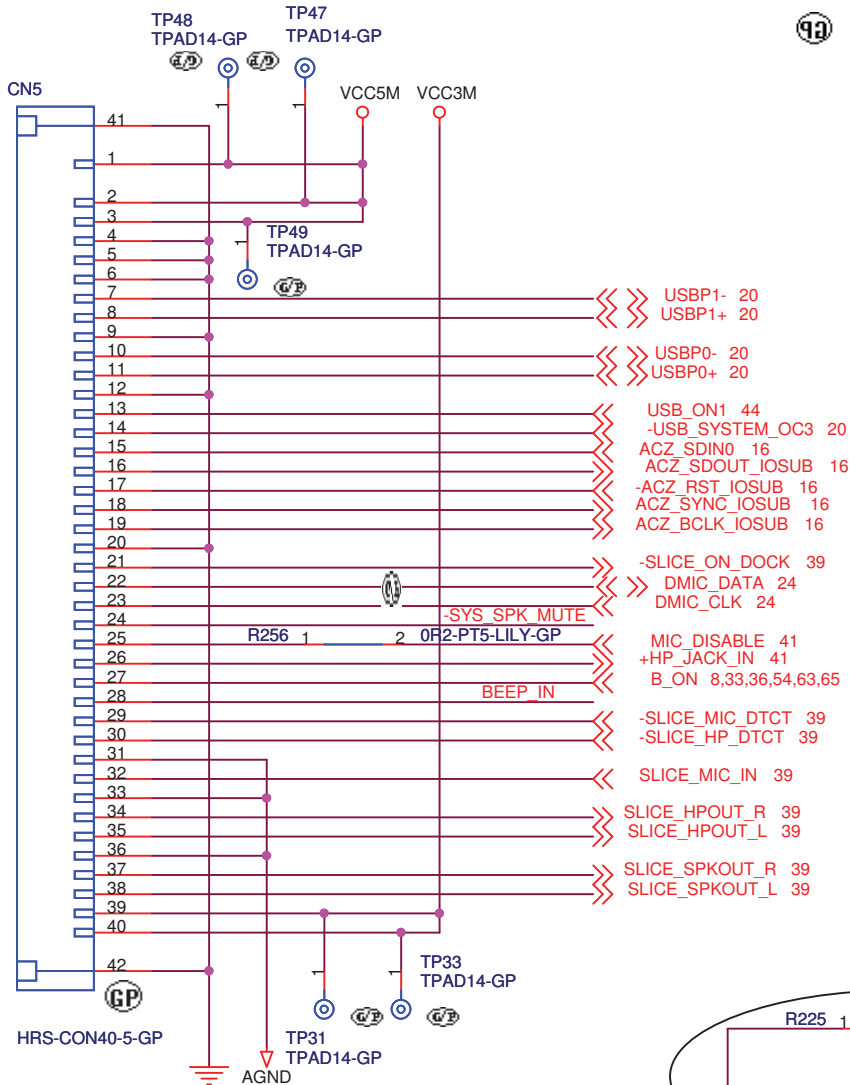
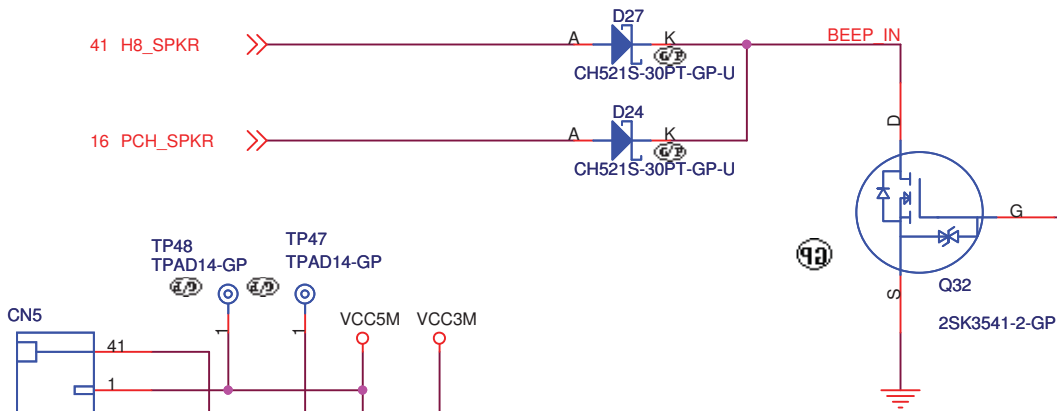
2.5 inch SATA ConnectorSize
A4

Document Number

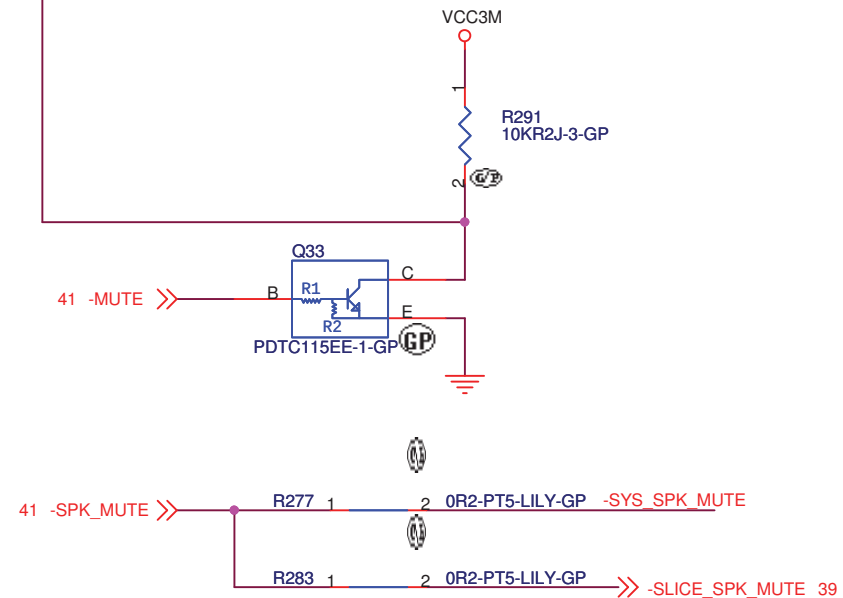
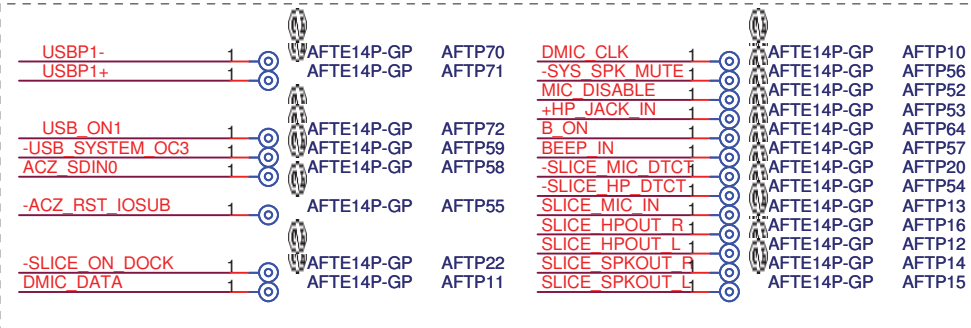
Mocha-3Rev
-2

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Near CN5



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Title

SUB-CARD CONNECTOR

Size
A4

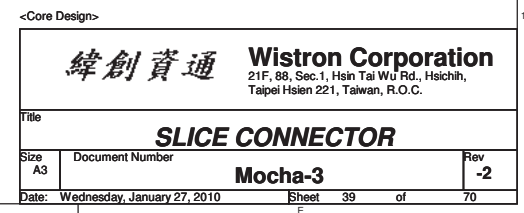
Document Number

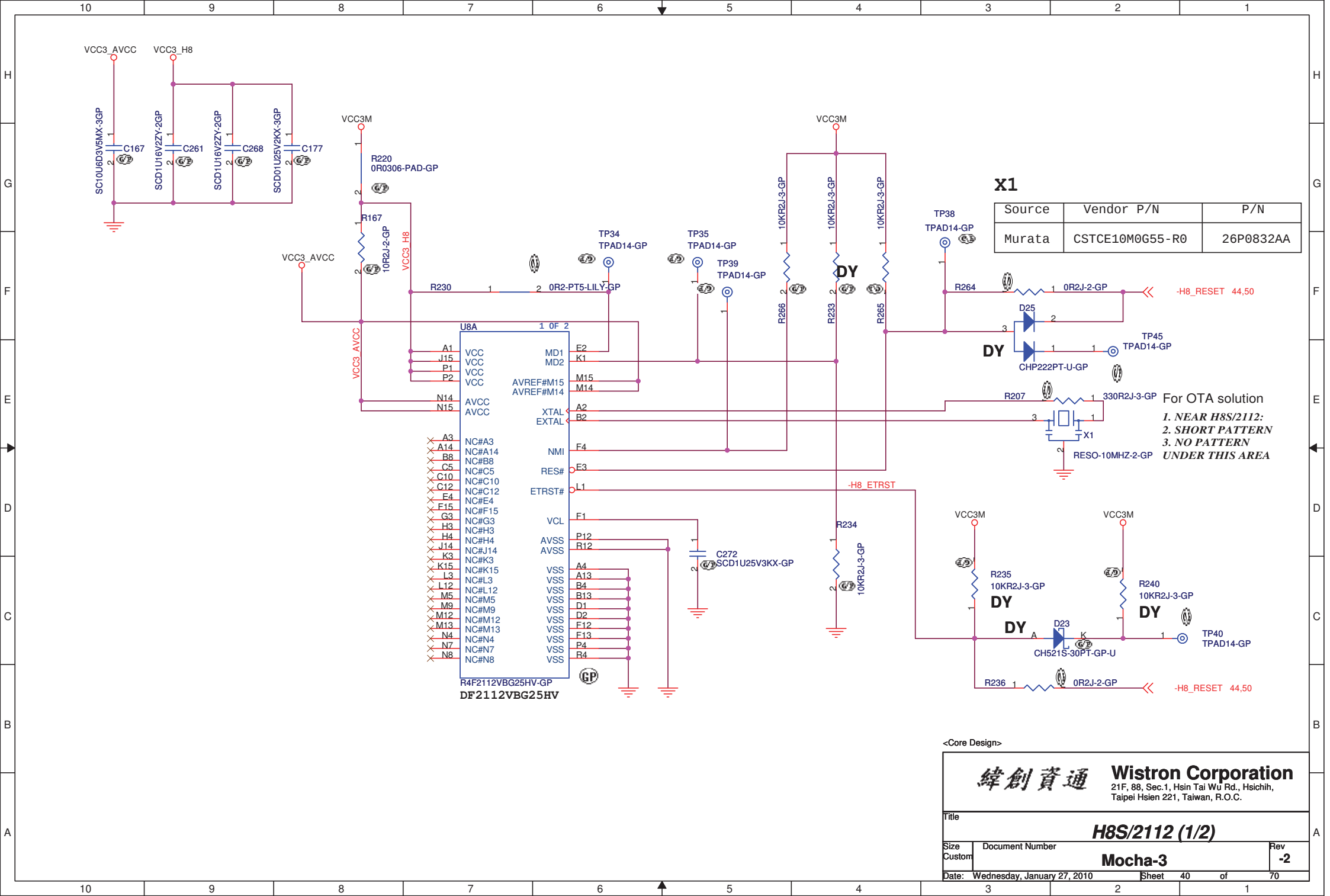
Mocha-3

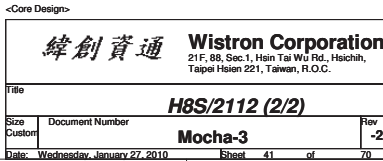
Rev
-2

Date: Wednesday, January 27, 2010

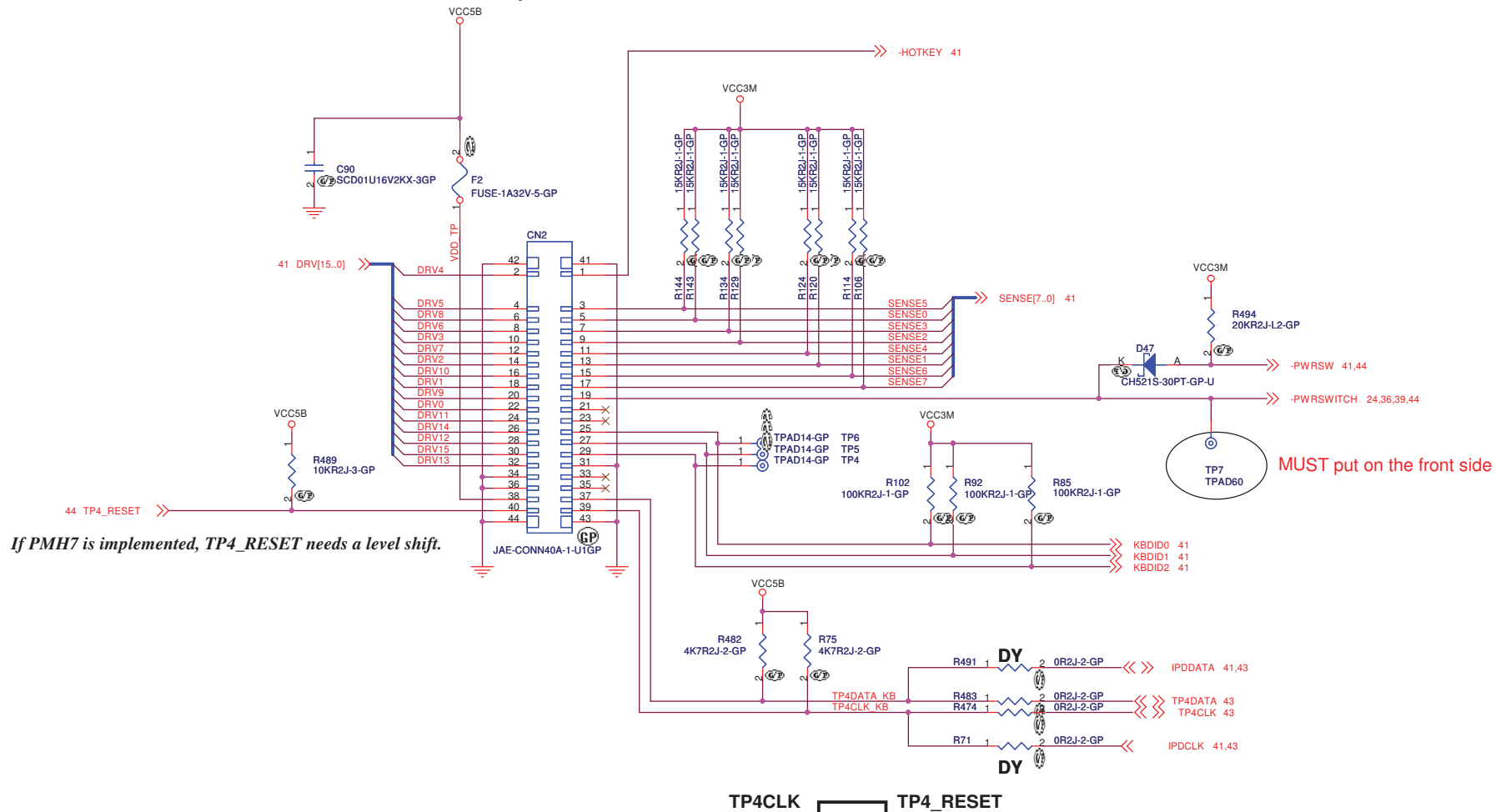
Sheet 38 of 70



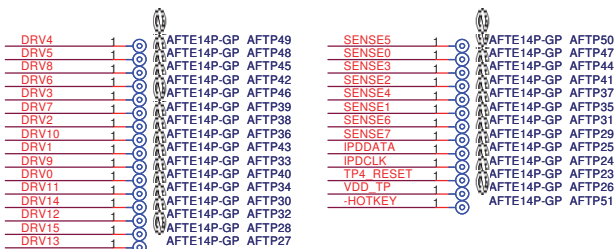




Keyboard Connector



Near CN2



TP4CLK TP4_RESET

HOTKEY# DRV4

Keyboard Connector Top View

<Core Design>

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

Title			
KEYBOARD CONN			
Size	Document Number	Rev	
A3		-2	
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		Mocha-3	

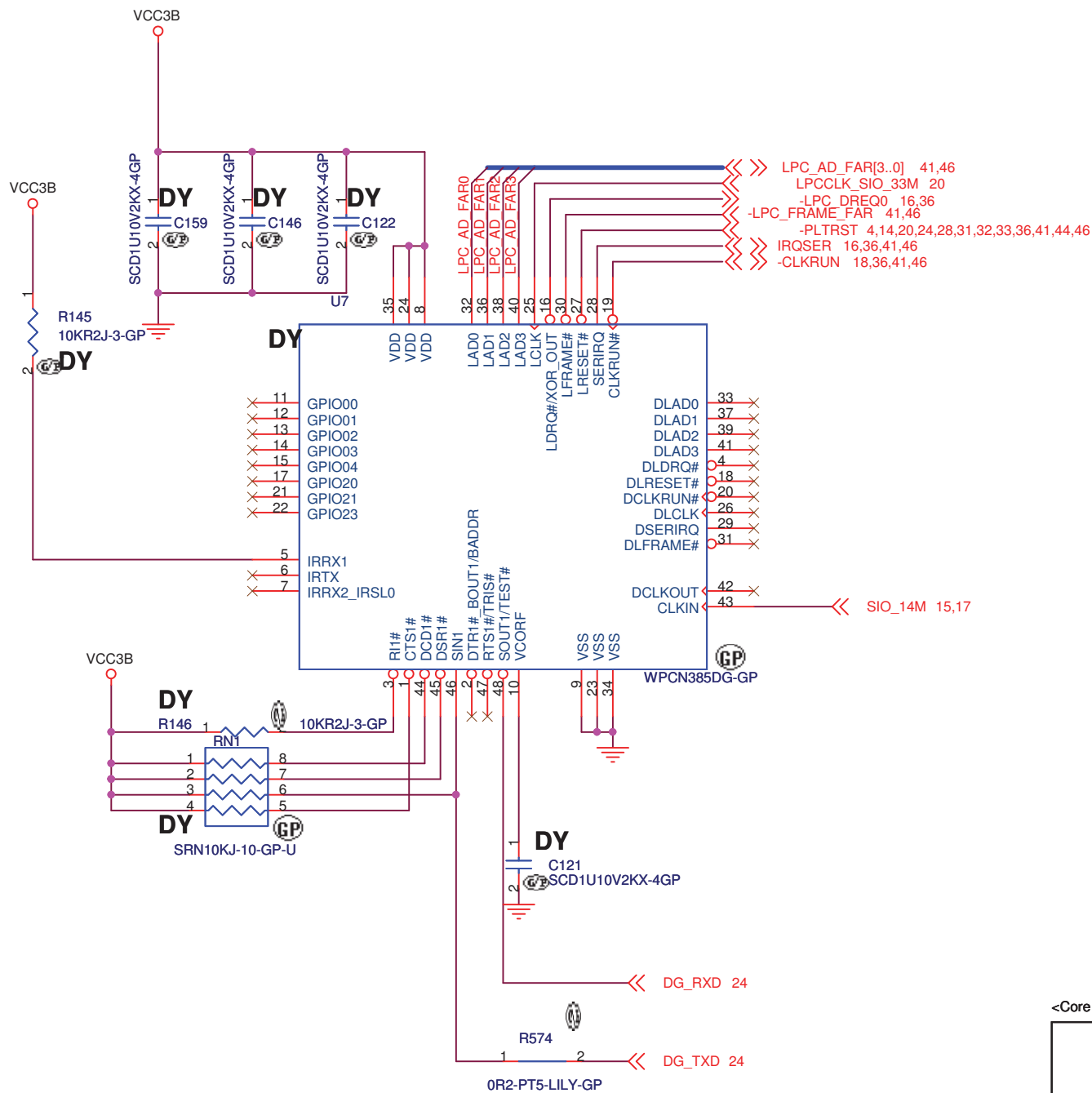


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Taipei Hsien 221, Taiwan, R.O.C.

Title	<i>TOUCH PAD CONNECTOR</i>
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Size A4	Document Number Mocha-3	Rev -2
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	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

<Core Design>

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

Title

WPCN385SDG

Size
A4

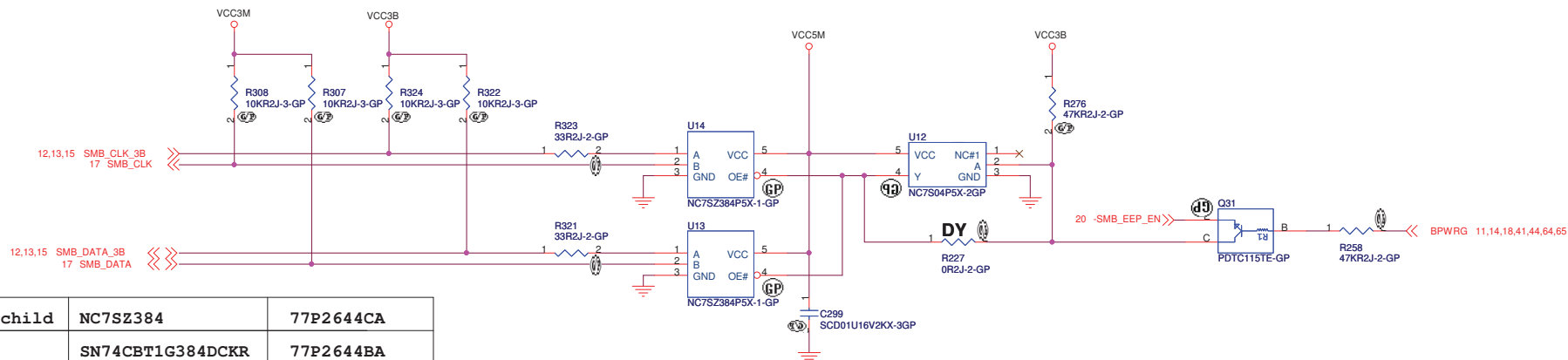
Document Number

Mocha-3

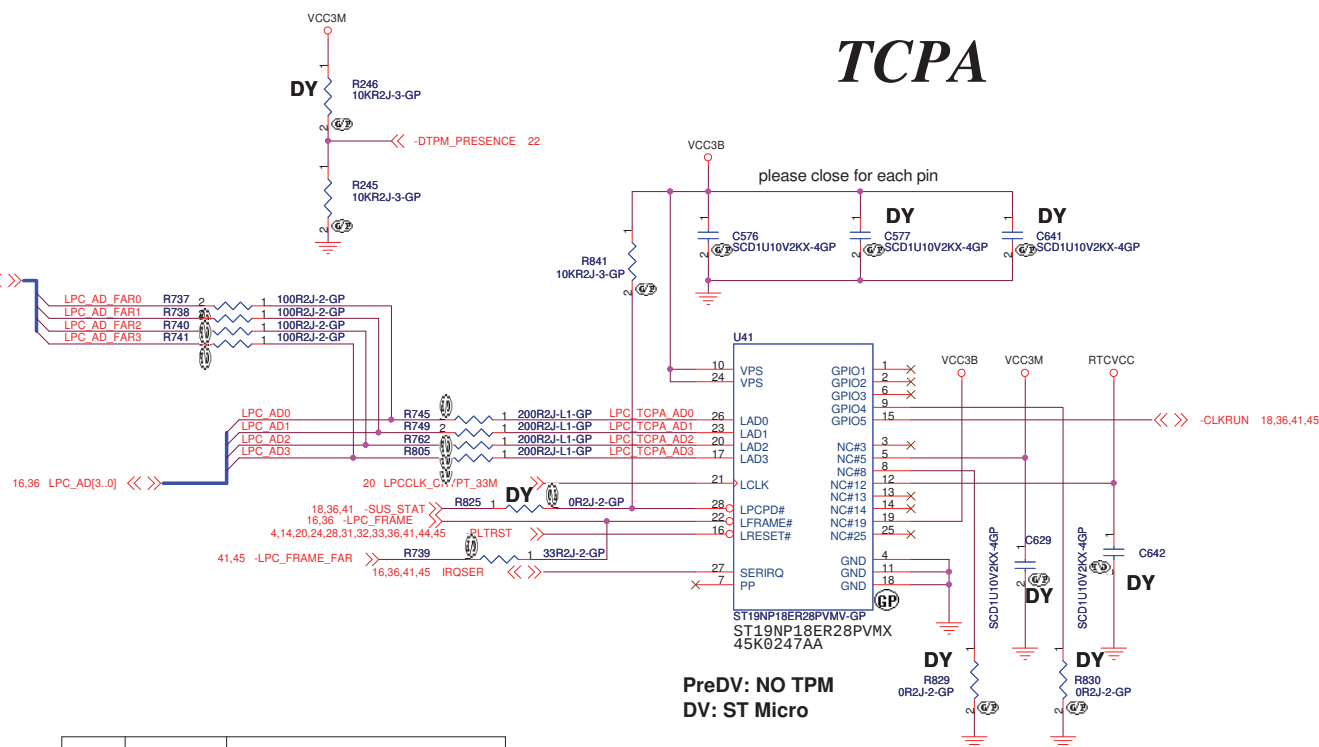
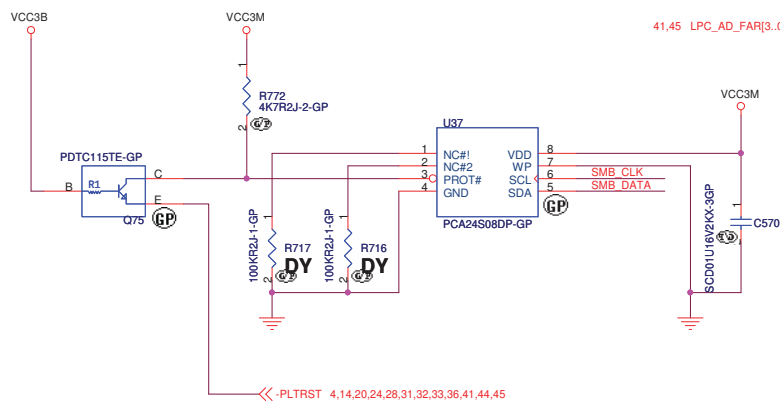
Rev
-2

Date: Wednesday, January 27, 2010

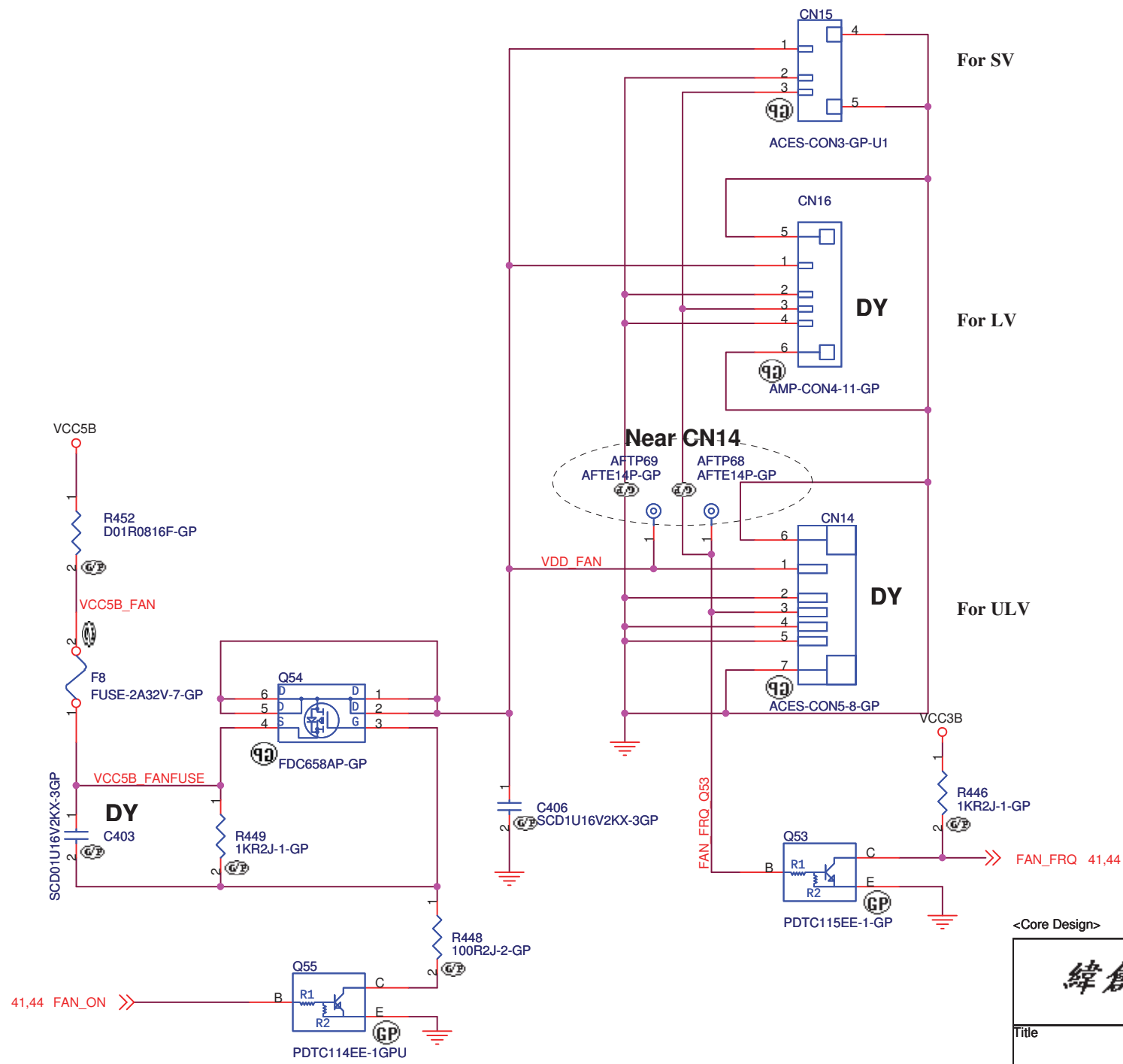
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EEPROM



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



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

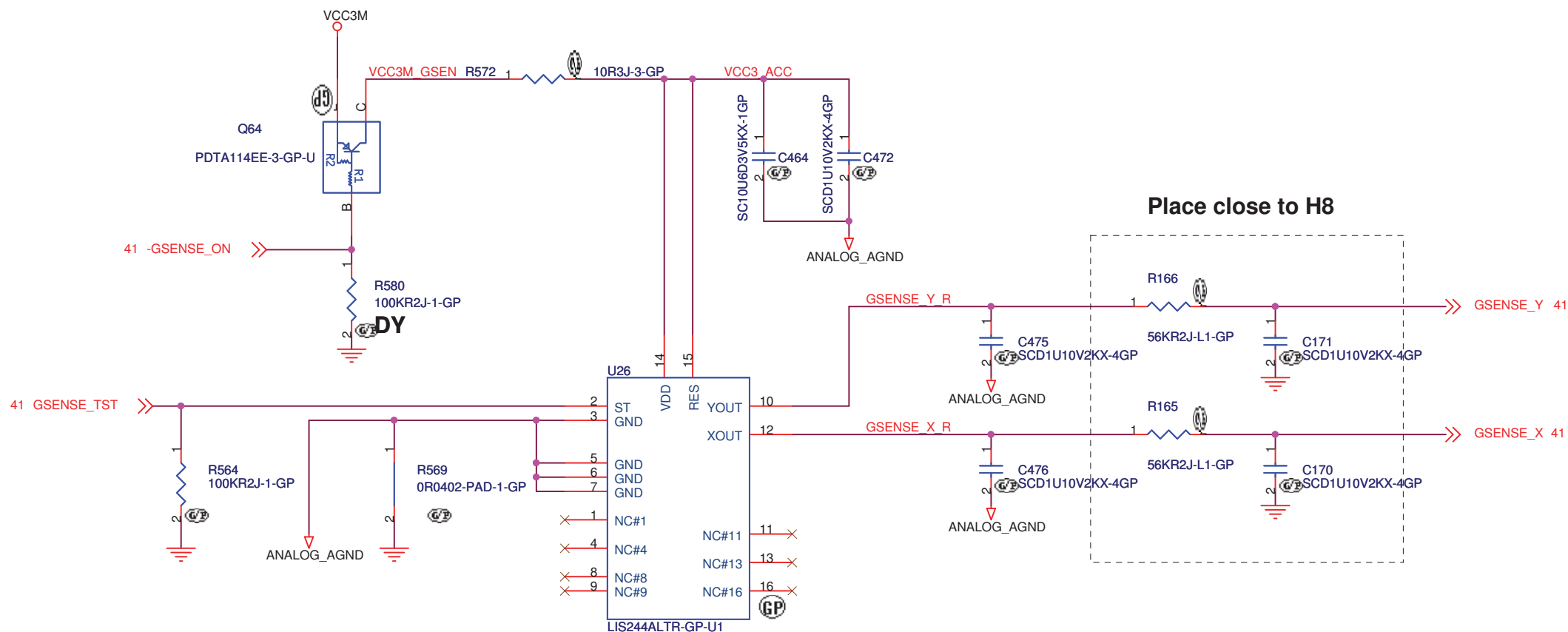
Size A4

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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 :

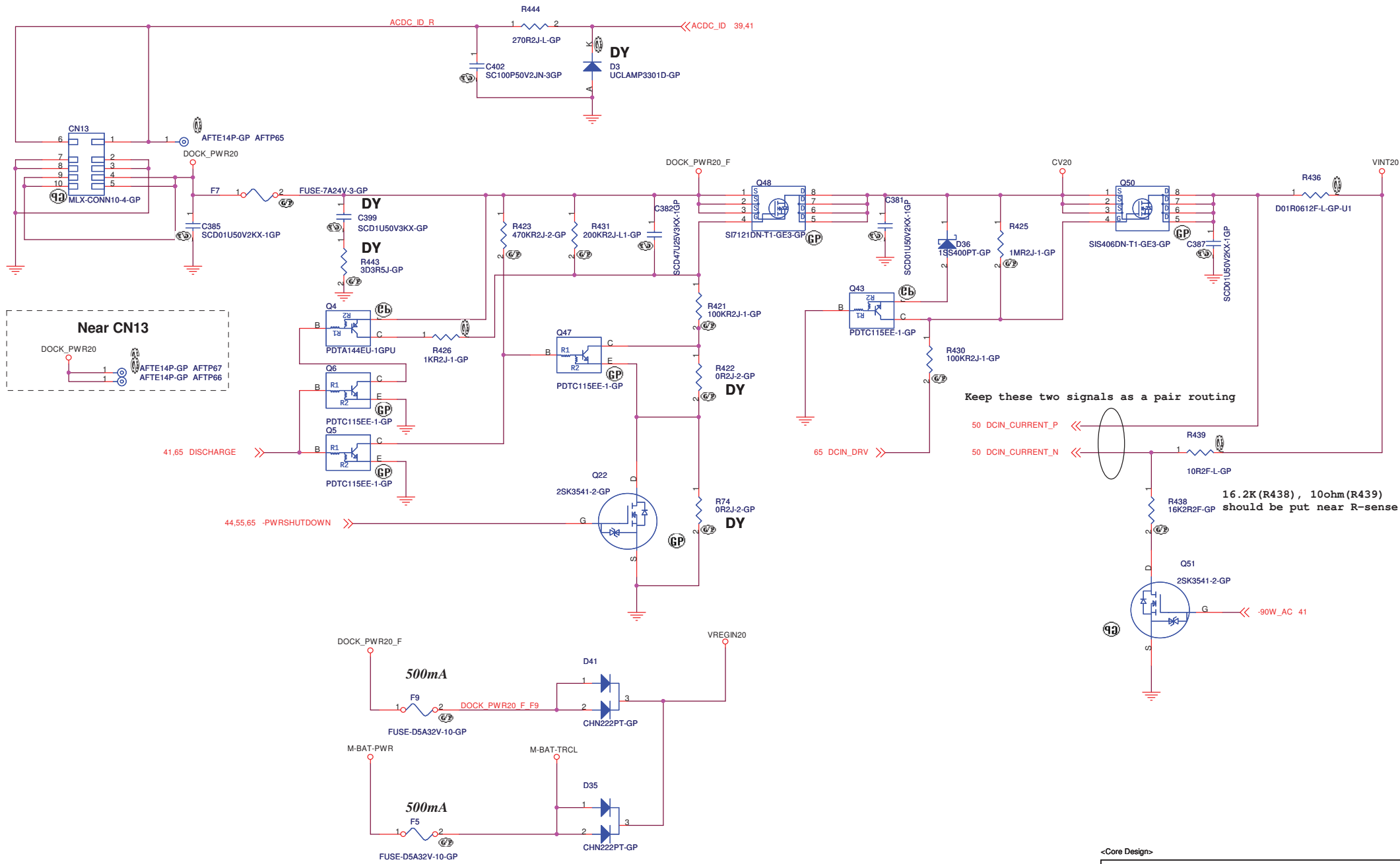
(1) Place C475,C476,Q64,R572,R580
C464,C472,R564,R569 close to U26

(2) Avoid routing under DCDC switching area.

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

<Core Design>

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Title	
G-SENSOR	
Size A4	Document Number Mocha-3
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Taipei Hsien 221, Taiwan, R.O.C.

Title

DC-IN AND CHARGER (1/2)

Size
A3

Document Number

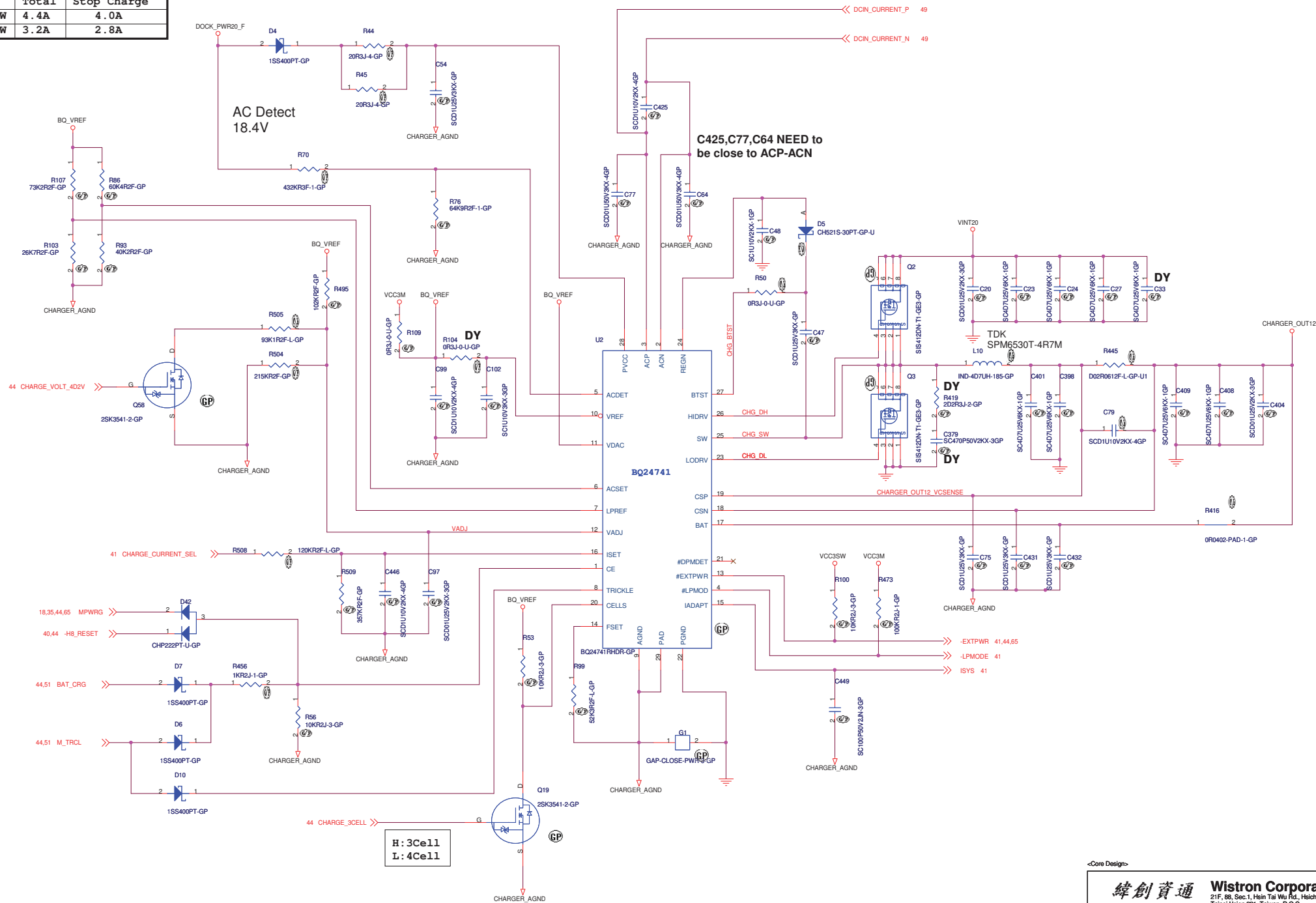
Mocha-3

Rev
-2

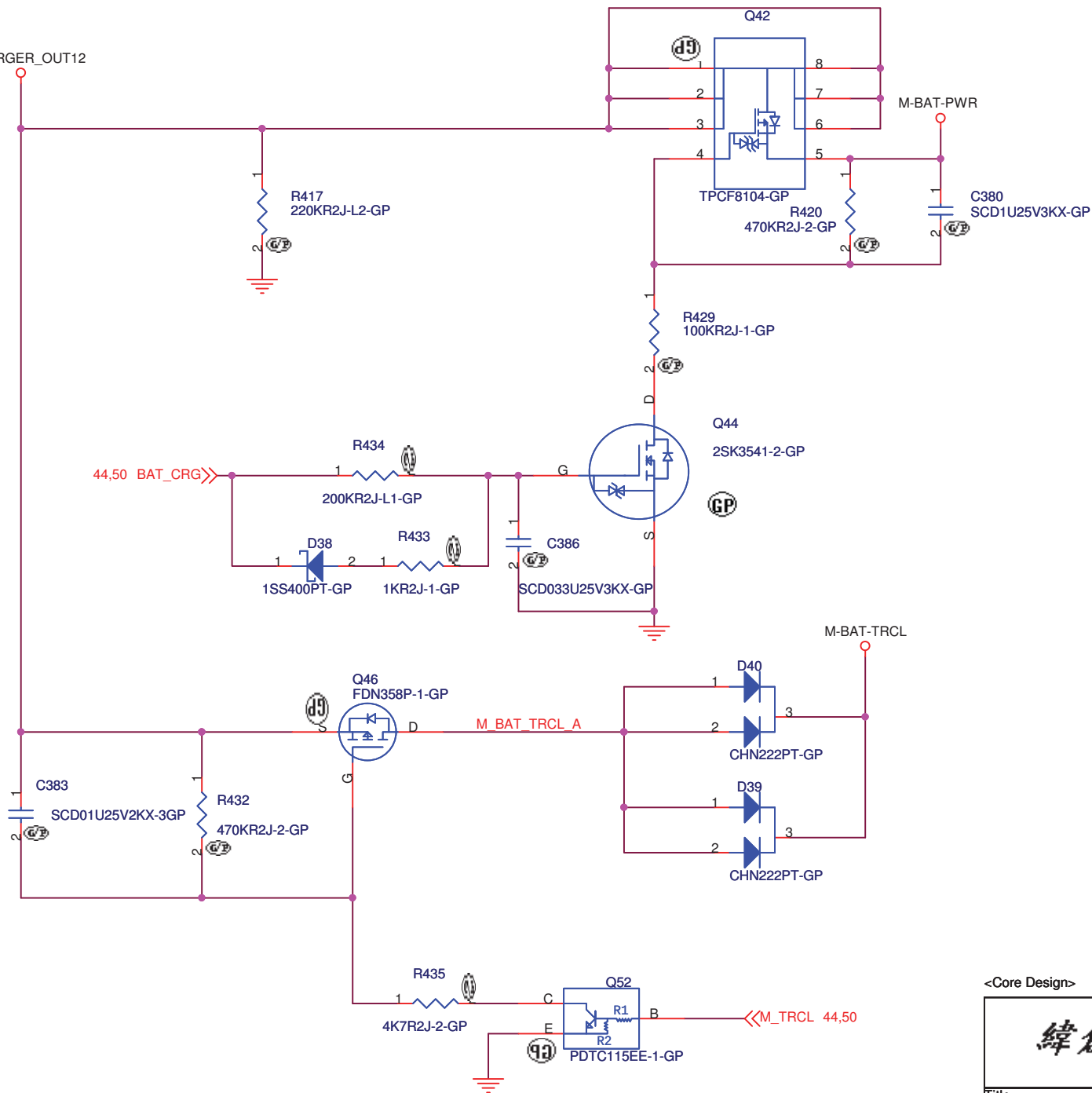
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	Total	Stop Charge
90W	4.4A	4.0A
65W	3.2A	2.8A



CHARGER_OUT12



<Core Design>

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Title

CHARGER SELECT

Size
A4

Document Number

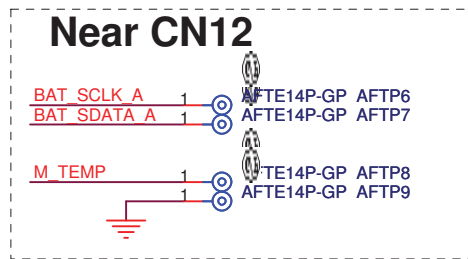
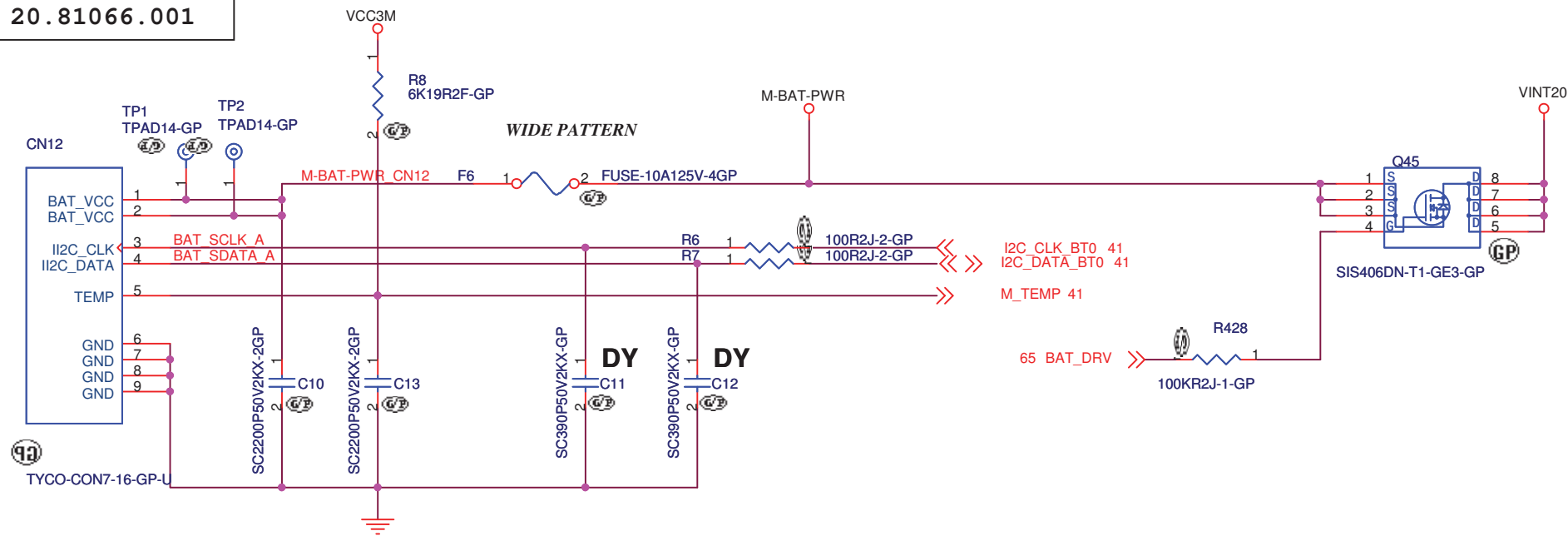
Mocha-3

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-2

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CN12
AMP 2041614-1
20.81066.001



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Title

BATTERY INPUT

Size
A4

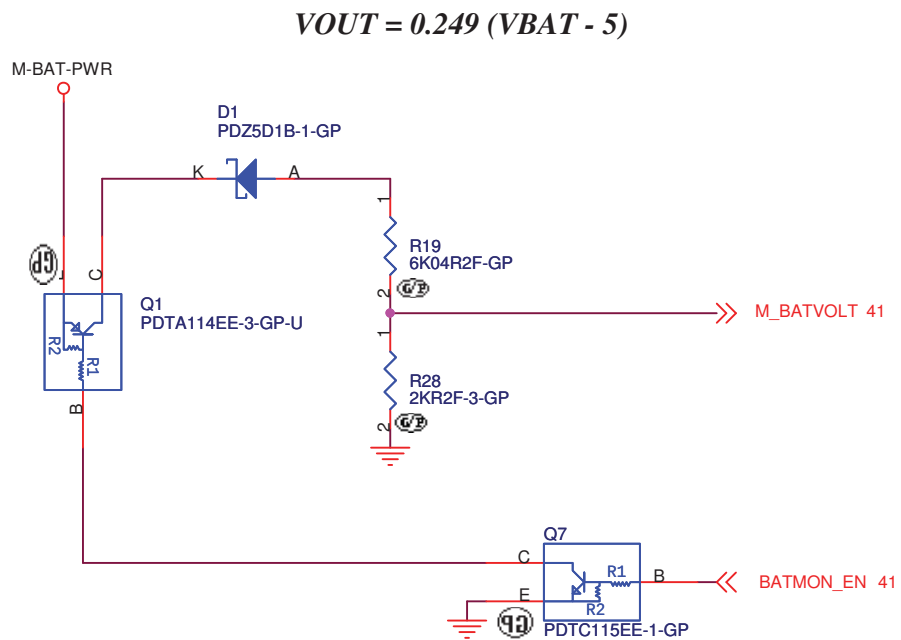
Document Number

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-2

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Title

BATTERY MONITOR

Size
A4

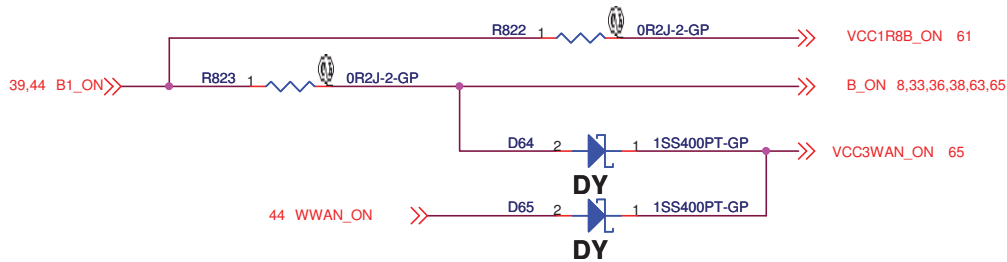
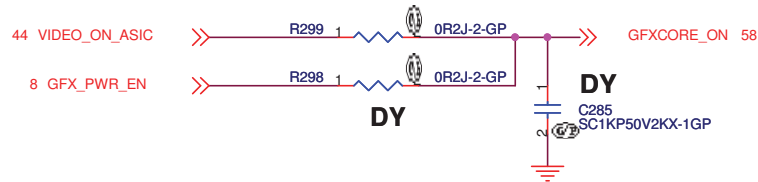
Document Number

Mocha-3

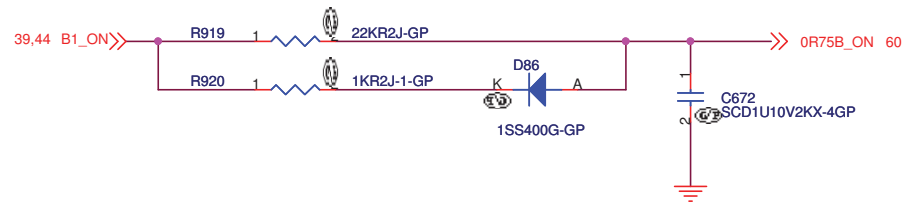
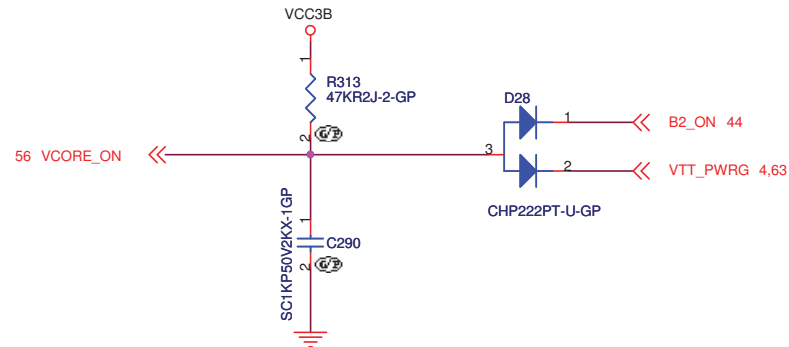
Rev
-2

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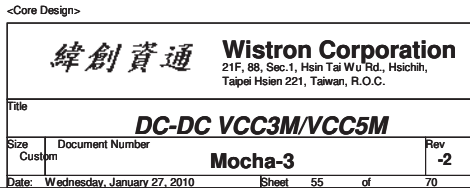


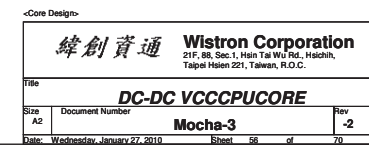
Constant Connect	Enable	Disable
D64	ASM	NoASM
D65	ASM	NoASM



<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			
POWER SEQUENCE			
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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

<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					
DC-DC VCCCPUCORE					
Size	Document Number		Rev		
A4	Mocha-3		-2		
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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

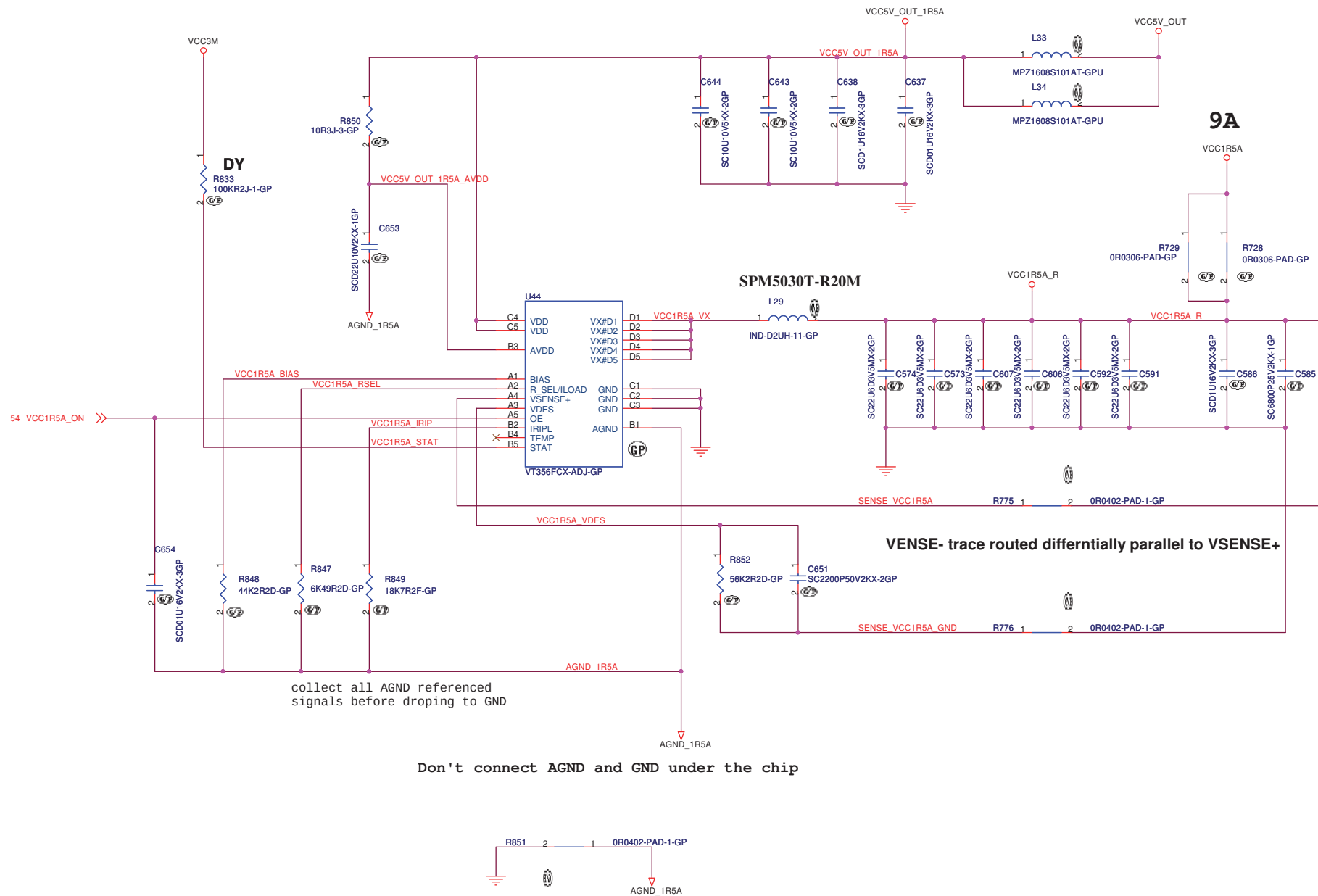
OCP setting should be 38A to cover 22A
 with Max rush current for cap with 120mV
 rising with regarding to max. spec. R535~13.3K

	SV(22A)	LV(15A)	ULV(12A)
OCF	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>

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

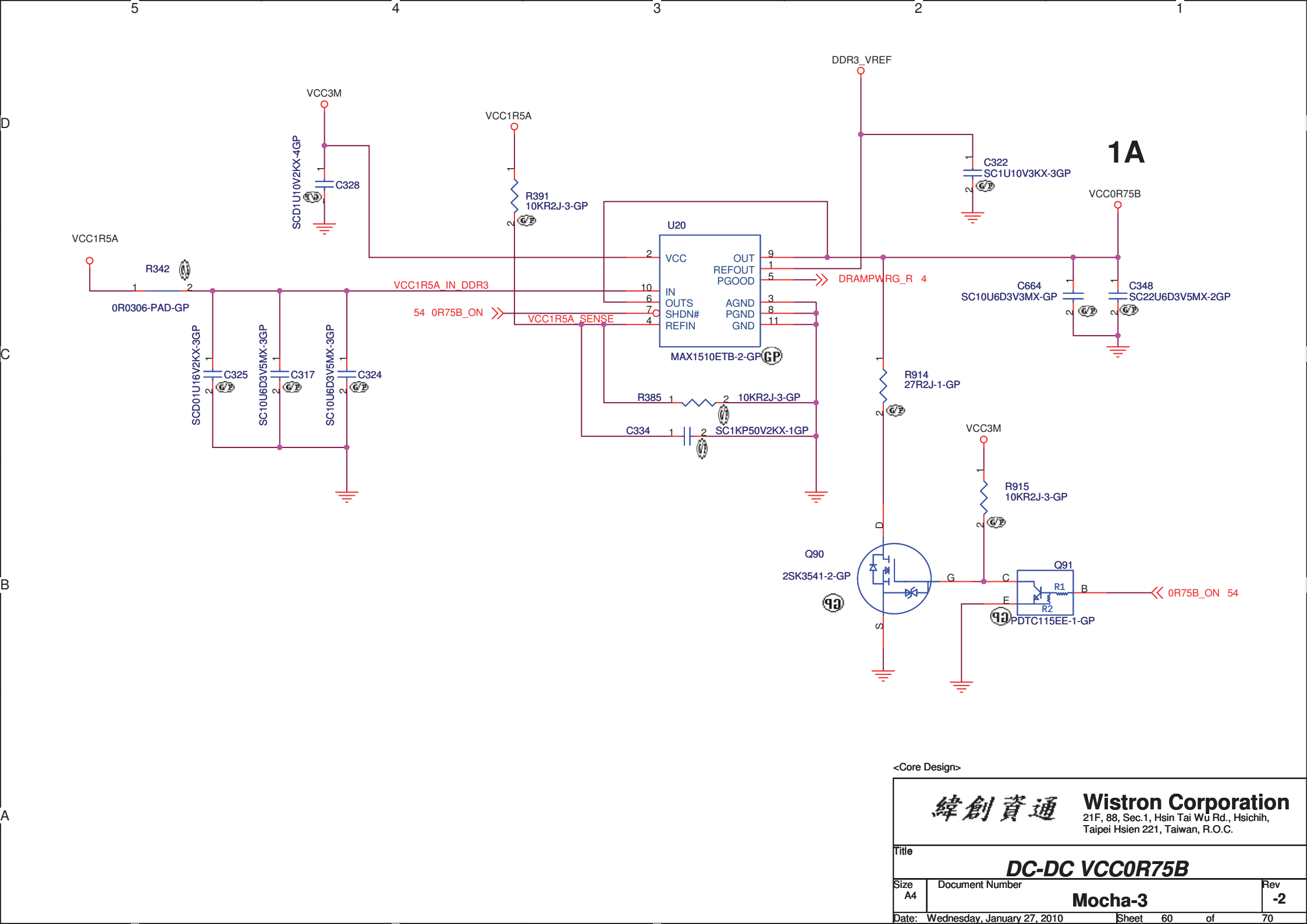
Title	DC-DC GFXCORE		
Size	Document Number	Rev	
A2	Mocha-3	-2	
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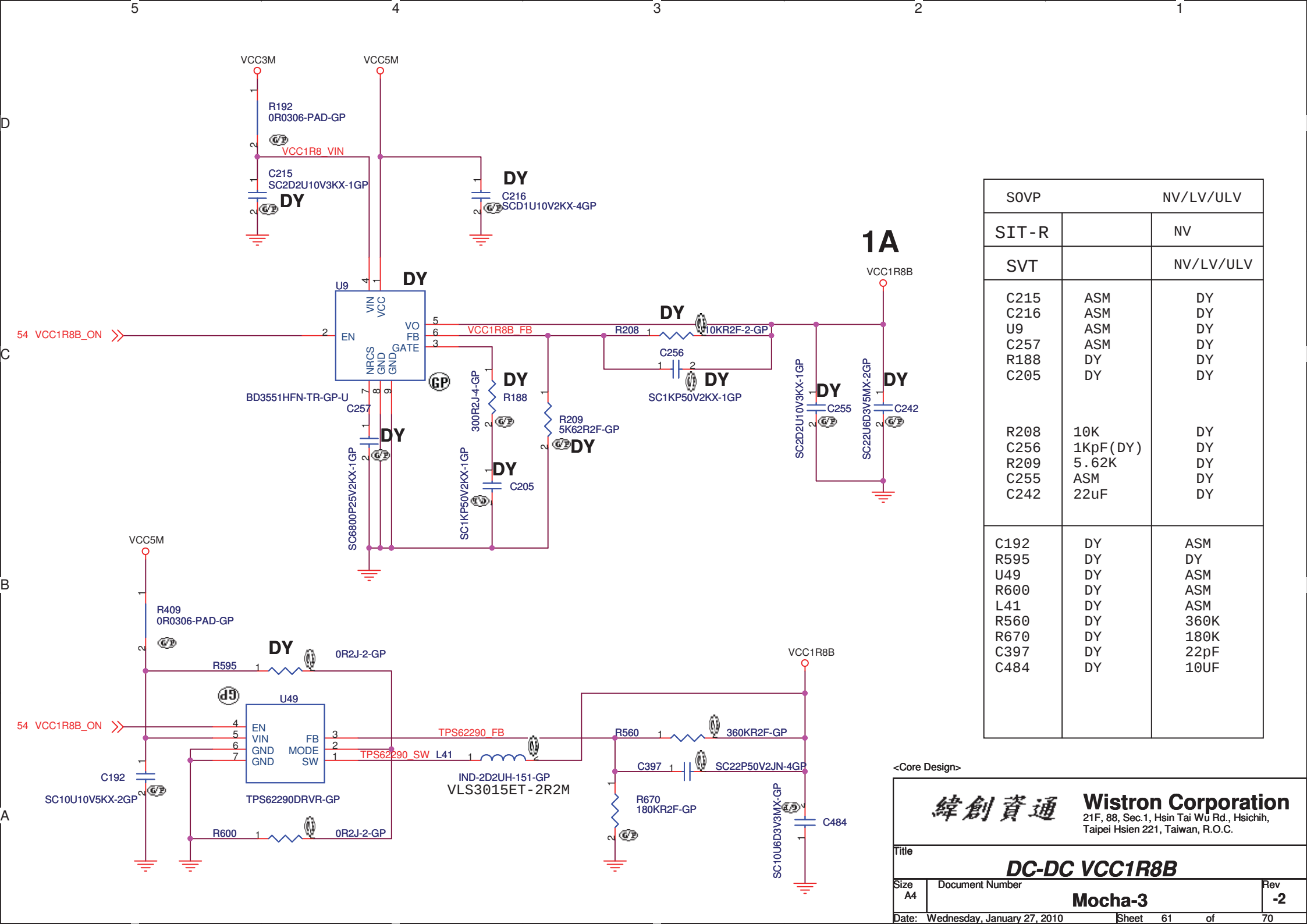


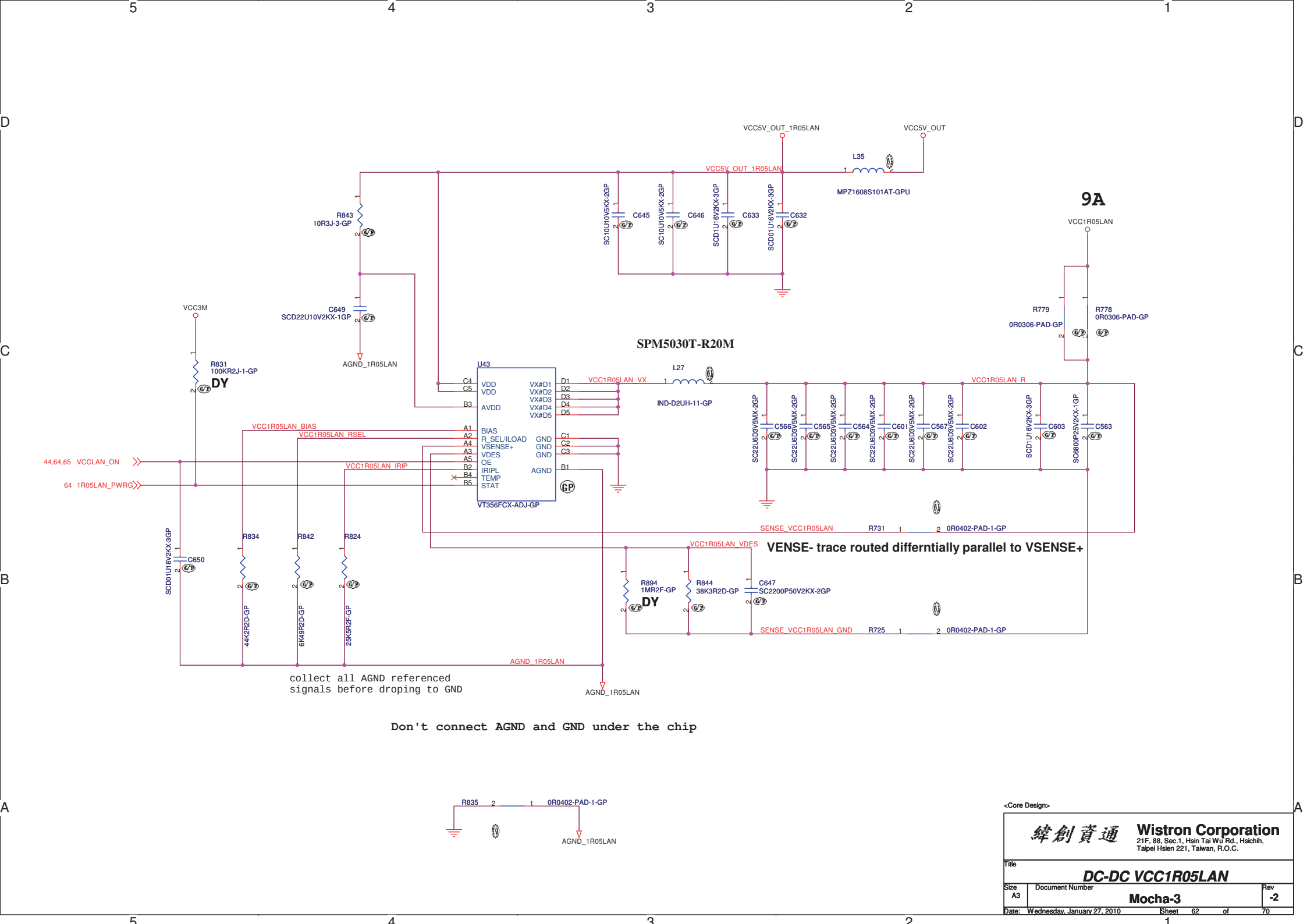
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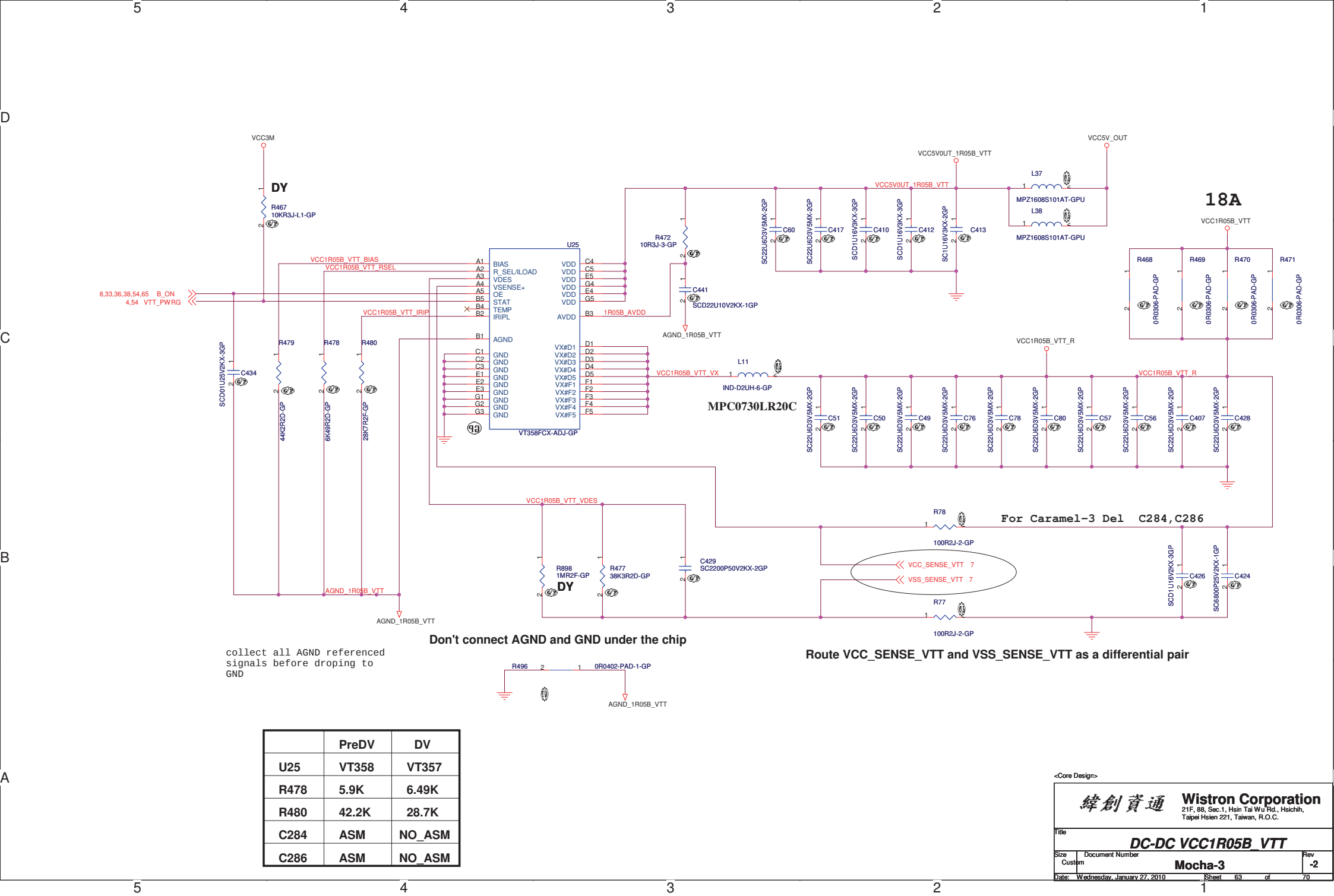
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Taipei Hsien 221, Taiwan, R.O.C.

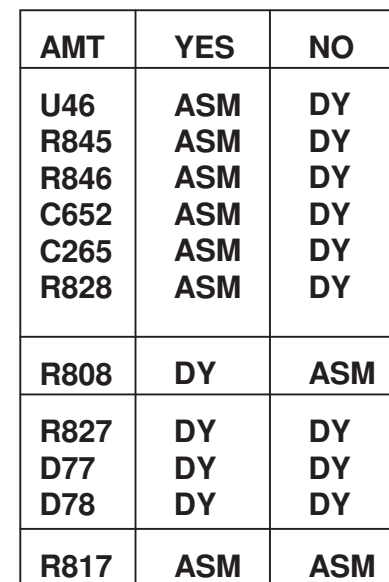
Title			DC-DC VCC1R5A	
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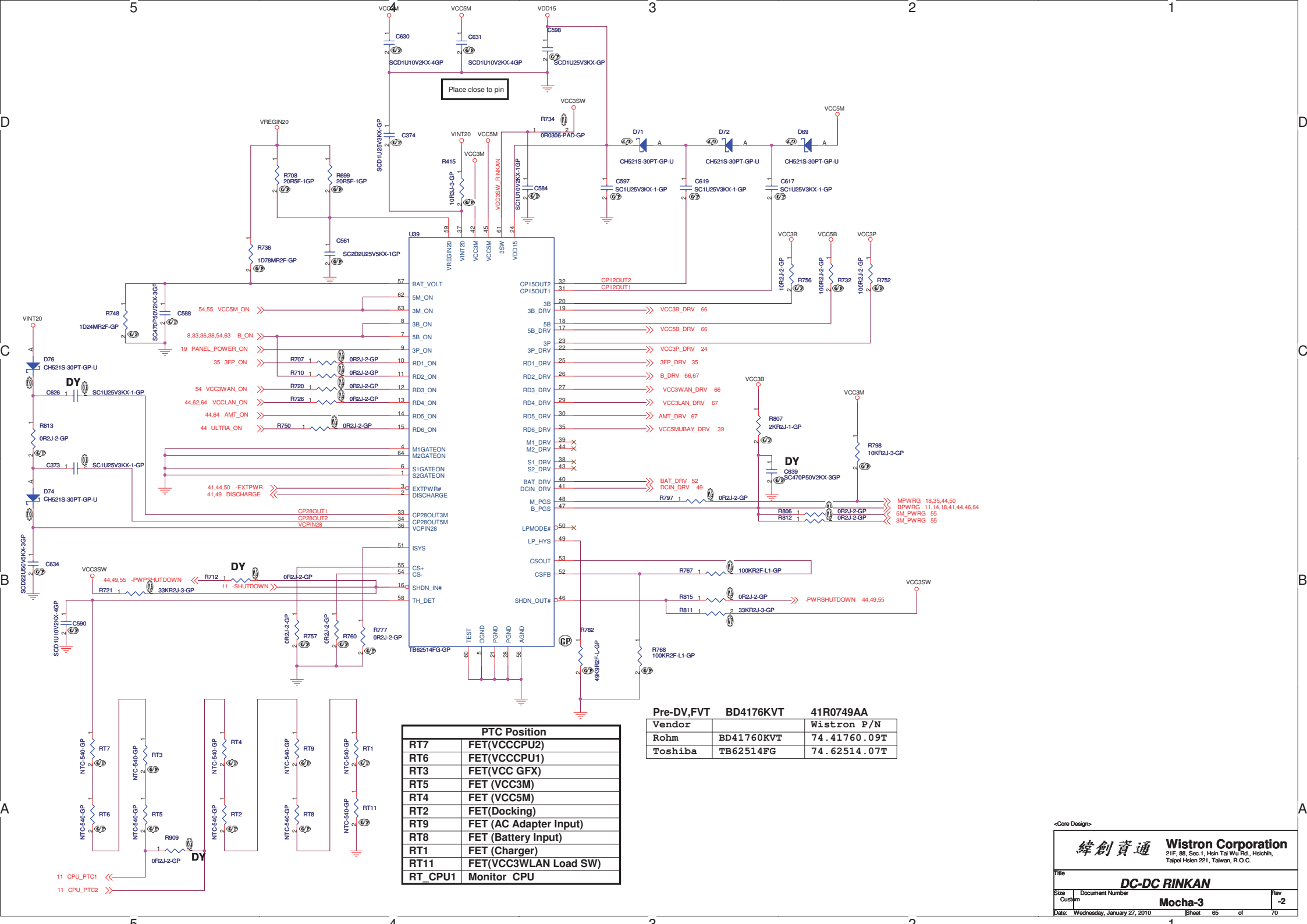






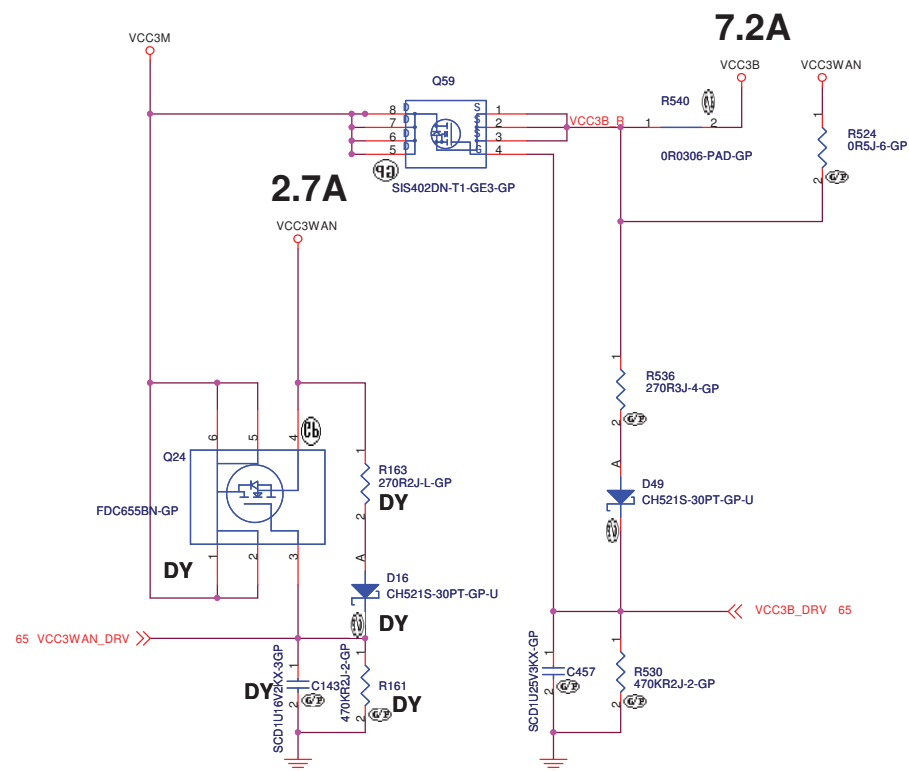
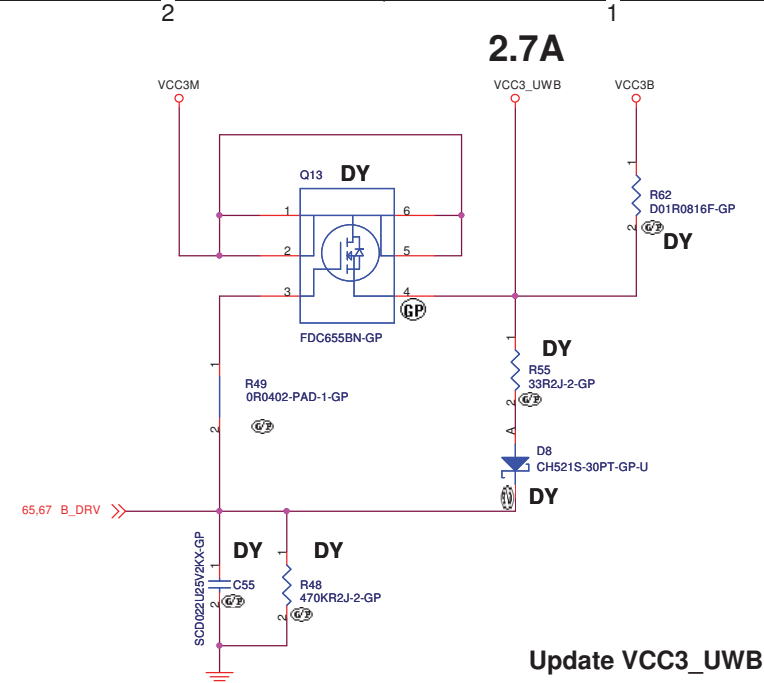
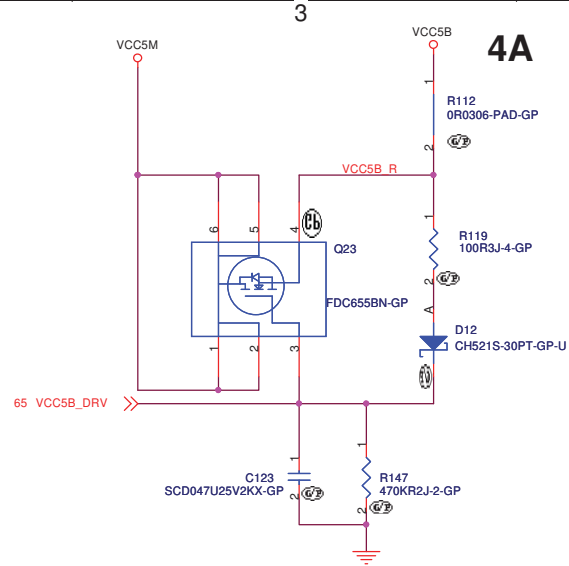
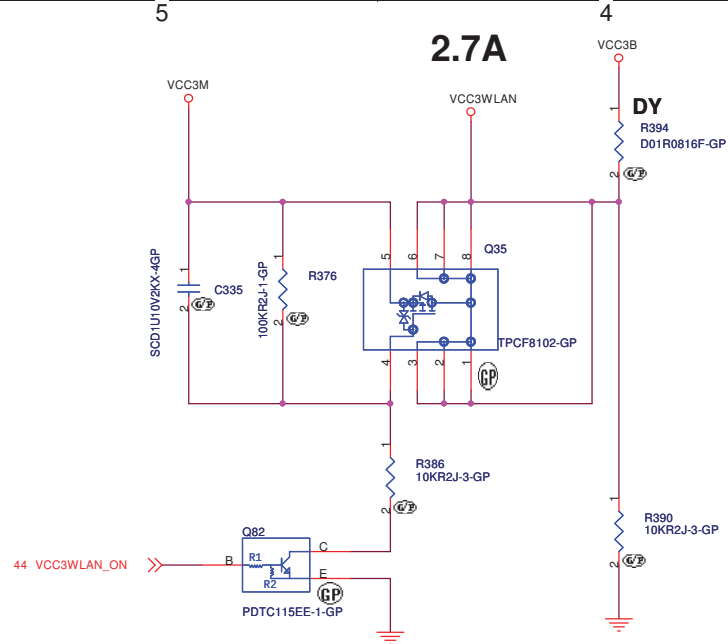


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Title	
POWER GOOD Mocha-3	
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PTC Position	
RT7	FET(VCCCPU2)
RT6	FET(VCCCPU1)
RT3	FET(VCC GFX)
RT5	FET (VCC3M)
RT4	FET (VCC5M)
RT2	FET(Docking)
RT9	FET (AC Adapter Input)
RT8	FET (Battery Input)
RT1	FET (Charger)
RT11	FET(VCC3WLAN Load SW)
RT_CPU1	Monitor CPU

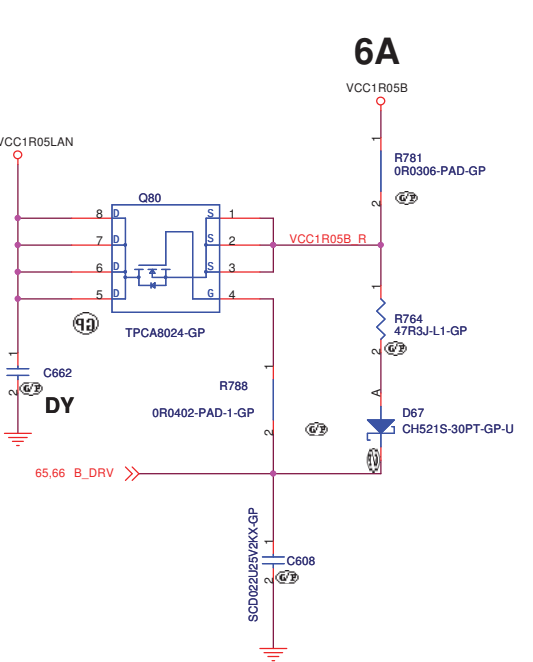
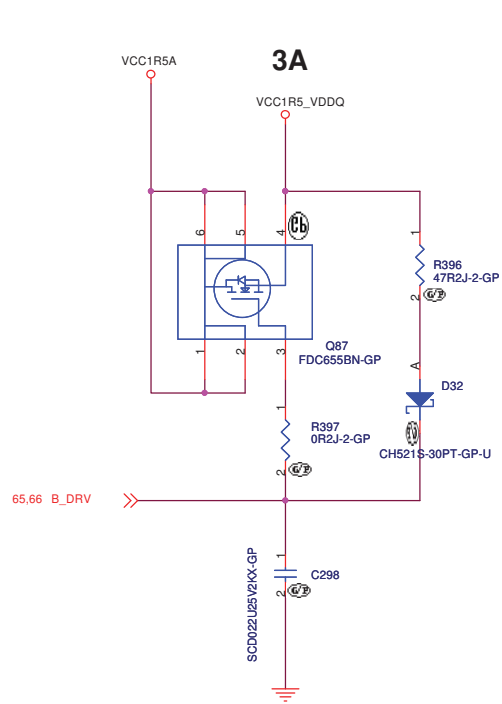
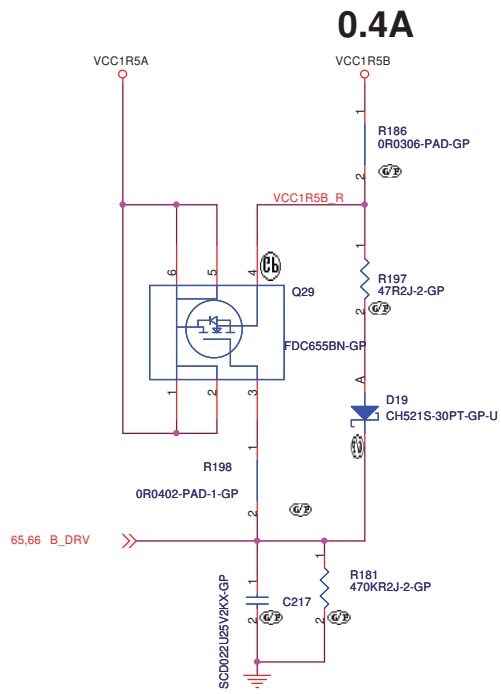
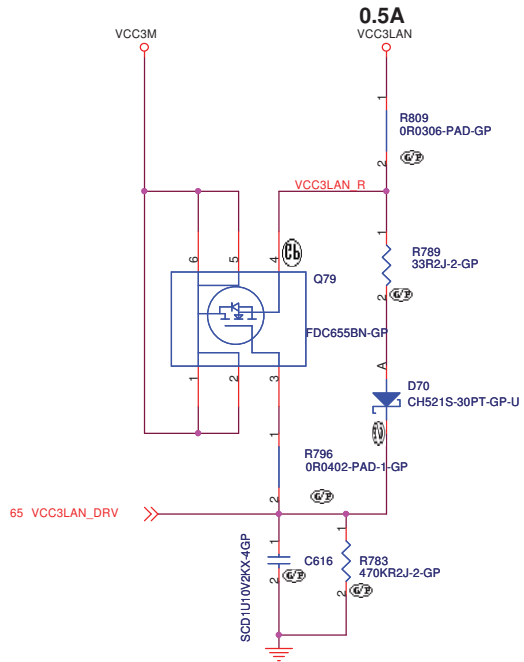
Pre-DV,FVT	BD4176KVT	41R0749AA
Vendor		Wistron P/N
Rohm	BD41760KVT	74.41760.09T
Toshiba	TB62514FG	74.62514.07T



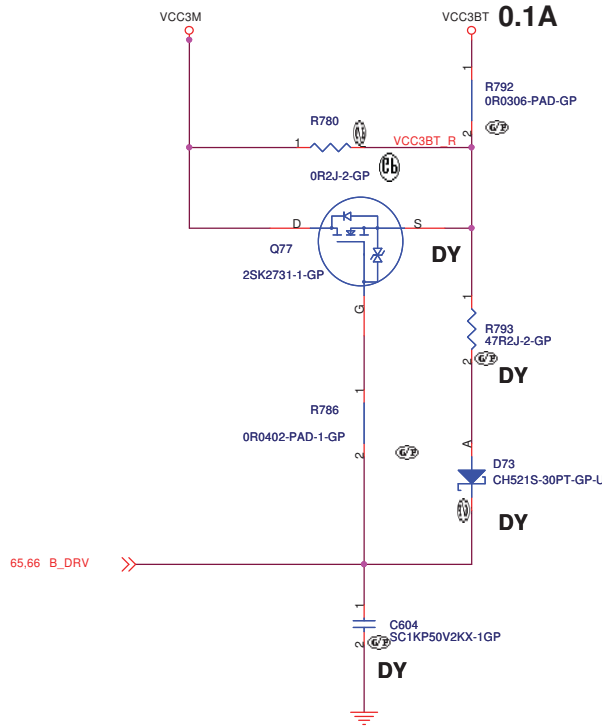
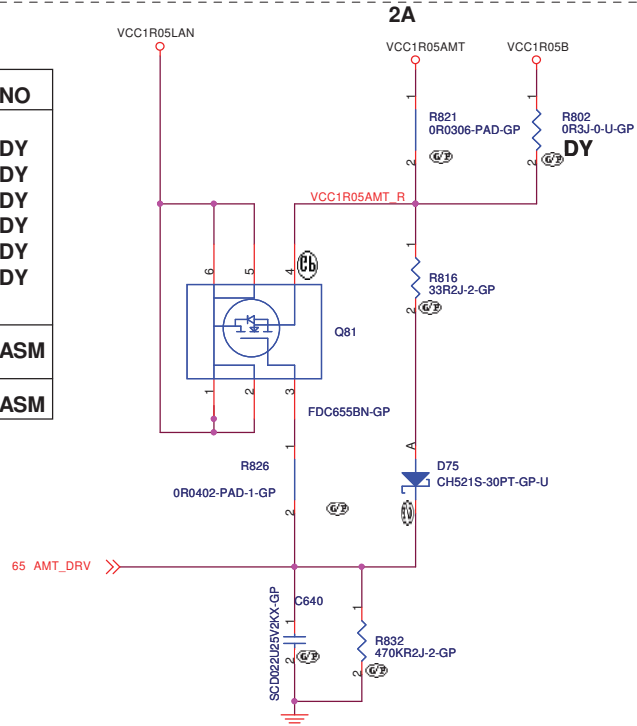
No-asm for no WWAN CONN. MODEL

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

<Core Design>



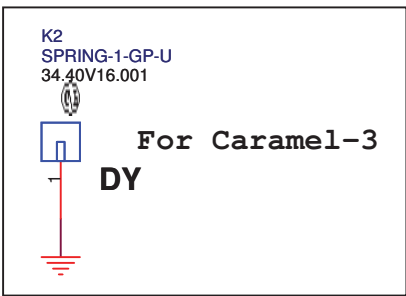
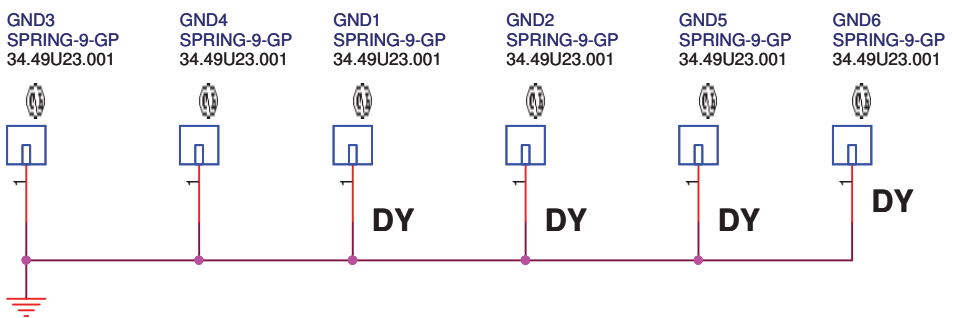
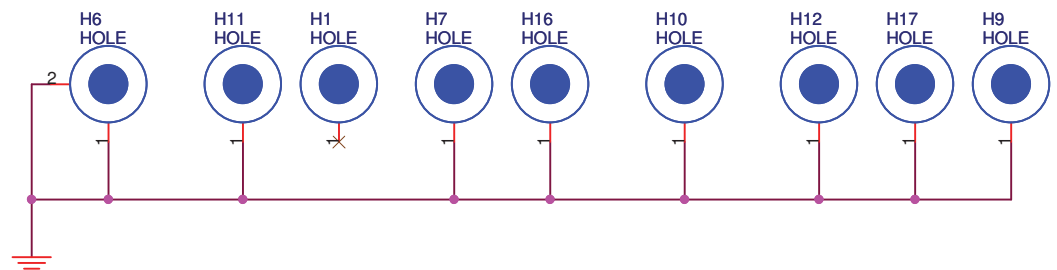
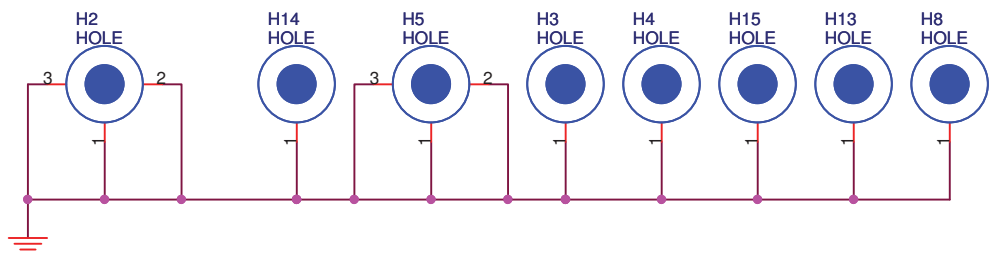
AMT	YES	NO
Q81	ASM	DY
R826	ASM	DY
R816	ASM	DY
R832	ASM	DY
D75	ASM	DY
C640	ASM	DY
R802	DY	ASM
R821	ASM	ASM



Q77

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

<Core Design>



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

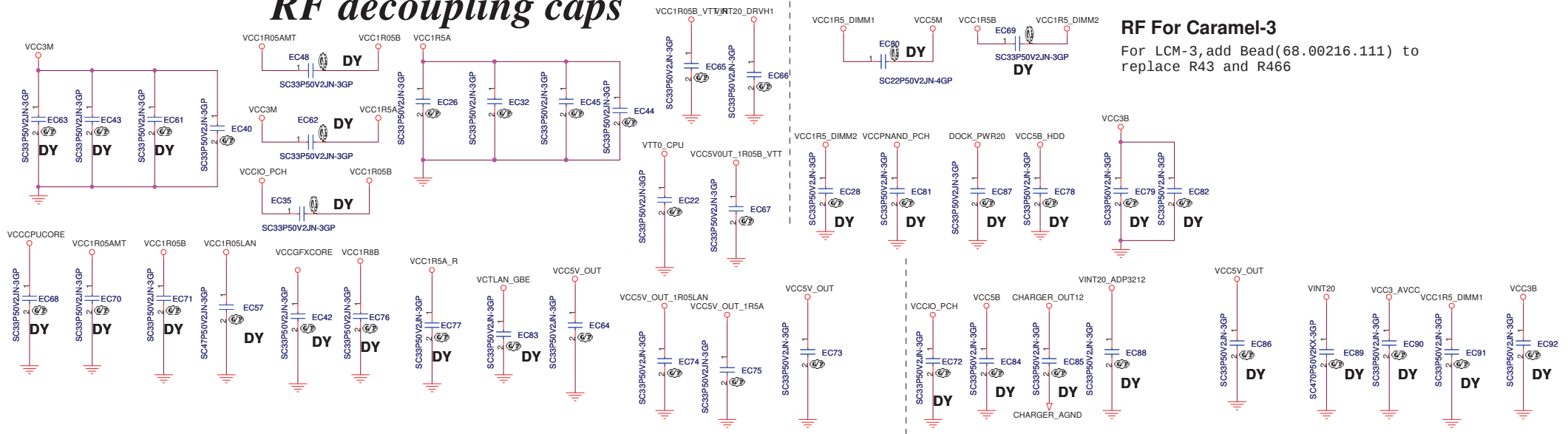
For Caramel-3

Standoff	34.4Y421.001	H3, H4	ASM
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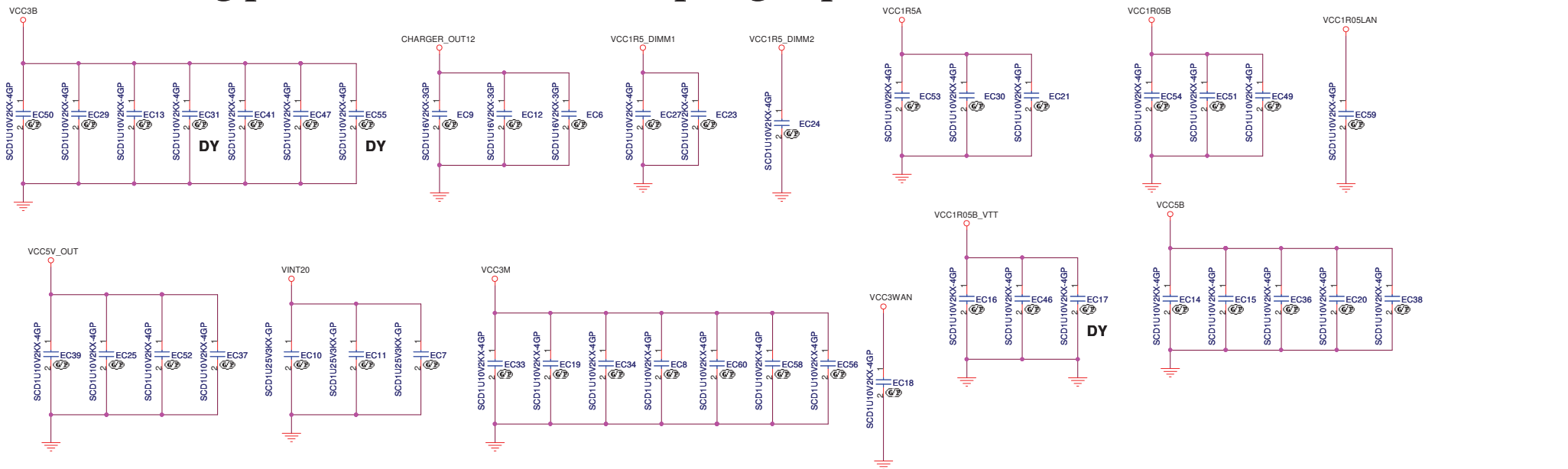
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Title			
HOLES/GND/PADS			
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RF decoupling caps



Long power trace EMI decoupling caps



<Core Design>

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Title	EMI DECOUPLING
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Size	Document Number	Rev
Custom	Mocha-3	-2

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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							R450	ASM	ASM	DY
	C376	DY	DY	ASM							R447	DY	DY	ASM
	J1	DY	DY	ASM		R168	ASM	ASM	ASM		R36	DY	DY	ASM
	U23	DY	DY	ASM		R169	ASM	ASM	ASM		R35	ASM	ASM	DY
	C378	DY	DY	ASM		F3	ASM	ASM	ASM		R453	ASM	ASM	DY
Bluetooth	R411	ASM	ASM	DY	Touch PAD	C226	ASM	ASM	ASM		R451	DY	DY	ASM
	R412	ASM	ASM	DY		R178	ASM	ASM	ASM		R455	ASM	ASM	DY
	R413	DY	DY	ASM		R180	ASM	ASM	ASM		R454	DY	DY	ASM
	R414	DY	DY	ASM		CN3	ASM	ASM	ASM		R37	DY	DY	ASM
	CN10	DY	DY	ASM		U6	ASM	ASM	ASM		R38	DY	DY	ASM
	F4	DY	DY	ASM		C473	ASM	ASM	ASM		Q10	ASM	ASM	DY
	C372	DY	DY	ASM		R556	ASM	ASM	ASM		Q11	ASM	ASM	DY
						R577	ASM	ASM	ASM		Q12	ASM	ASM	DY
						R483	ASM	ASM	ASM					
Super IO	U7	DY	DY	ASM		R474	ASM	ASM	ASM		R886	ASM	ASM	DY
	C159	DY	DY	ASM		R491	DY	DY	DY		R364	ASM	ASM	DY
	C146	DY	DY	ASM		R71					R594	ASM	ASM	DY
	C122	DY	DY	ASM							R596	ASM	ASM	DY
	R145	DY	DY	ASM							R602	ASM	ASM	DY
	R146	DY	DY	ASM										
	RN1	DY	DY	ASM							R887	DY	DY	ASM
	R574	DY	DY	ASM							R604	DY	DY	ASM
	C121	DY	DY	ASM							R857	DY	DY	ASM
	R743	DY	DY	DY							R871	DY	DY	ASM
	R754	DY	DY	ASM							R885	DY	DY	ASM
	R639	DY	DY	ASM										
					Pen Sensor	CN11	DY	DY	ASM	uP	R599	DY	DY	ASM
						R418	DY	DY	ASM		R601	DY	DY	ASM
						C375	DY	DY	ASM					
					Pecan ID	R293	ASM	DY	DY					
						R286	DY	ASM	ASM					

Support Caramel-3 TouchPAD for SIV

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	ADD
L40	NO	NO	ADD
R502	ASM	ASM	DEL
L42	ASM	ASM	NO
R466	DEL	DEL	ASM

RF decoupling caps			
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