

Mocha-3 Block Diagram

08270-2 SOVP
January 27th 2010

PCB Layer Stackup

L1:Component
L2:GND
L3:Signal 1
L4:VCC
L5:Signal 2
L6:Signal 3
L7:GND
L8:Signal 4
L9:GND
L10:Component

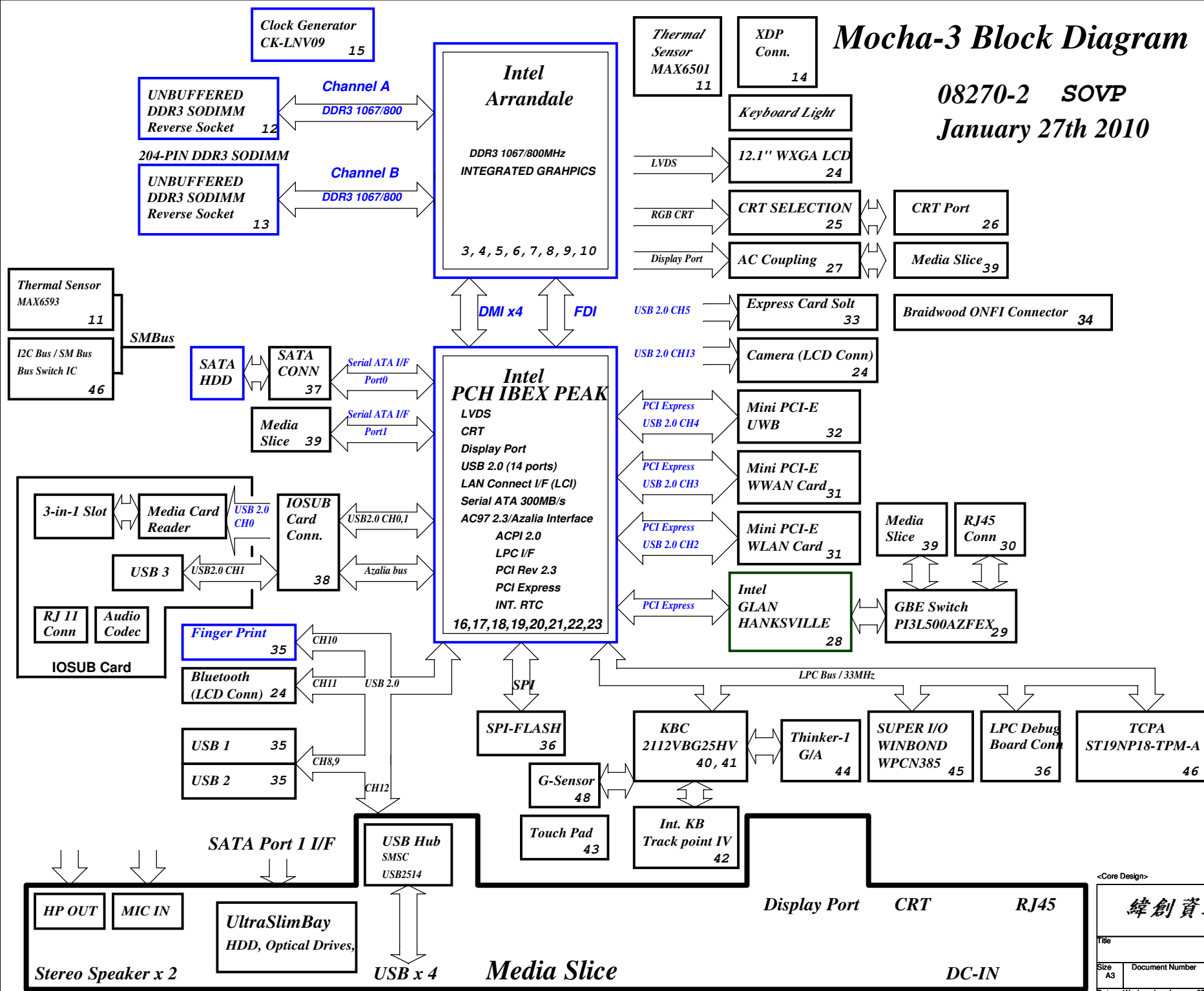
Battery Charger/Selector

BQ24741 50	
INPUTS	OUTPUTS
DOCK_PWR20_F	M-BAT-PWR
System DC/DC	
TPS51222 55	
VINT20	VCC5M VCC3M
CPU DC/DC	
ADP3212 56	
VINT20	VCCPUCORE
GMCH GFX CORE	
ADP3211 58	
VINT20	VCCGFXCORE
VCC1R5A	
VT356FCX 59	
VCC5V_OUT	VCC1R5A
VCC0R75B	
MAX1510 60	
VCC1R5A	VCC0R75B
VCC1R8B	
BD3551HFN 61	
VCC3M	VCC1R8B
VCC1R05LAN	
VT356FCX 62	
VCC5V_OUT	VCC1R05LAN
VCC1R05B_VTT	
VT357FCX 63	
VCC5V_OUT	VCC1R05B_VTT

<Core Design>

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Block Diagram		
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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

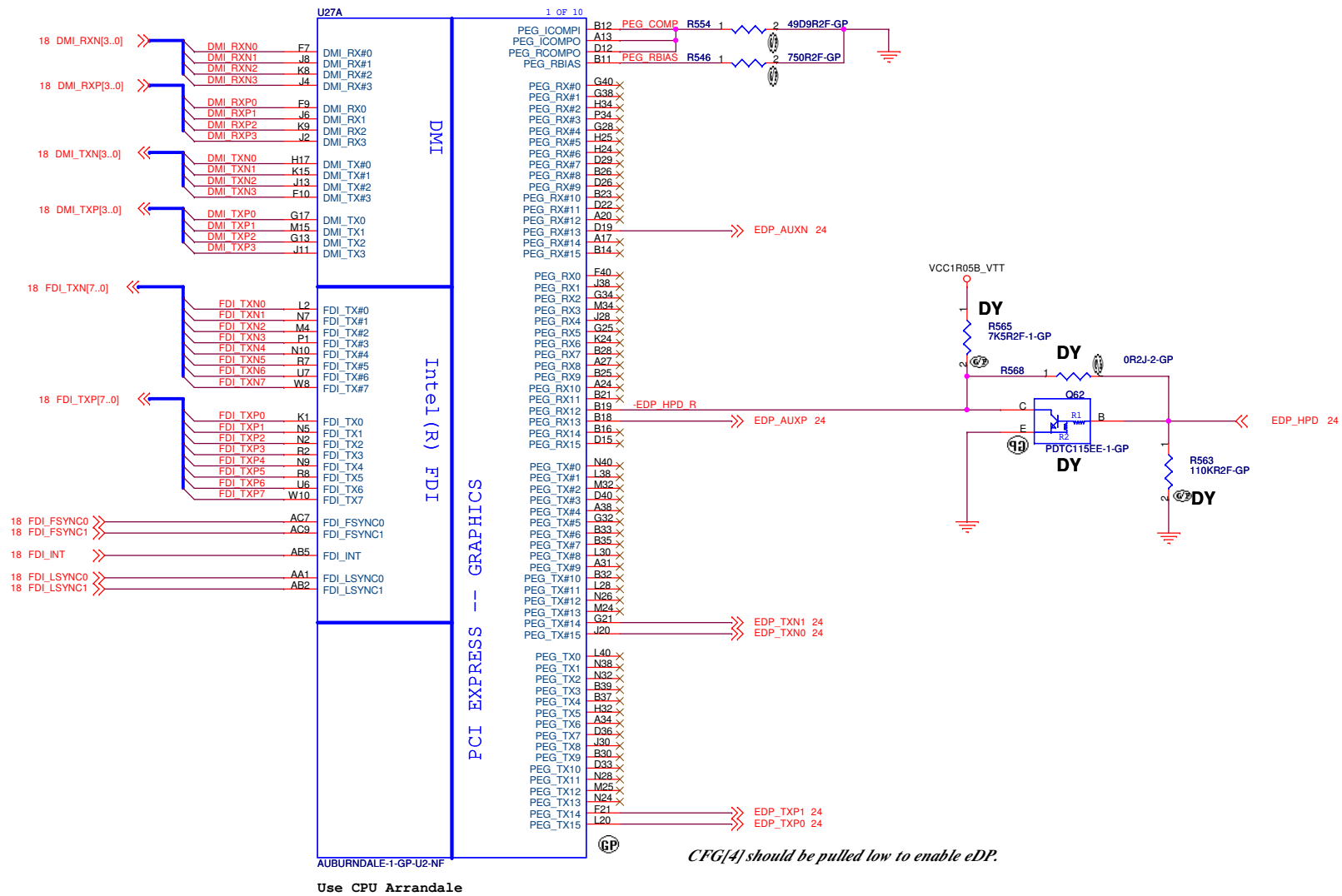
Symbol name	Value	Tolerance (M: +/-20, K: +/-10, Z: +80/-20)	Rating	Size 2=>0402, 3=>0603, 5=>0805, 6=>1206, 0=>1210
SCD1U10V2MX-1	0.1uF	M/X5R	10V	0402
SC10U6D3V5MX	10uF	M/X5R	6.3V	0805
SC2D2U16V5ZY	2.2uF	Z/Y5V	16V	0805

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	

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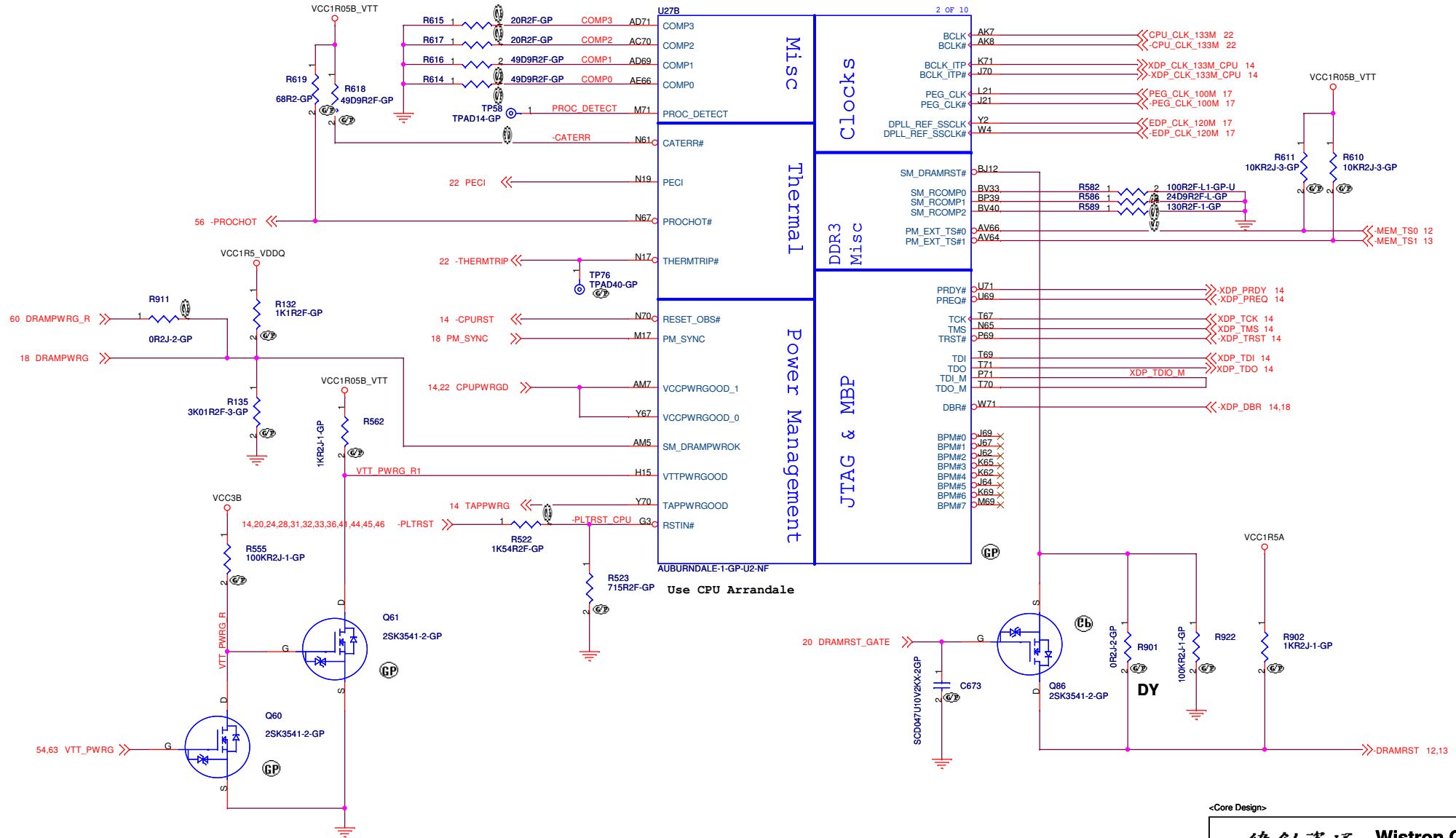
緯創資通 Wistron Corporation
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Taipei Hsien 221, Taiwan, R.O.C.

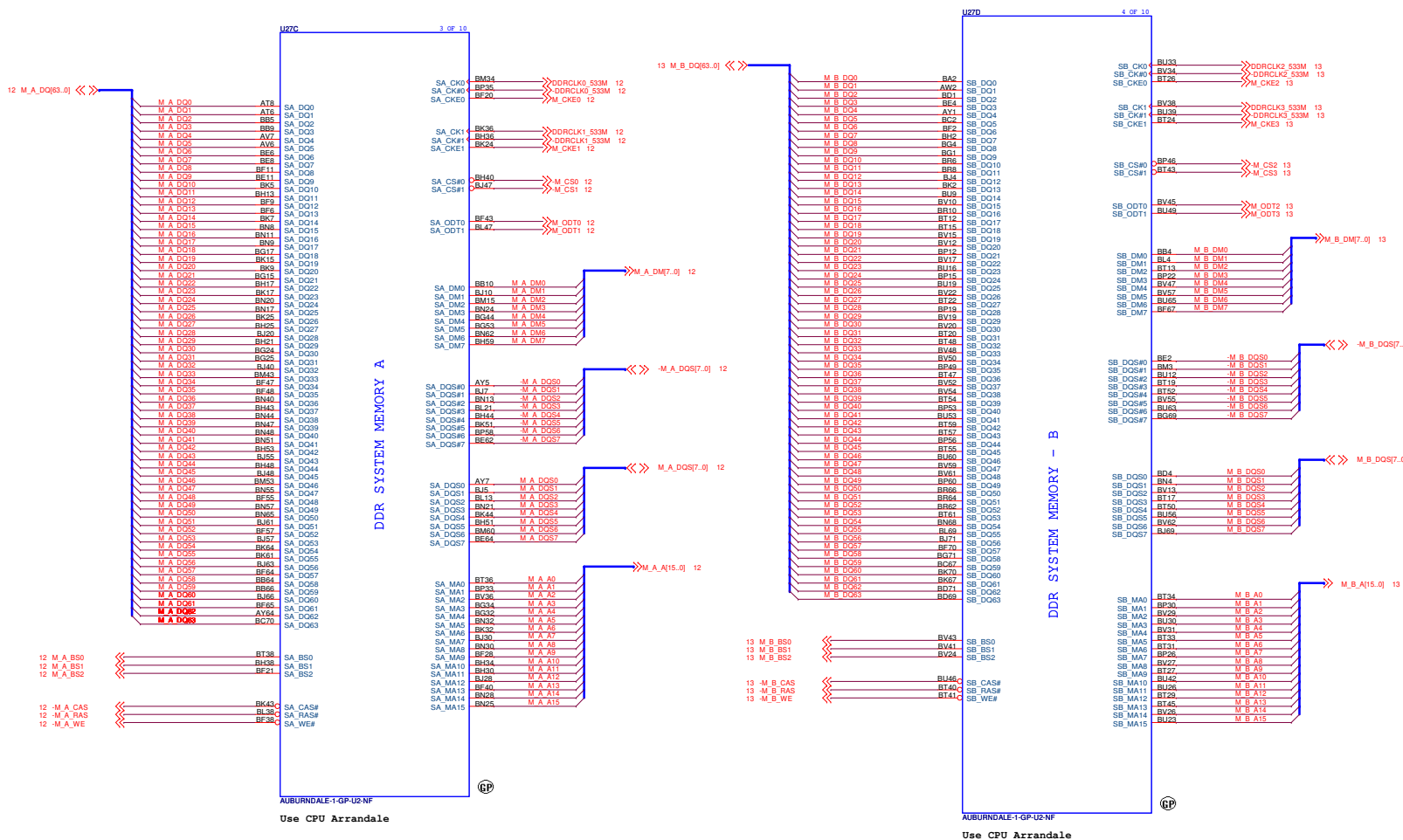
Title Arrandale CPU(1/8): DMI /PEG/FDI

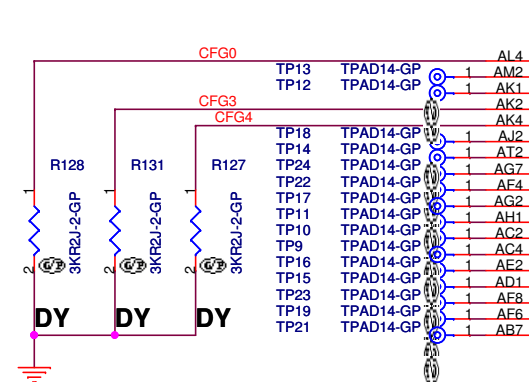
Size A3 Document Number Mocha-3 Rev -2

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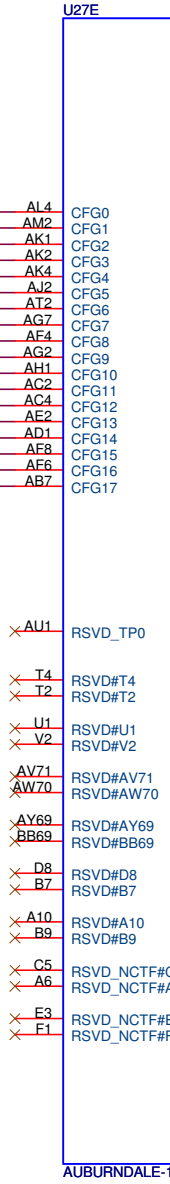
COMP0/1/2/3 : TRACE Length <0.5"
 COMP0/1/2/3 : 10mil width traces, 20mil spacing







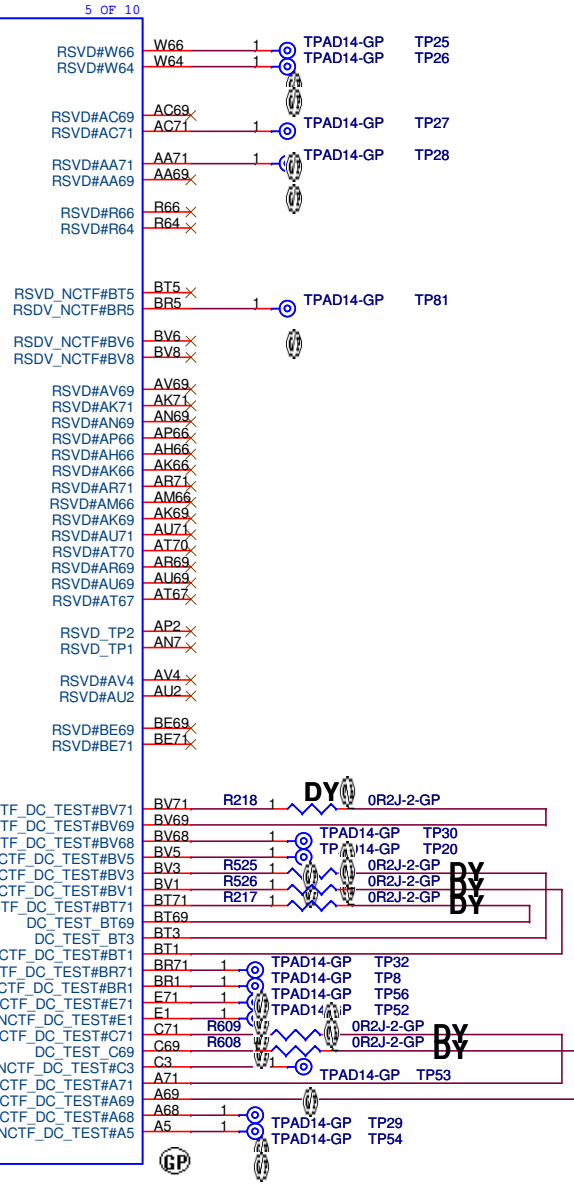
		ASM	DY
CFG[0]	PEG CONFIG	BIFURCATION	SINGLE
CFG[3]	PEG LANE REVERSAL	REVERSE	NORMAL
CFG[4]	DISPLAY PORT PRESENCE	ENABLE	DISABLE



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



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Title

Arrandale CPU(4/8):CFG/RSVD

Size

Document Number

Custom

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

VCC1R05B_VTT

VCC1R05B_VTT

VTT0_CPU

R159
0R0306-PAD-GP

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

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CPU VIDS

SENSE LINES

1.1V RAIL POWER

POWER
1.8V

AUBURNDAL-1-GP-U2-NF

Use CPU Arrandale

AW14
AW12
AU60
AU60
AU59
AU12
AR60
AR59
AN60
AN59
AN35
AN33
AN17
AN15
AN14
AN12
AM10
AL60
AL59
AL17
AL15
AL14
AL12
AK35
AK33
AF39
AF37
AF35
AF32
AF30
AD39
BF60
BF59
BD60
BD59
BB60
BB59
AY60
AW60
AW35
AW33
AD37
AD35
AD33
AD32
AD30
W35
W33
W32
W30
W28
W26
W24
W23
U35
U33
U32
U30
U28
U26
U24
U23
R35
R33
R32
R30
R28
R26
R24
R23
AY10
AN9

C145
SC10URD3V3MX-GP
C235
SC10URD3V3MX-GP
C125
SC10URD3V3MX-GP
C222
SC10URD3V3MX-GP
C236
SC10URD3V3MX-GP
C158
SC10URD3V3MX-GP
C148
SC10URD3V3MX-GP
C129
SC10URD3V3MX-GP
C163
SC10URD3V3MX-GP

C157
SC22URD3V5MX-2GP
C219
SC22URD3V5MX-2GP

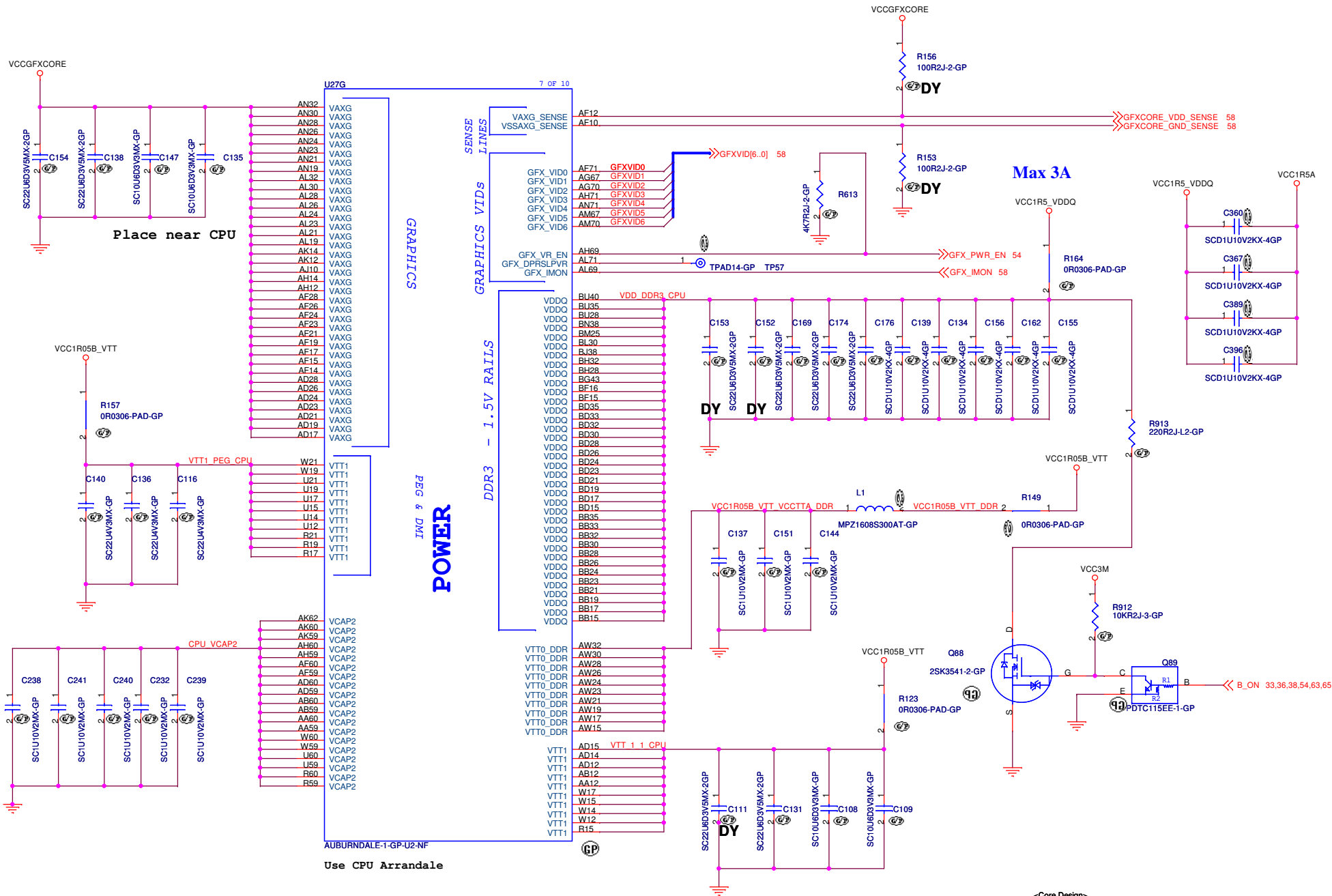
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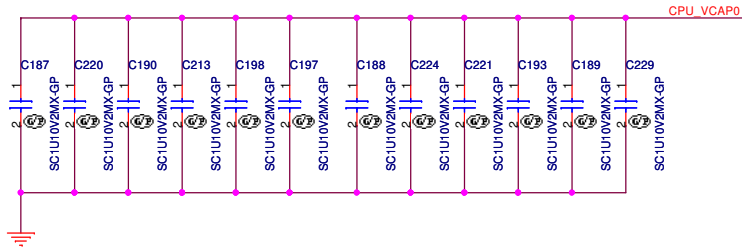
Title Arrandale CPU(5/8):Power

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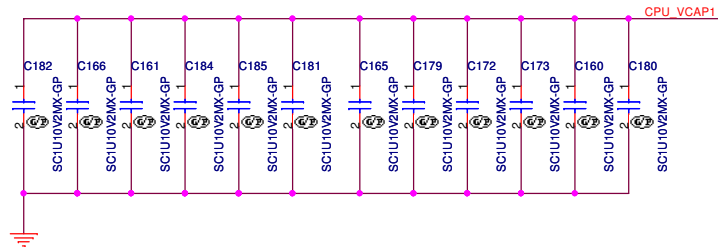
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12 X
1uF /10V/ ±20% 0402



12 X
1uF /10V/ ±20% 0402



U27H

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VCCCPUCORE

BD55 VCAP0
BD51 VCAP0
BD48 VCAP0
BB55 VCAP0
BB51 VCAP0
BB48 VCAP0
AY57 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

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

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

AUBURNDAL-1-GP-U2-NF

Use CPU Arrandale

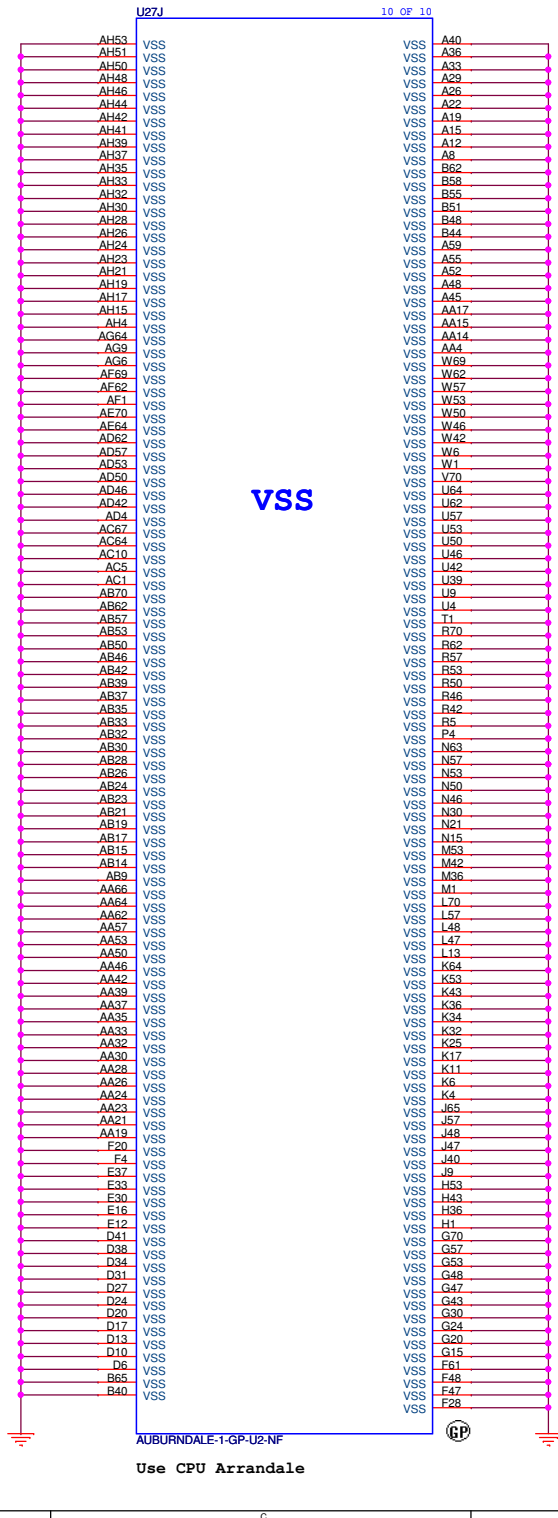
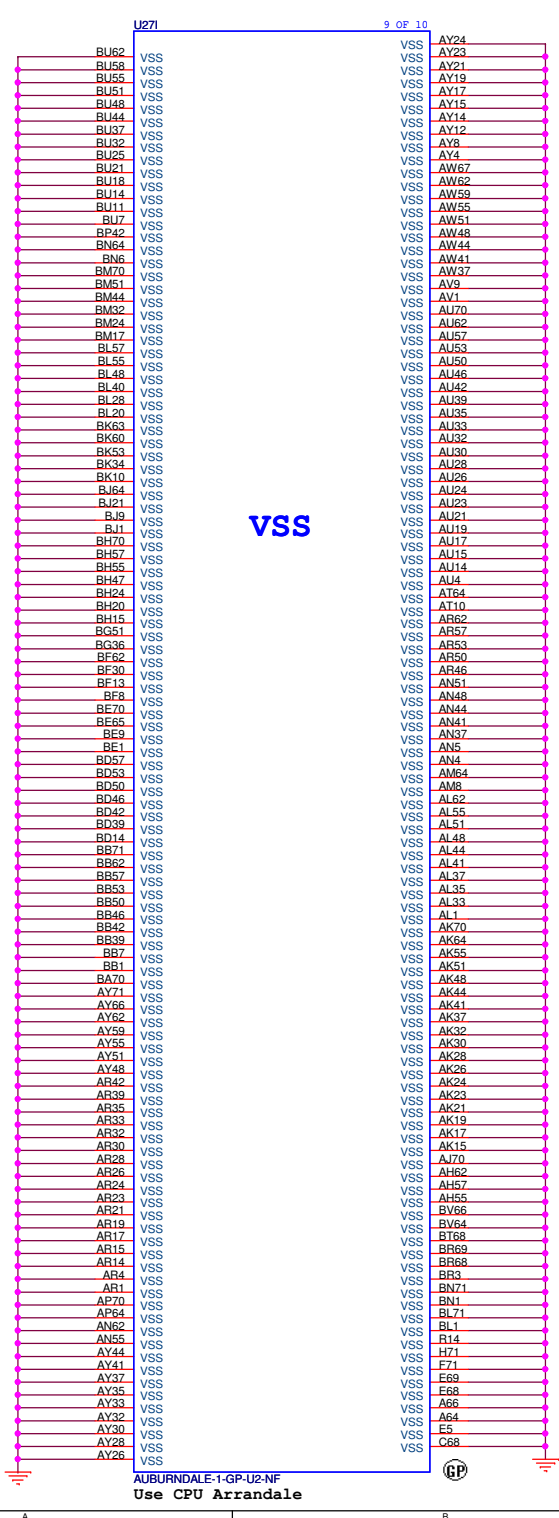
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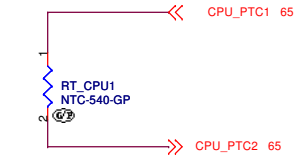
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Title Arrandale CPU(7/8): VCC&VCAP

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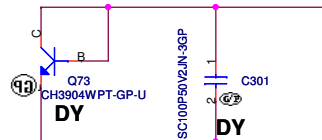




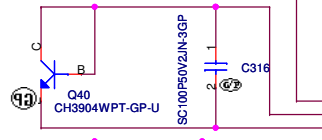
It should be arranged near CPU instead of CPU thermal sensor

THESE CAPS MUST BE PLACED AS CLOSE AS POSSIBLE TO MAX6593

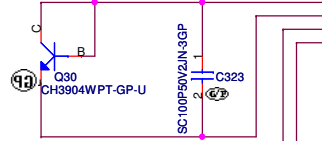
TO NVM



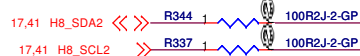
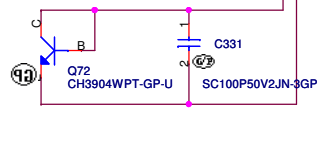
TO Express Card



TO VCORE FET

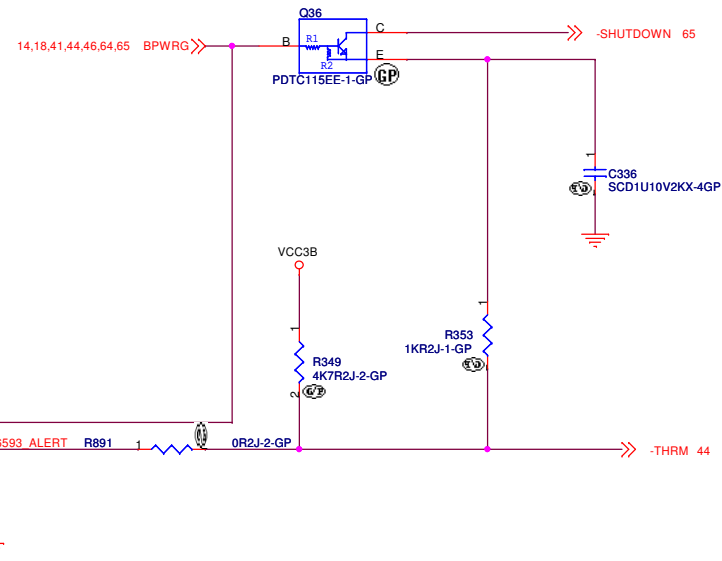


TO MINI CARD



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>

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Title			
THERMAL SENSOR			
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DM1
20.F1272.204 Tyco
62.10017.M21 Foxconn

REVERSE TYPE

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Title
DDR3 SODIMM-A (REVERSE TYPE)

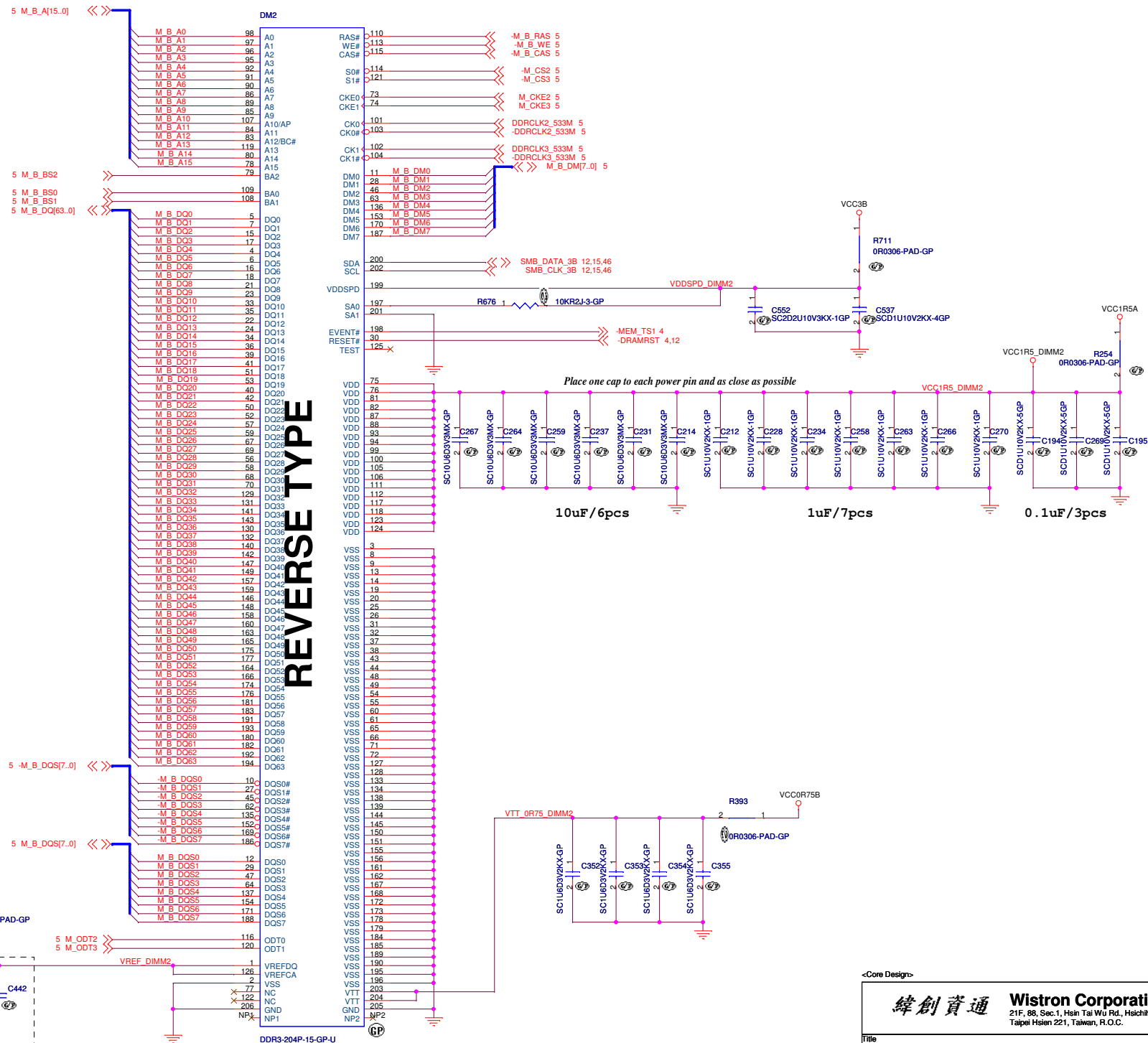
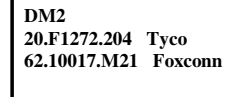
Size
Custom

Document Number
Mocha-3

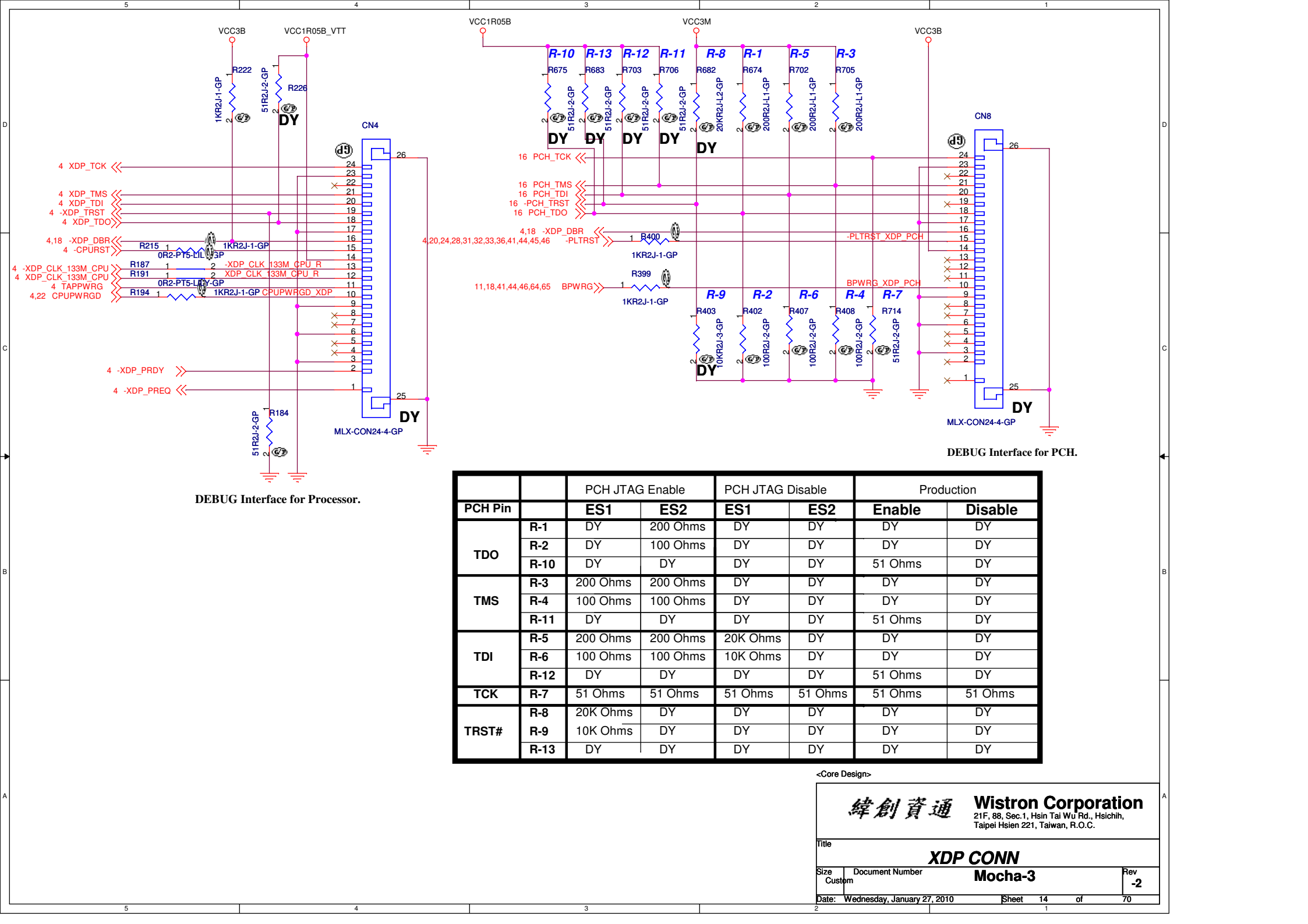
Rev
-2

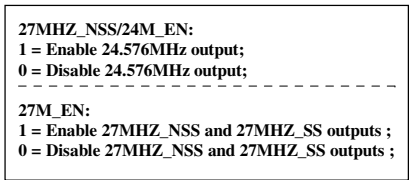
Date: Wednesday, January 27, 2010

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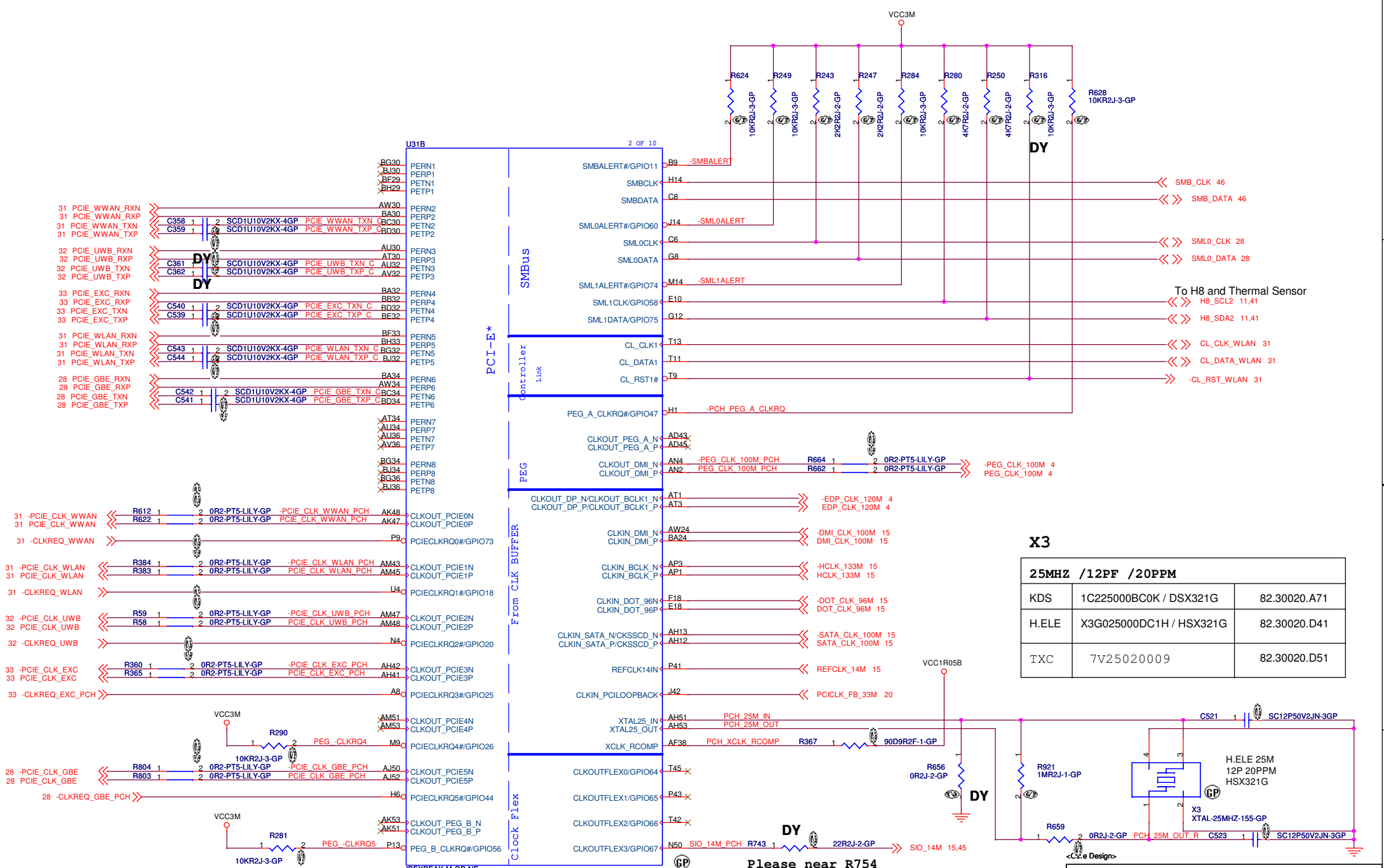


Place caps close to pin1 as possible

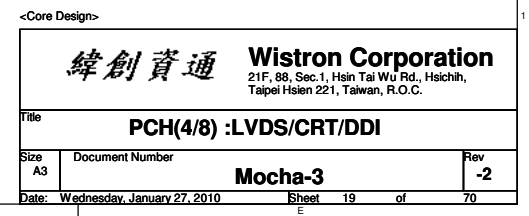


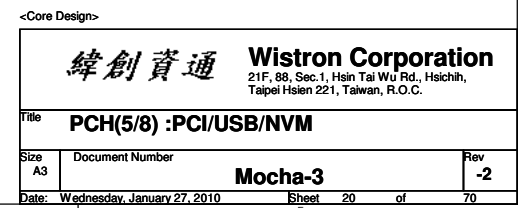


Source	Vendor P/N	Wistron P/N
KDS	1Y714318CE1F /DSX530	82.30005.B41

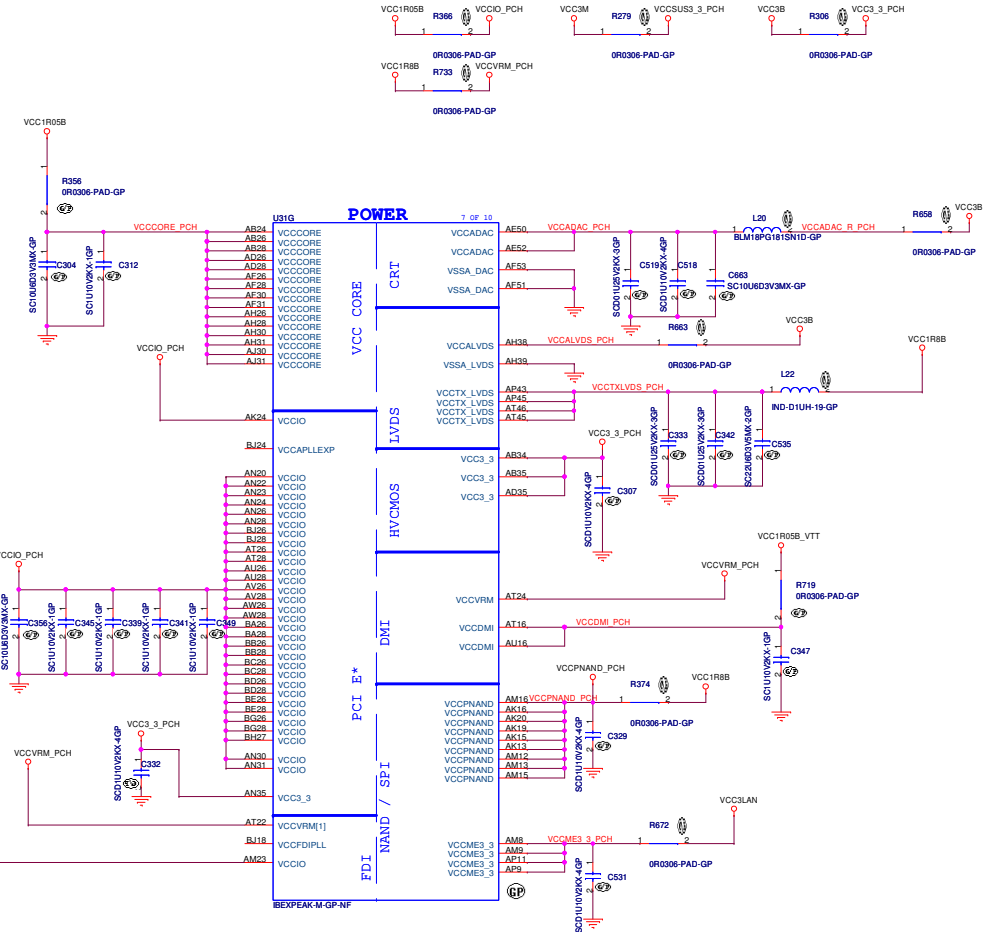


25MHZ /12PF /20PPM		
KDS	1C225000BC0K / DSX321G	82.30020.A71
H.ELE	X3G025000DC1H / HSX321G	82.30020.D41
TXC	7V25020009	82.30020.D51

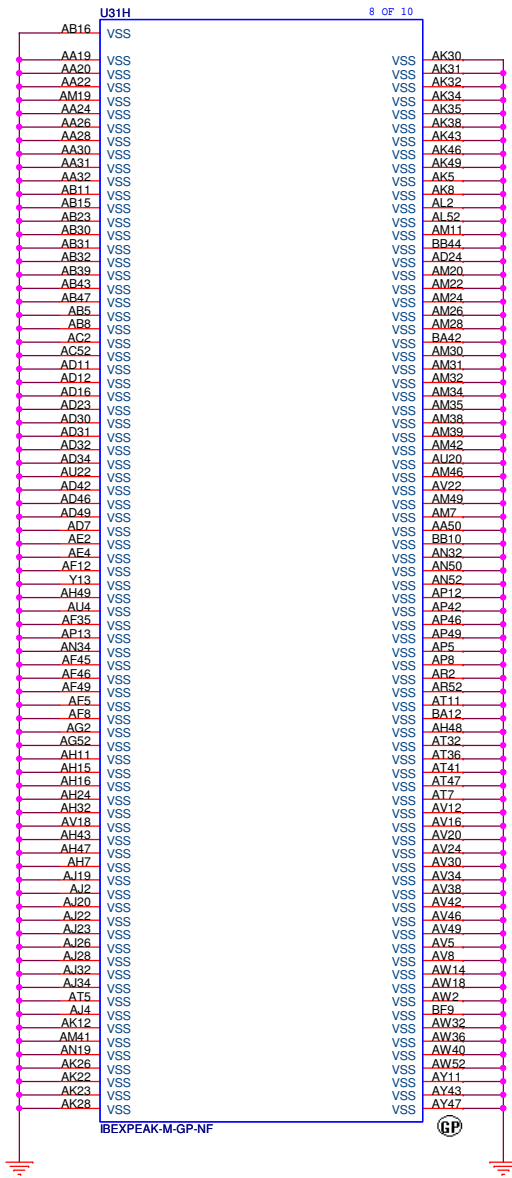
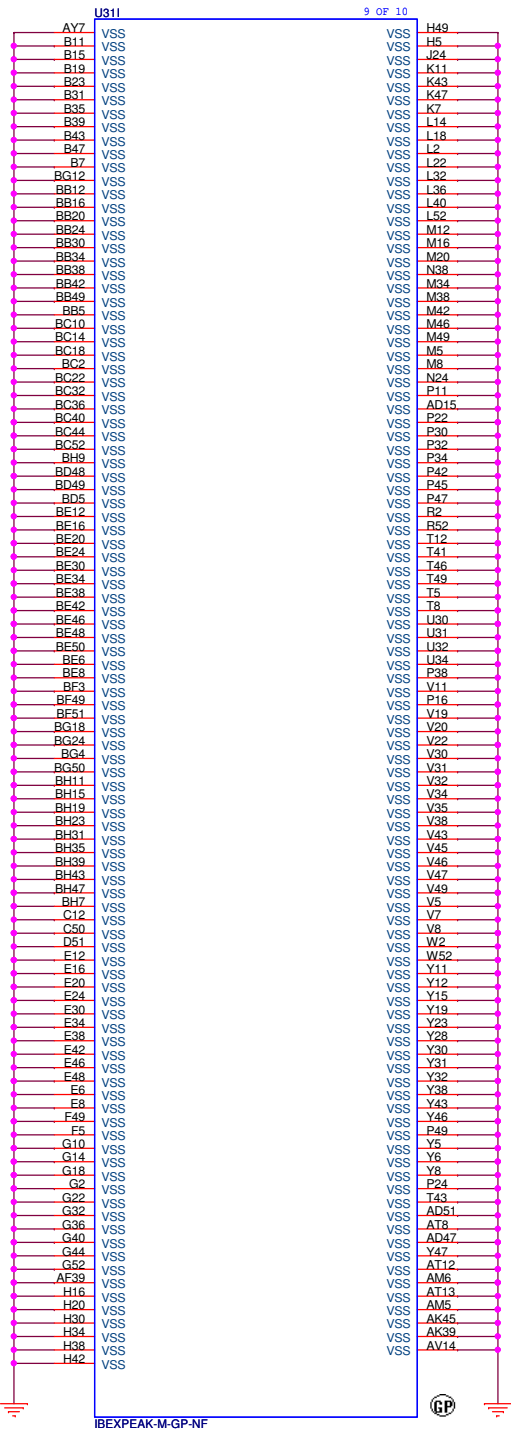




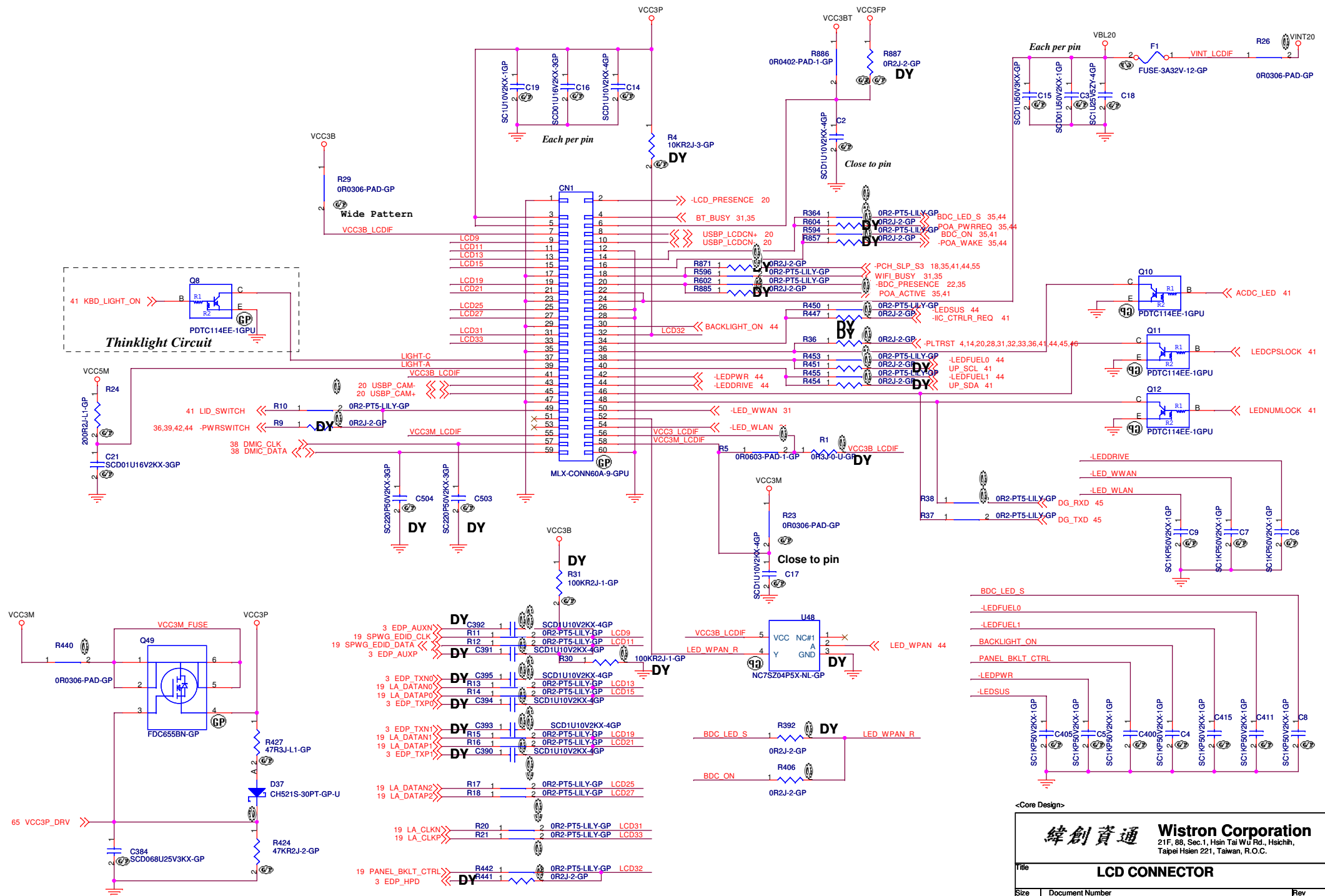
Refer to "HDMI 1080P 60Hz Deep Color Mode Support
on Intel 5 Series Chipset (update to Ibex Peak Sighting #3306171)" issued at Aug 21st ,2009



Title PCH(6/8) :Power			
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LCD / Inverter Connector



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Title	LCD CONNECTOR
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Size
A3

Document Number

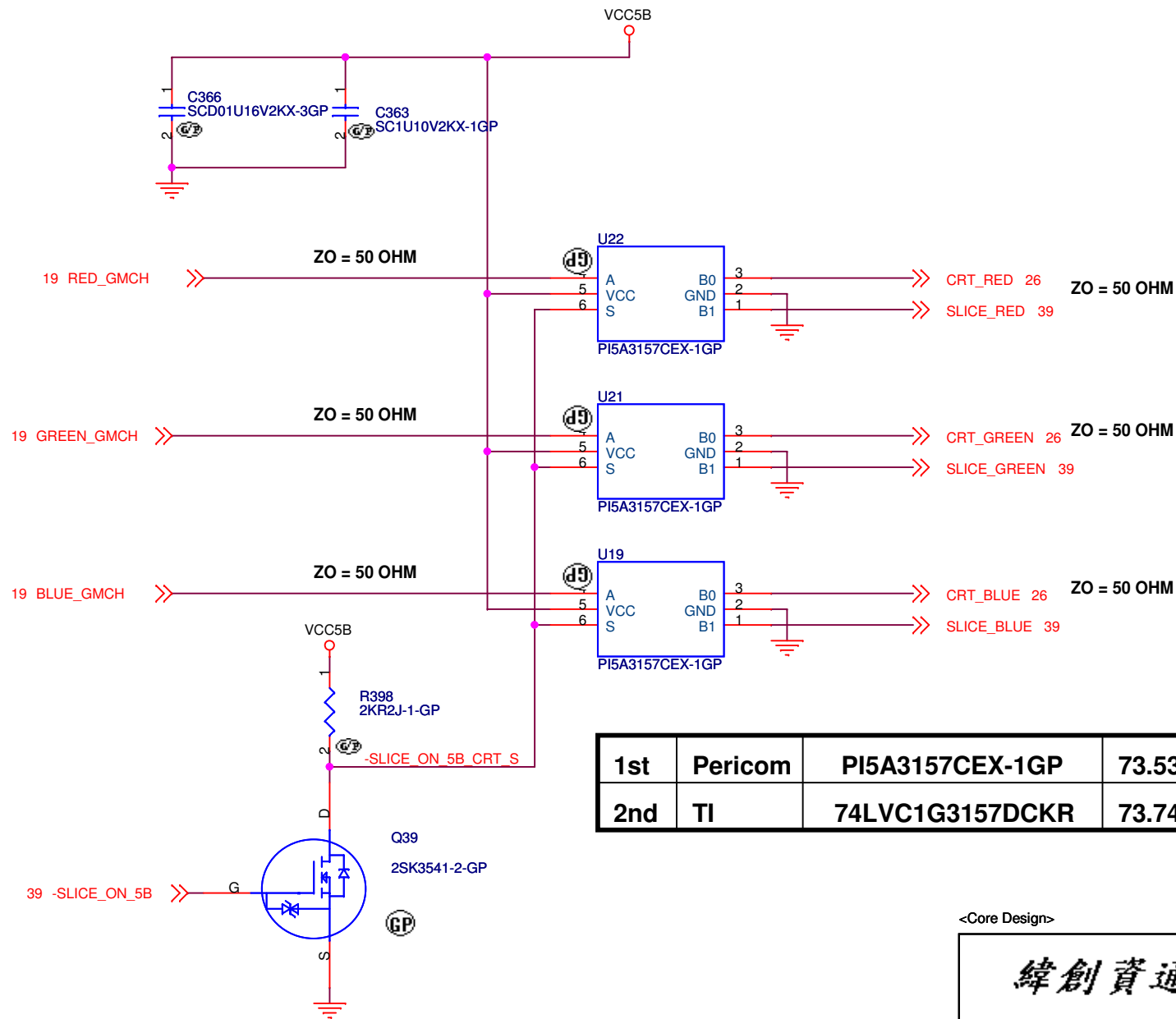
Mocha-3

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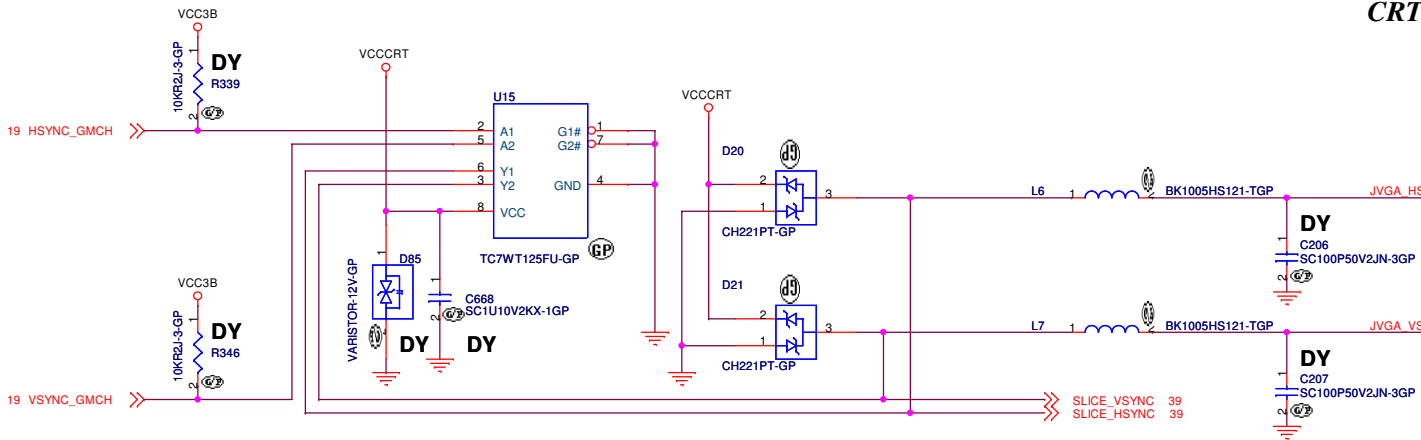
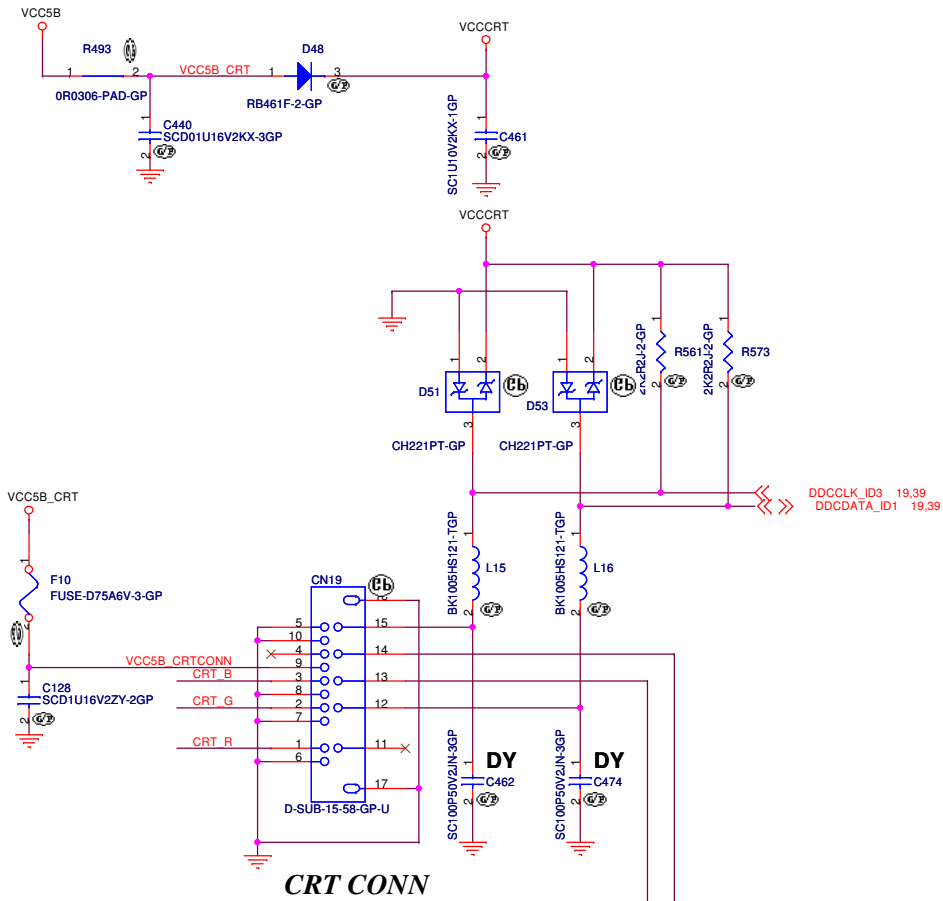
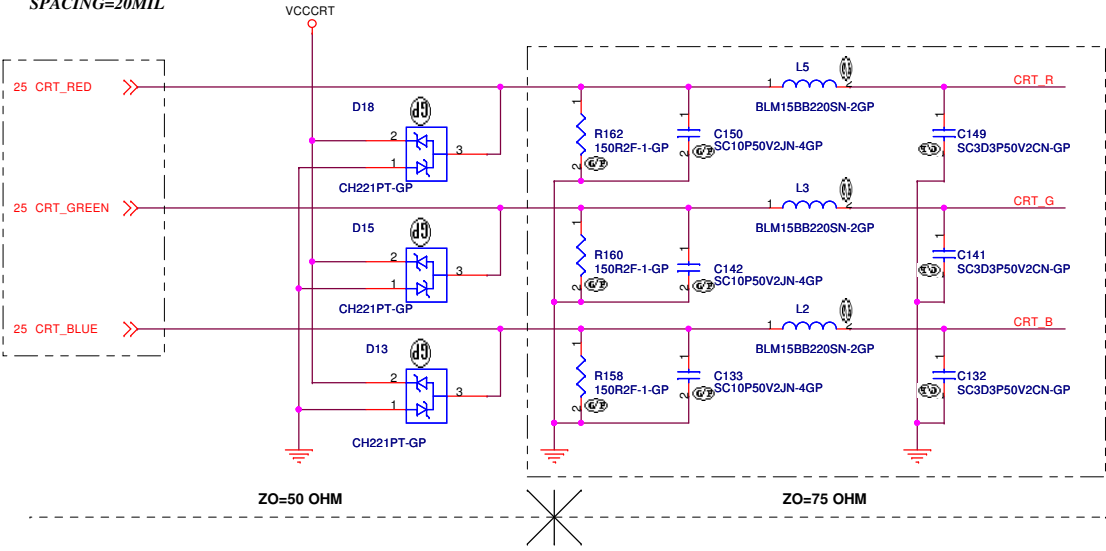


1st	Pericom	PI5A3157CEX-1GP	73.53157.A0J
2nd	TI	74LVC1G3157DCKR	73.74157.CHH

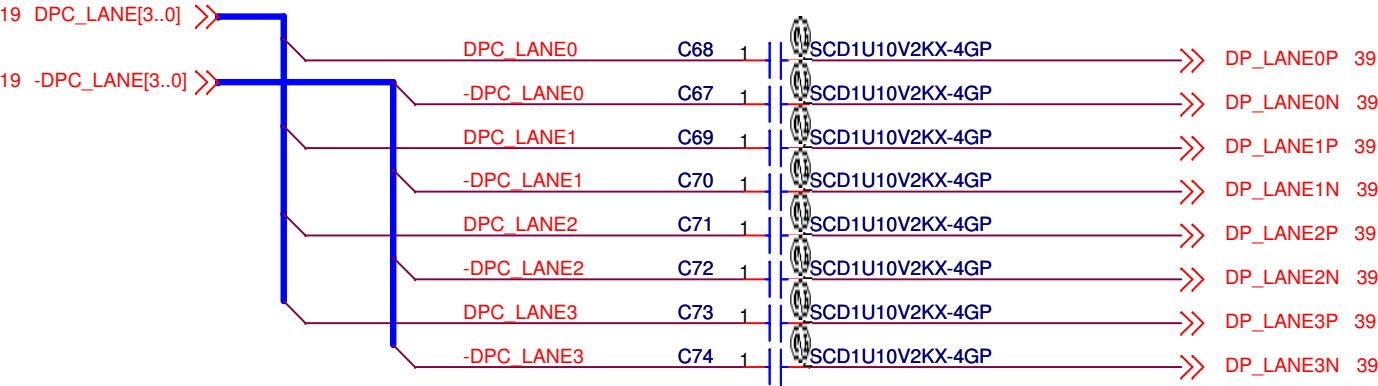
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<div>緯創資通</div> <div>Wistron Corporation</div> <div>21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</div>	
Title	
CRT SELECTOR	
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GND GUARDING
EACH SIGNAL WIDTH DEPENDS ON ZO(TRACE IMPEDANCE)
SPACING=20MIL

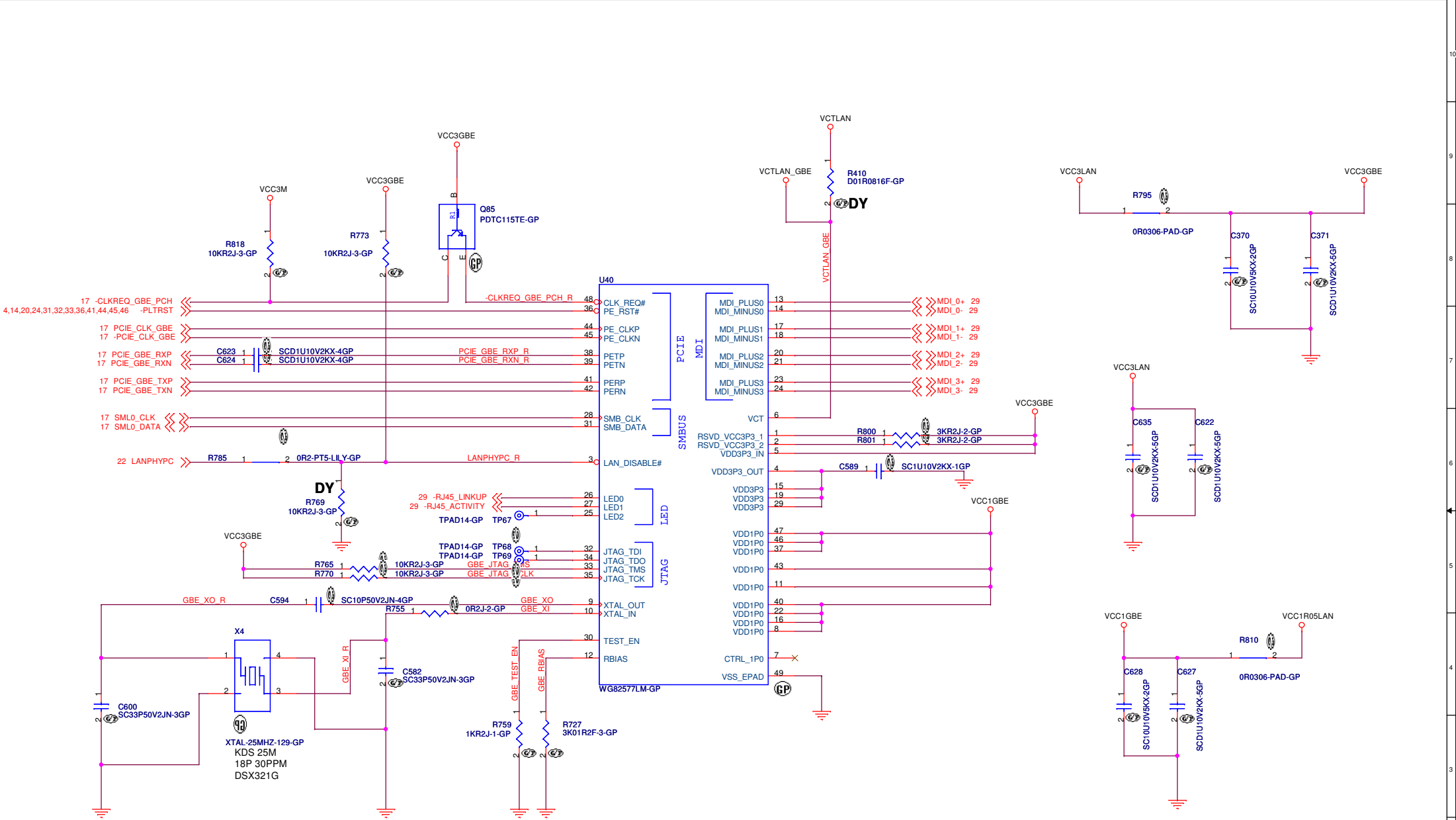


System DP: GMCH to SLICE Connector



<Core Design>

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Title			
<i>Display Port AC Coupling</i>			
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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

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Title

GBE Hanksville

Size

A3

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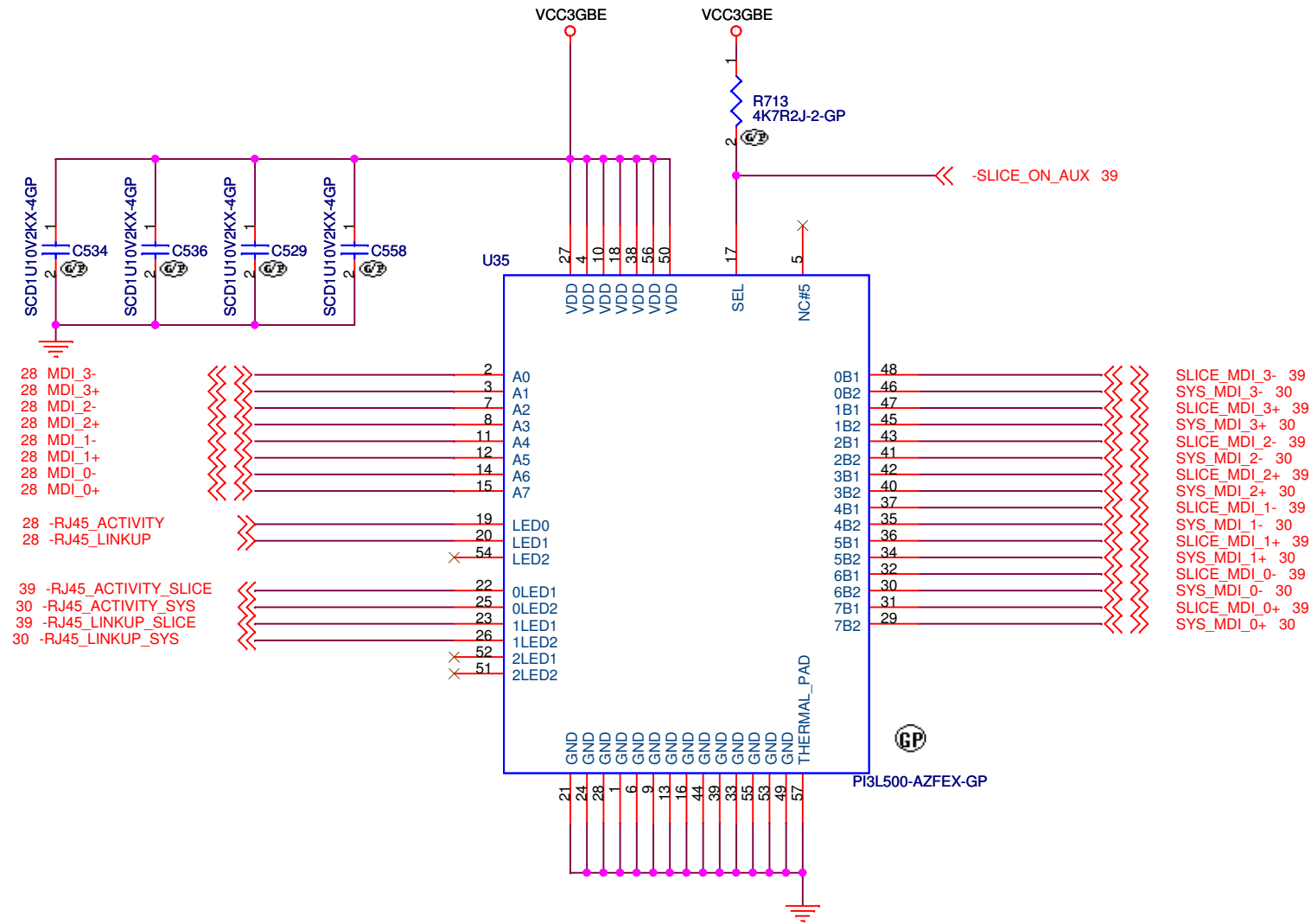
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Rev

-2



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

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Title

GBE LAN SW

Size
A4

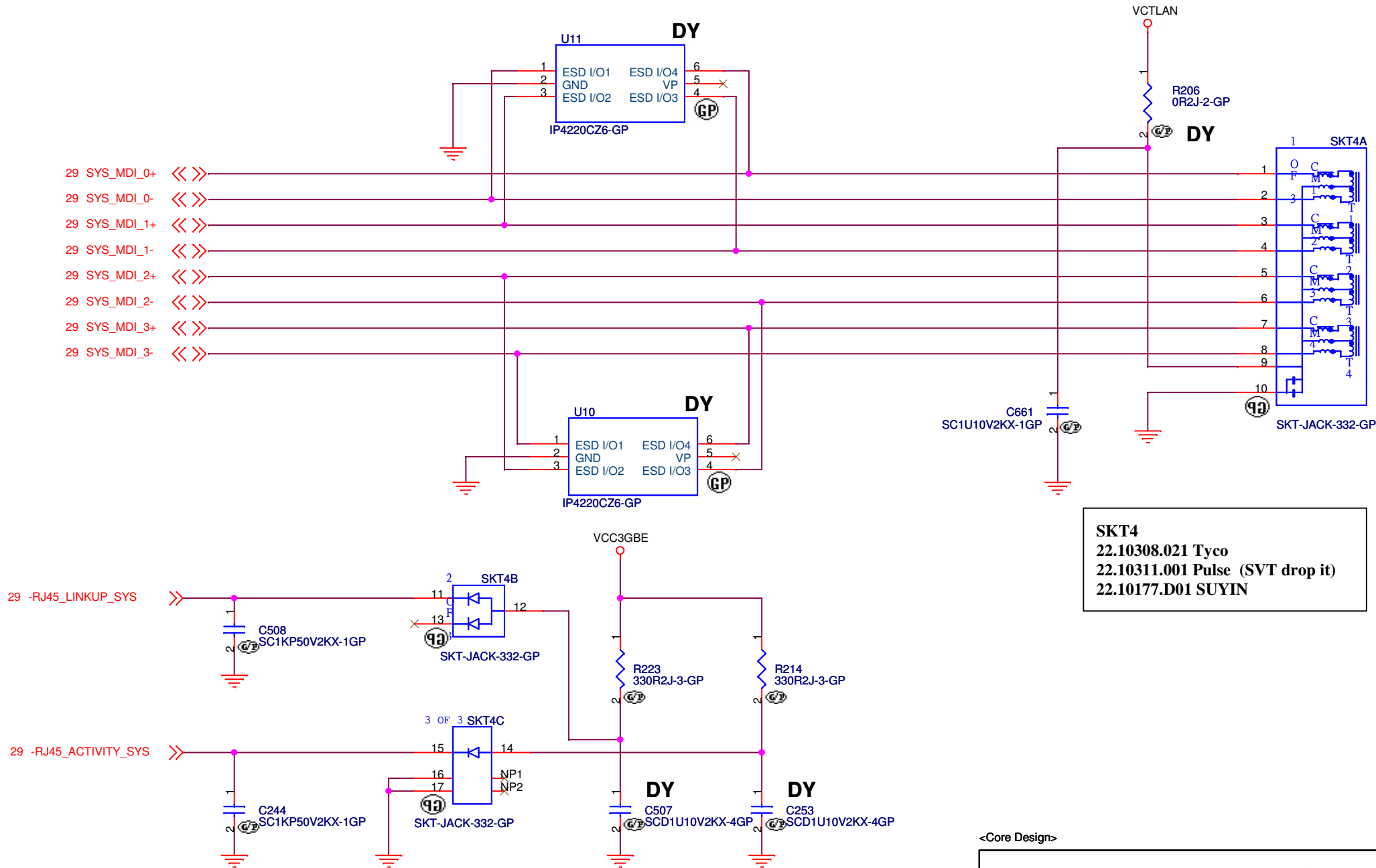
Document Number

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-2

Date: Wednesday, January 27, 2010

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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

RJ45 CONN

Size
 A4

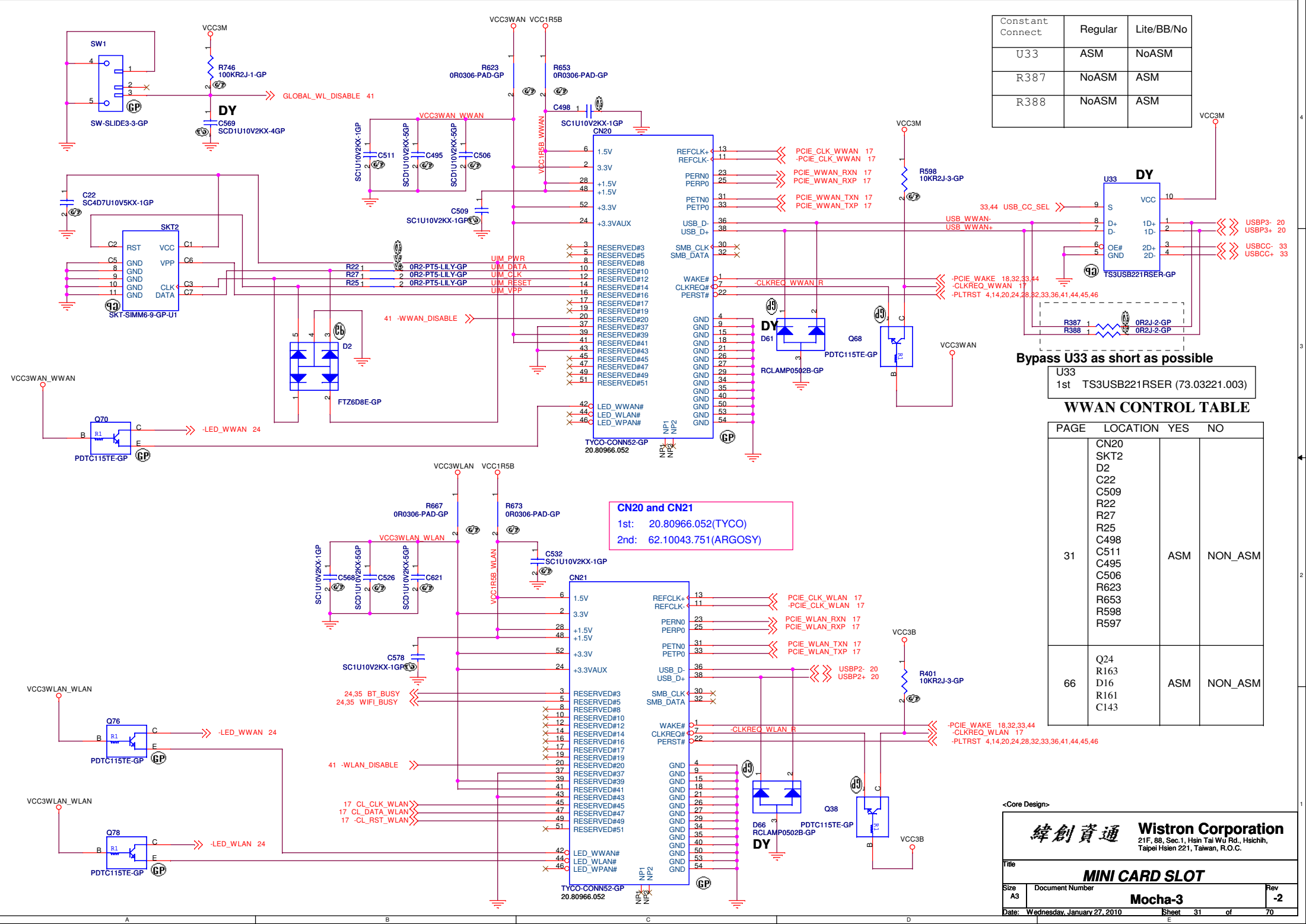
Document Number

Mocha-3

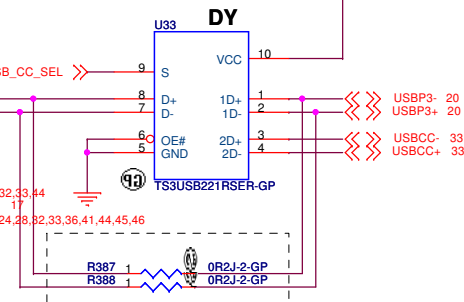
Rev
-2

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	ASM	NON_ASM
	SKT2		
	D2		
	C22		
	C509		
	R22		
	R27		
	R25		
	C498		
	C511		
	C495		
	C506		
66	R623	ASM	NON_ASM
	R653		
	R598		
	R597		
	Q24		
	R163		
	D16		
	R161		
C143			

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

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Title

MINI CARD SLOT

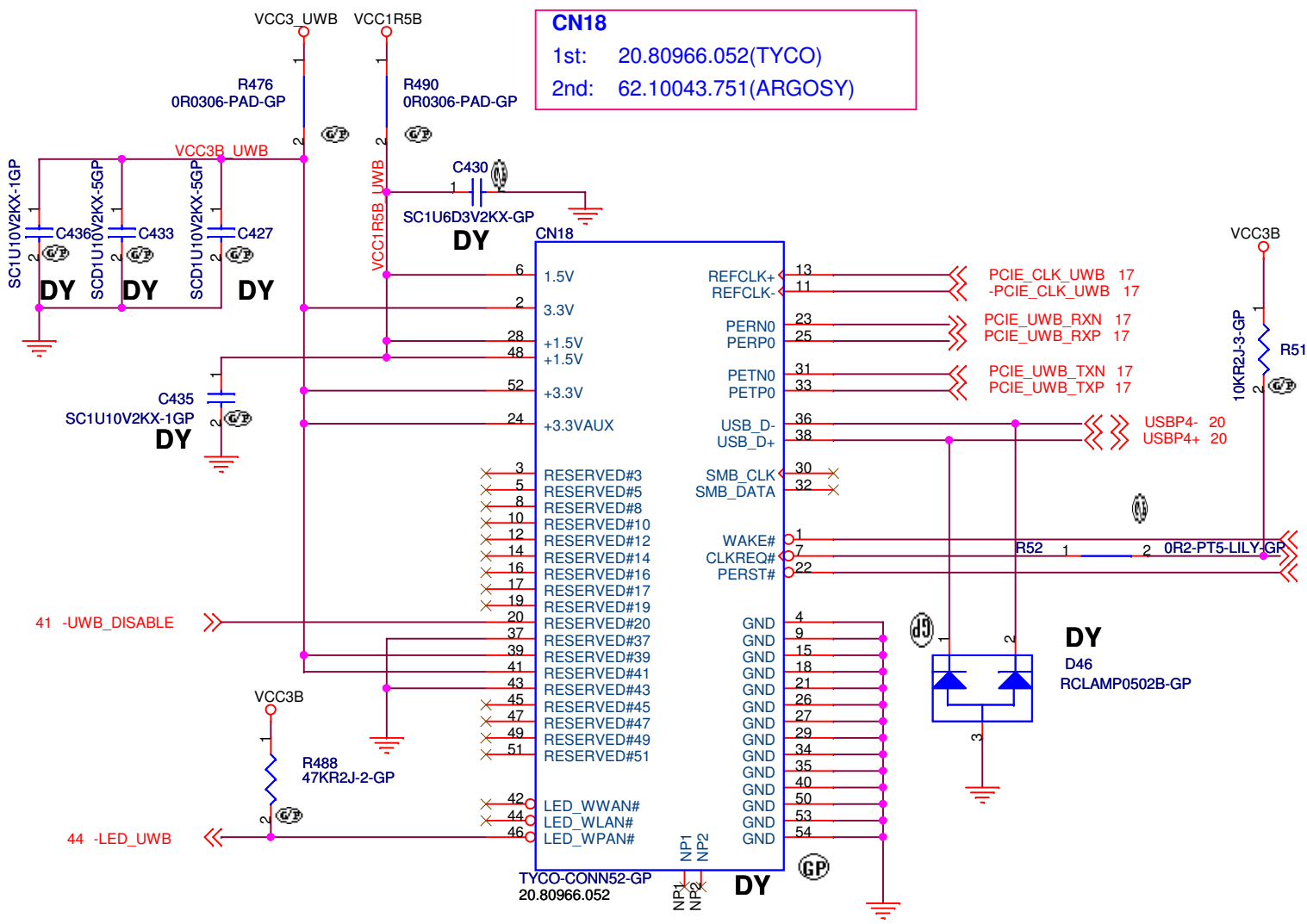
Size A3

Document Number

Rev -2

Date: Wednesday, January 27, 2010

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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

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

Title

MINI CARD SLOT 2

Size
A4

Document Number
Mocha-3

Rev
-2

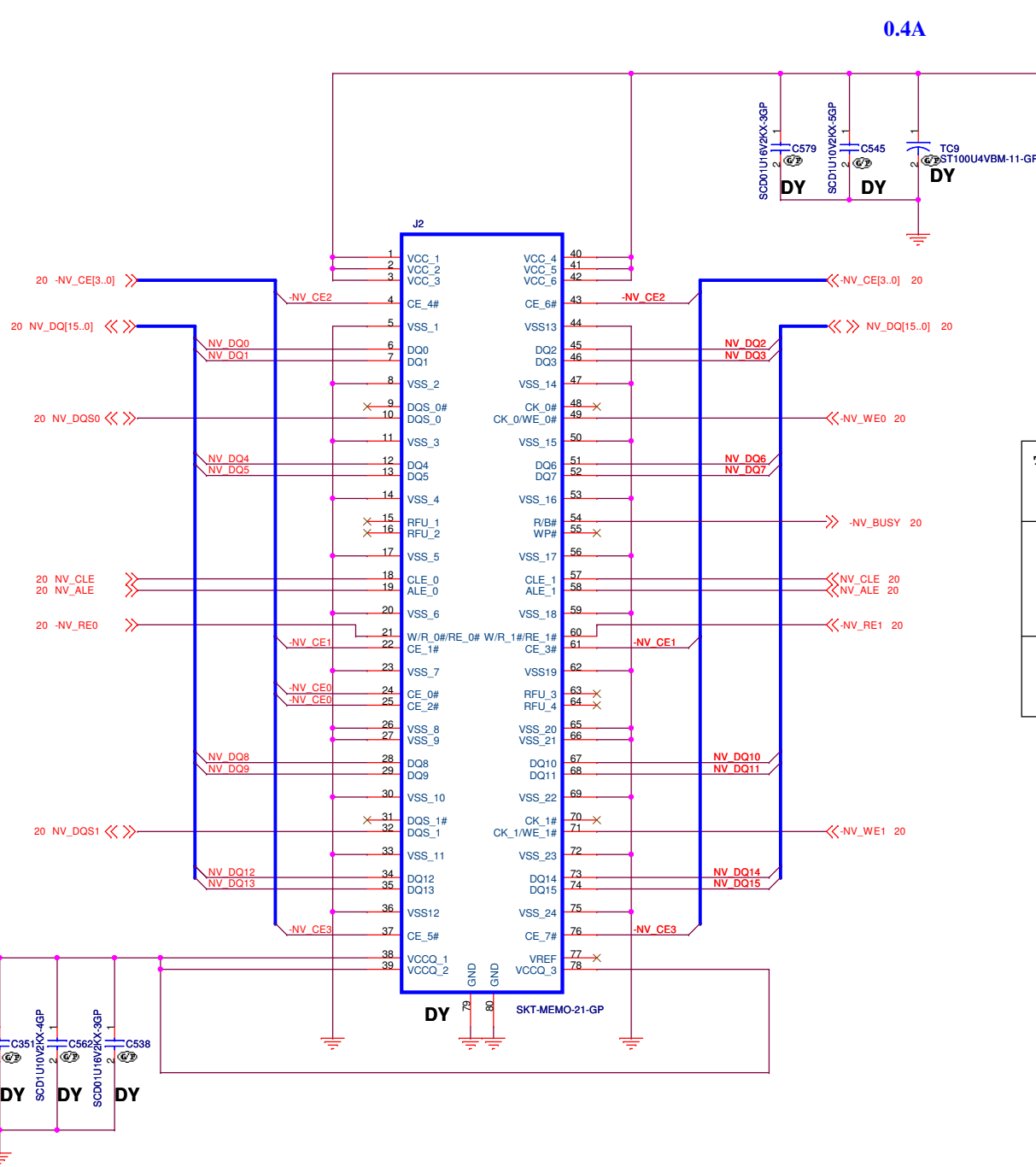
Date: Wednesday, January 27, 2010

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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

Near SKT3

USB_PWR1

USBP8 MP+ TVS

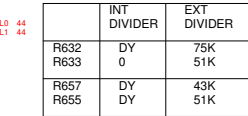
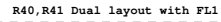
USBP8 MP- TVS

AFPT17 AFTE14P-GP

AFPT18 AFTE14P-GP

AFPT19 AFTE14P-GP

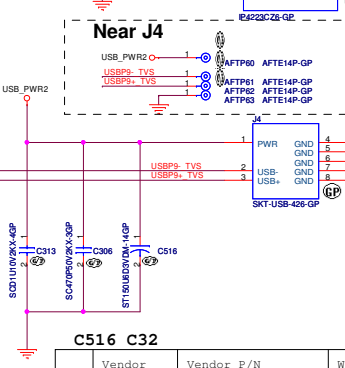
AFPT21 AFTE14P-GP



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

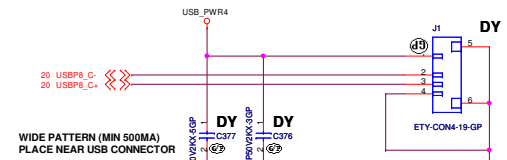
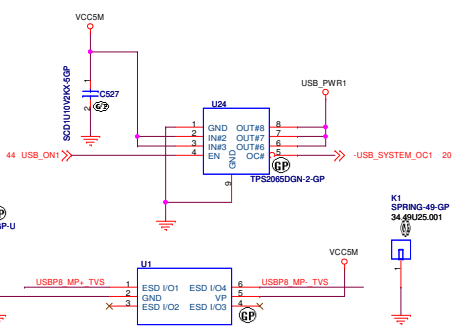
U34 (Need the discharge function)

	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	TLPSLW0J157M(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

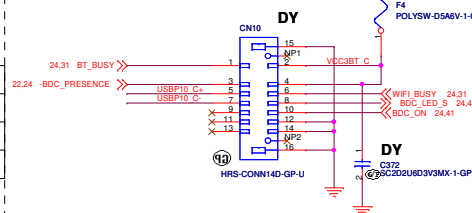


Near J1

USB_PWR4 1 AFTP5 AFTE14P-GP

1 AFTP4 AFTE14P-GP

	Vendor	Vendor P/N	Wistron P/N
1st	NXP	IP4223CZ6	83.42236.0AE
2nd	SEMTECH	SRV05-4.TCT	83.00005.BAE /41U5451AA
3rd	AOS	AOZ8904CIL	83.08904.0AE

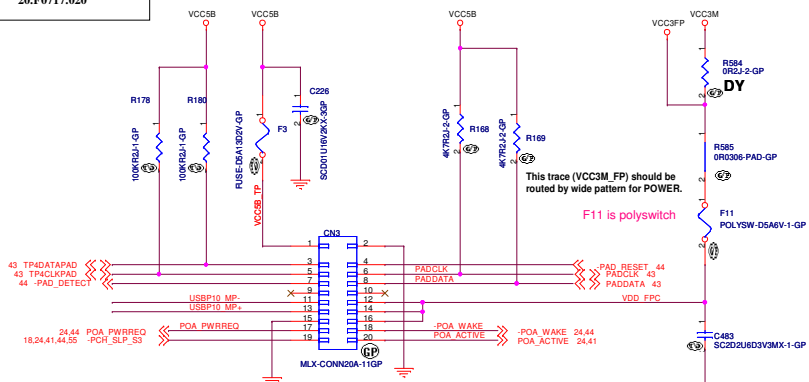


20 USBP10- <<>> R414 1 2 GR2J-2-GP USBP10_C- <>> R412 1 2 GR2-PT5-L1Y-GP USBP10_MP-

20 USBP10+ <<>> R413 1 2 GR2J-2-GP USBP10_C+ <>> R411 1 2 GR2-PT5-L1Y-GP USBP10_MP+

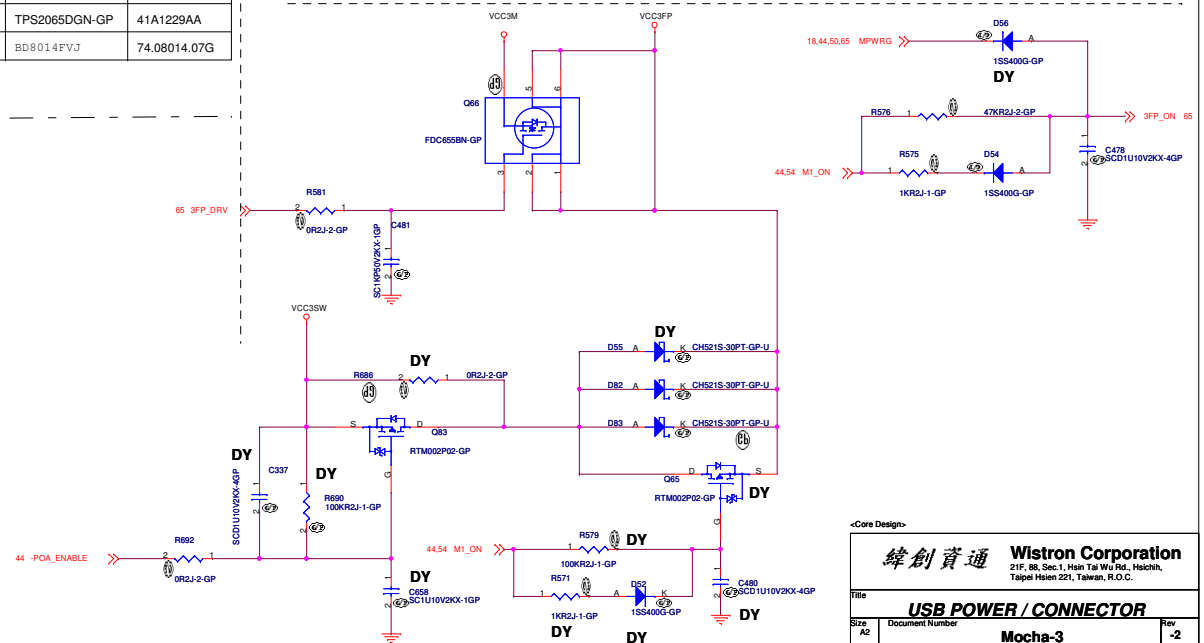
Place near CN10

CN3
MOLEX 54722-0204
20.F0717.020



This trace (VCC3M_FP) should be routed by wide pattern for POWER.

F11 is polyswitch



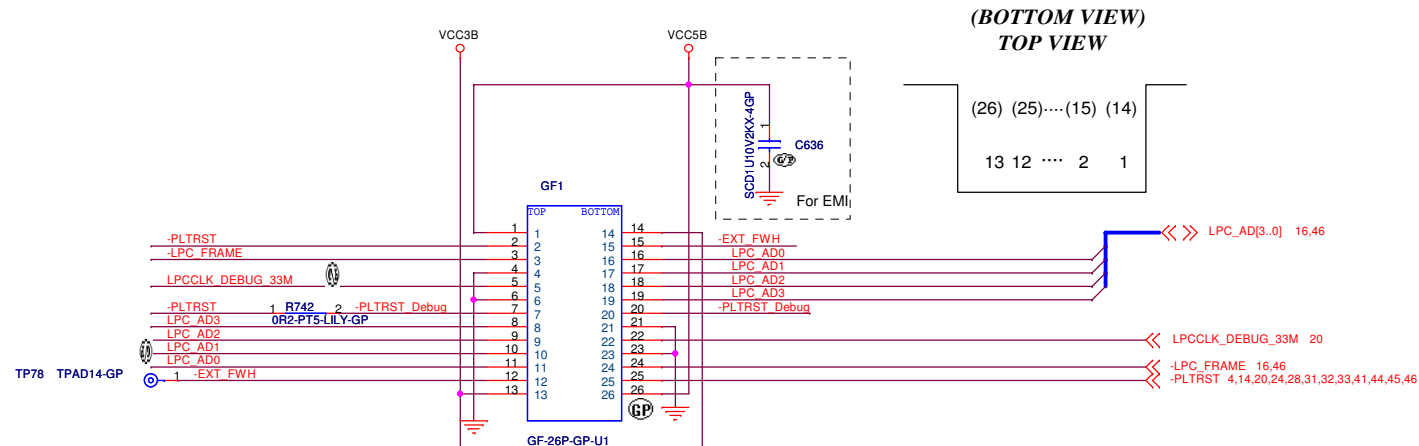
&ltCore Design>

緯創資通

Wistron Corporation
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih

Title		
USB POWER / CONNECTOR		
Size A2	Document Number Mocha-3	Rev -2
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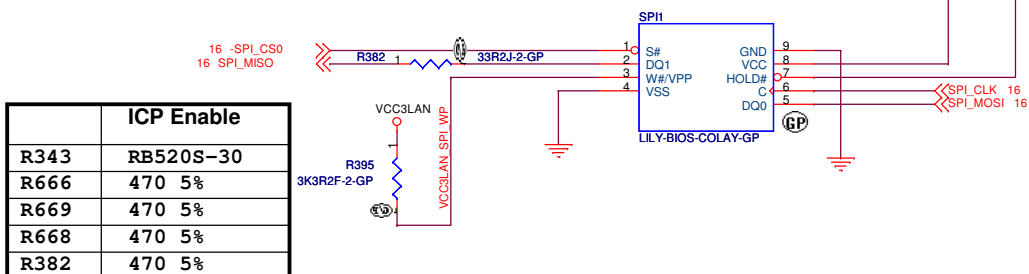
Golden Finger for Debug Board



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

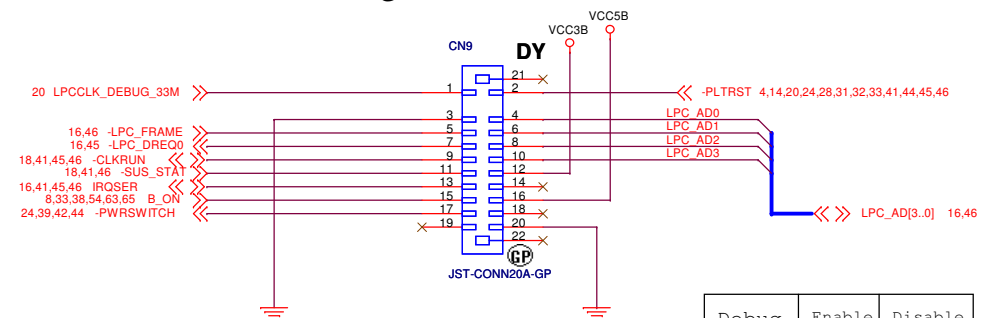
64Mbit SPI FLASH : WSO8		
MXIC	MX25L6405DZNI-12G	41R0821AA
Winbond	W25X64VZEIG	41R0821BA
Winbond	W25X64BVZEIG	72.25X64.C01

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



SO8 and WSO8 are both supported!

Debug card connector



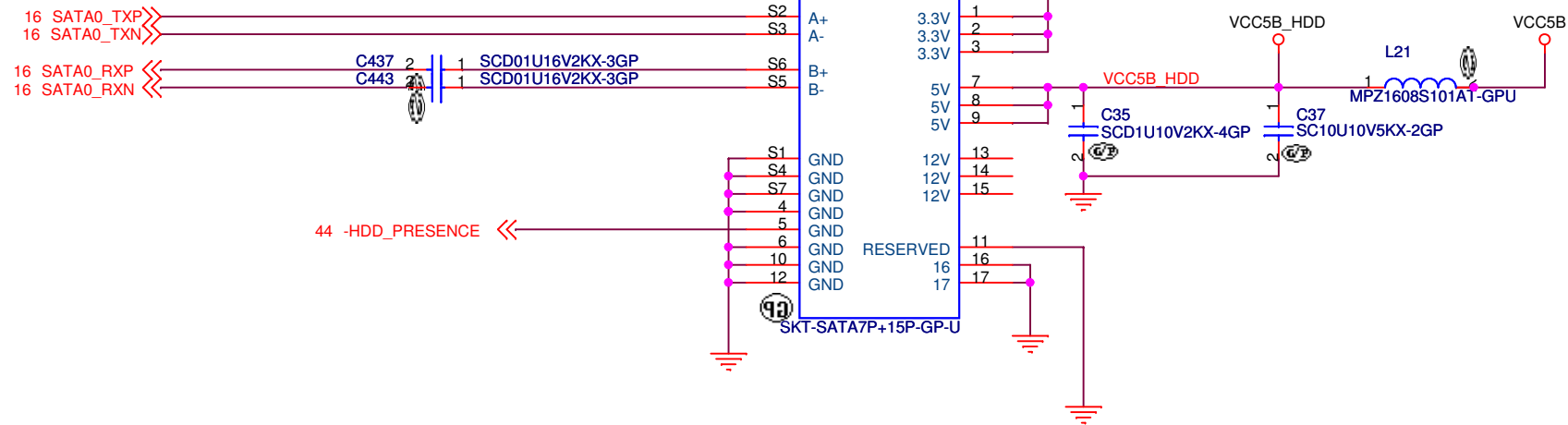
Put "easy-to -access" place

Debug	Enable	Disable
CN9	ASM	DY
R638	ASM	DY

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			
<i>SPI&LPC debug card</i>			
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<Core Design>

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Title

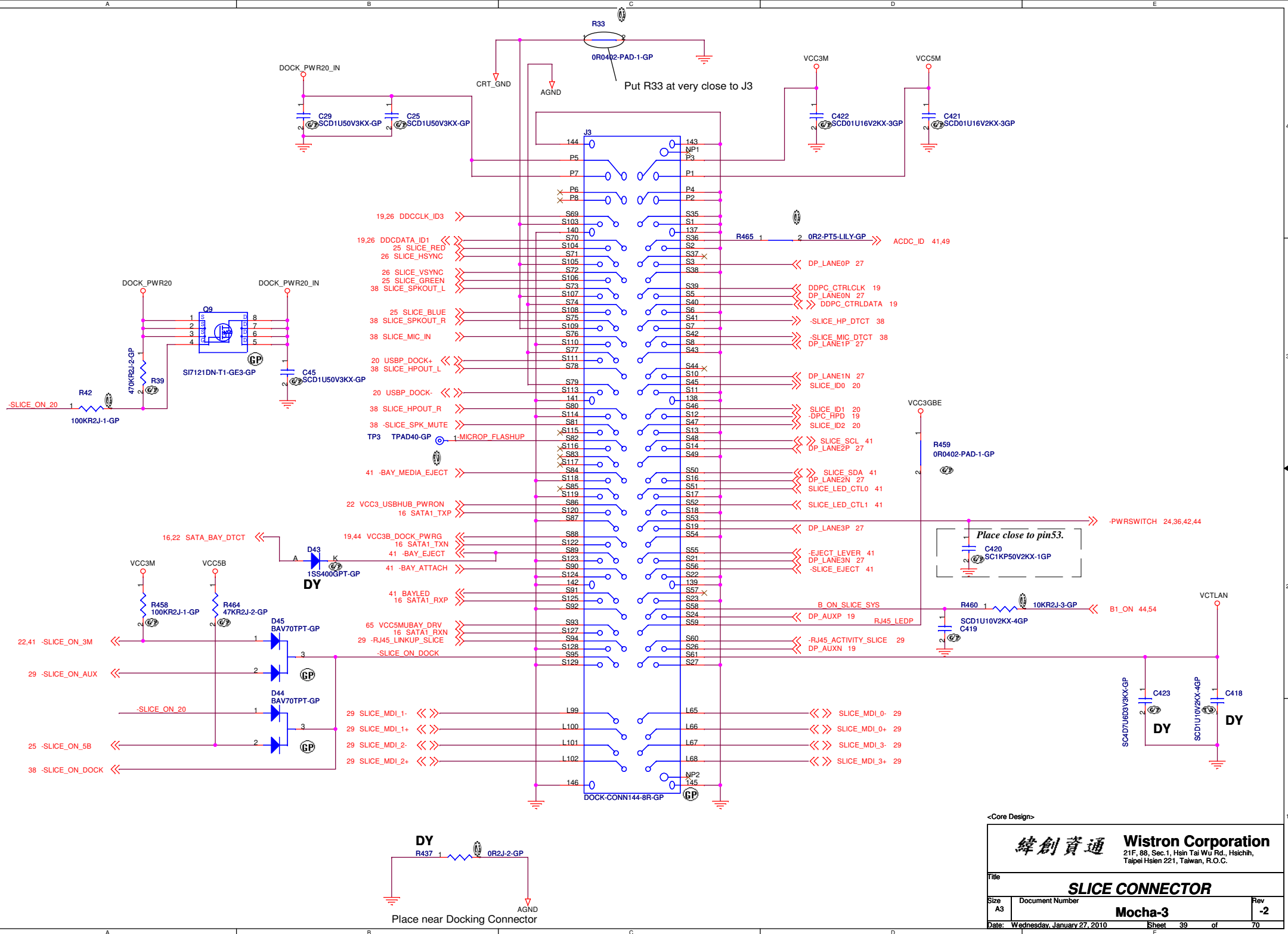
2.5 inch SATA ConnectorSize
A4

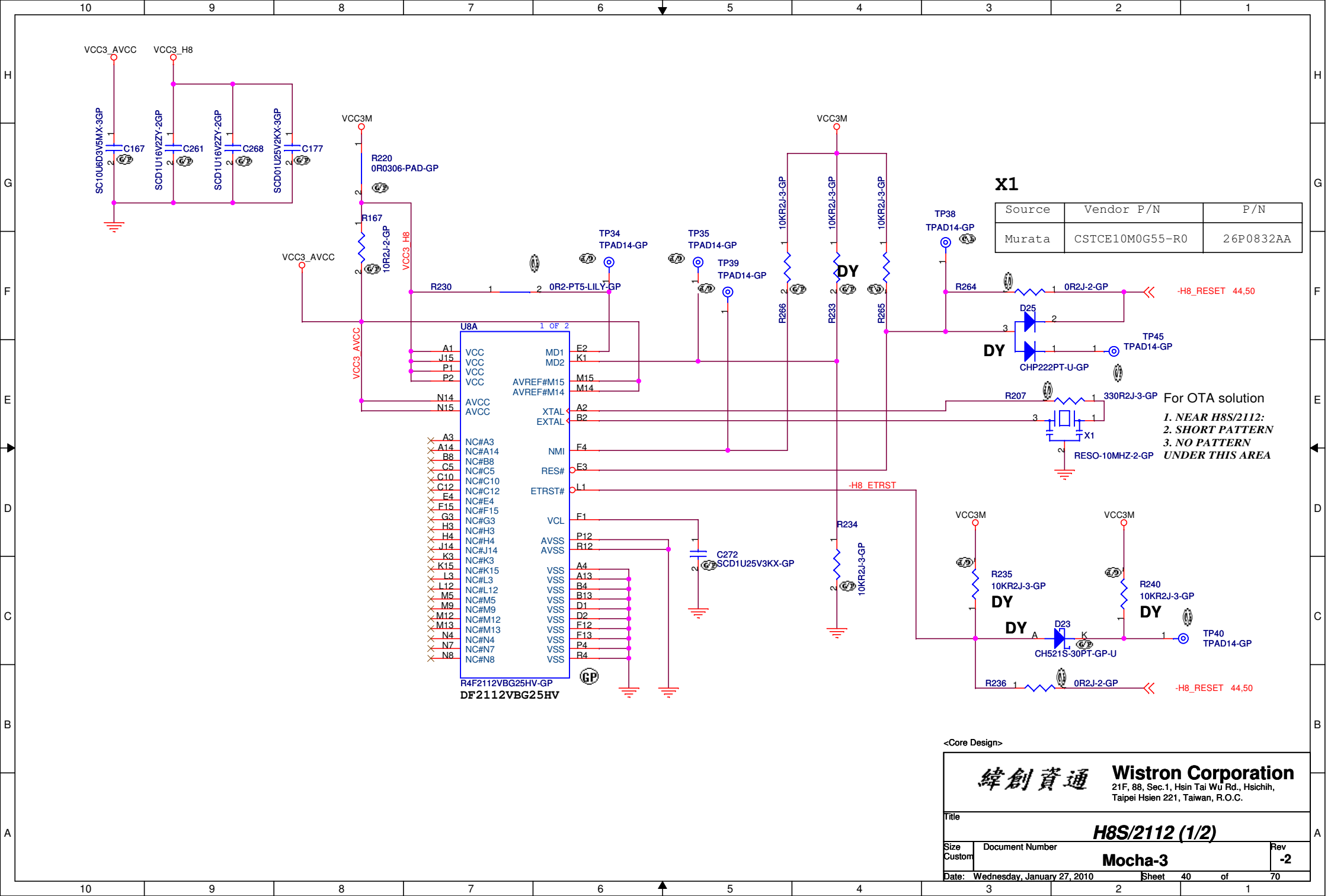
Document Number

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Source	Vendor	P/N
Murata	CSTCE10M0G55-R0	26P0832AA

For OTA solution
1. NEAR H8S/2112:
2. SHORT PATTERN
3. NO PATTERN
UNDER THIS AREA

<Core Design>

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Title

H8S/2112 (1/2)

Size
Custom

Document Number

Mocha-3

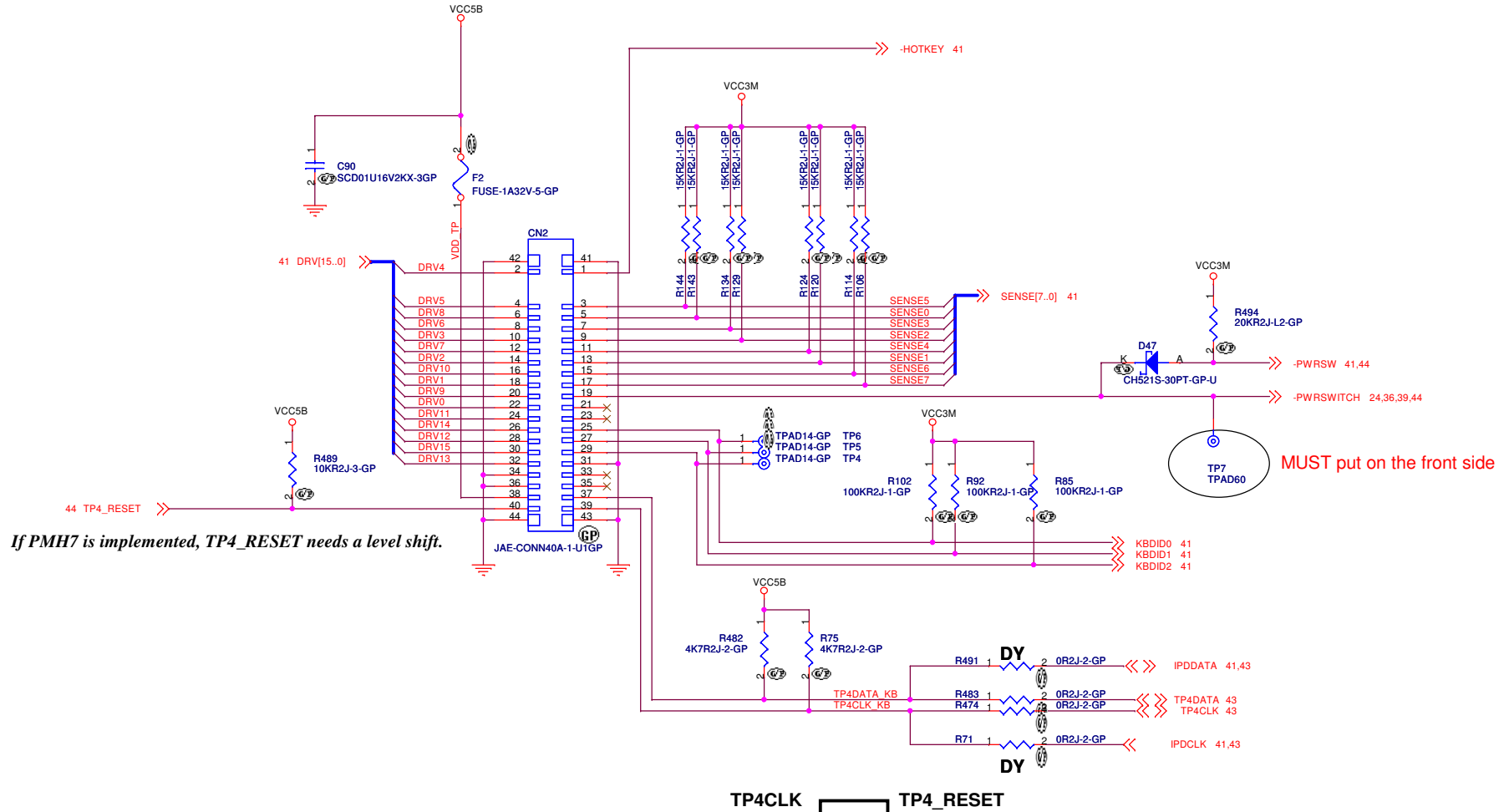
Rev
-2

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Keyboard Connector



If PMH7 is implemented, TP4_RESET needs a level shift.

MUST put on the front side

Near CN2

DRV4	1	AFTE14P-GP	AFTP49
DRV5	1	AFTE14P-GP	AFTP48
DRV6	1	AFTE14P-GP	AFTP45
DRV7	1	AFTE14P-GP	AFTP42
DRV3	1	AFTE14P-GP	AFTP46
DRV2	1	AFTE14P-GP	AFTP39
DRV10	1	AFTE14P-GP	AFTP36
DRV9	1	AFTE14P-GP	AFTP43
DRV0	1	AFTE14P-GP	AFTP33
DRV11	1	AFTE14P-GP	AFTP34
DRV14	1	AFTE14P-GP	AFTP30
DRV12	1	AFTE14P-GP	AFTP32
DRV15	1	AFTE14P-GP	AFTP28
DRV13	1	AFTE14P-GP	AFTP27
SENSE5	1	AFTE14P-GP	AFTP50
SENSE0	1	AFTE14P-GP	AFTP47
SENSE3	1	AFTE14P-GP	AFTP44
SENSE2	1	AFTE14P-GP	AFTP41
SENSE4	1	AFTE14P-GP	AFTP37
SENSE1	1	AFTE14P-GP	AFTP35
SENSE6	1	AFTE14P-GP	AFTP31
SENSE7	1	AFTE14P-GP	AFTP29
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

TP4CLK TP4_RESET

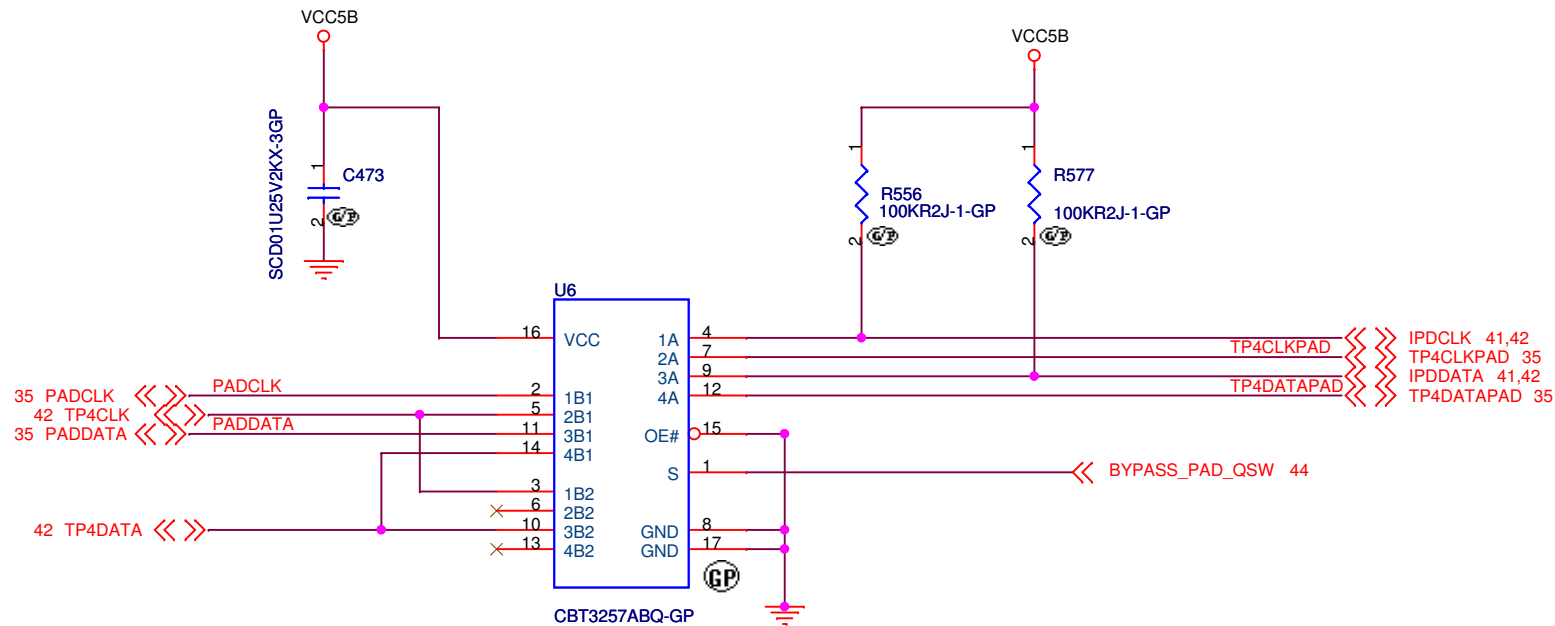
HOTKEY# DRV4

Keyboard Connector Top View

<Core Design>

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

Title			
KEYBOARD CONN			
Size A3	Document Number	Mocha-3	Rev -2
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<Core Design>

緯創資通

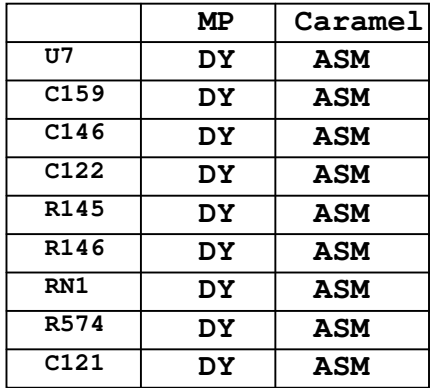
Wistron Corporation
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Taipei Hsien 221, Taiwan, R.O.C.


Title **TOUCH PAD CONNECTOR**

Size A4	Document Number Mocha-3	Rev -2
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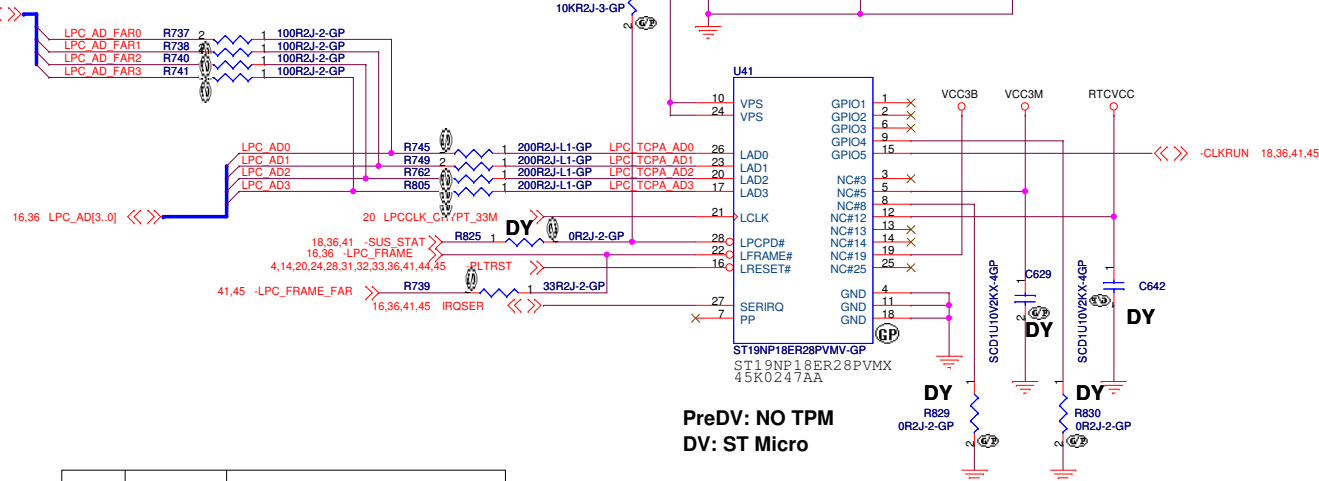


 <div> Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C. </div>	
Title	
<div> WPCN385SDG </div>	
Size A4	Document Number <div> Mocha-3 </div>
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1st	Fairchild	NC7SZ384	77P2644CA
2nd	TI	SN74CBT1G384DCKR	77P2644BA
3rd	Toshiba	TC7SB384FU	77P2644AA

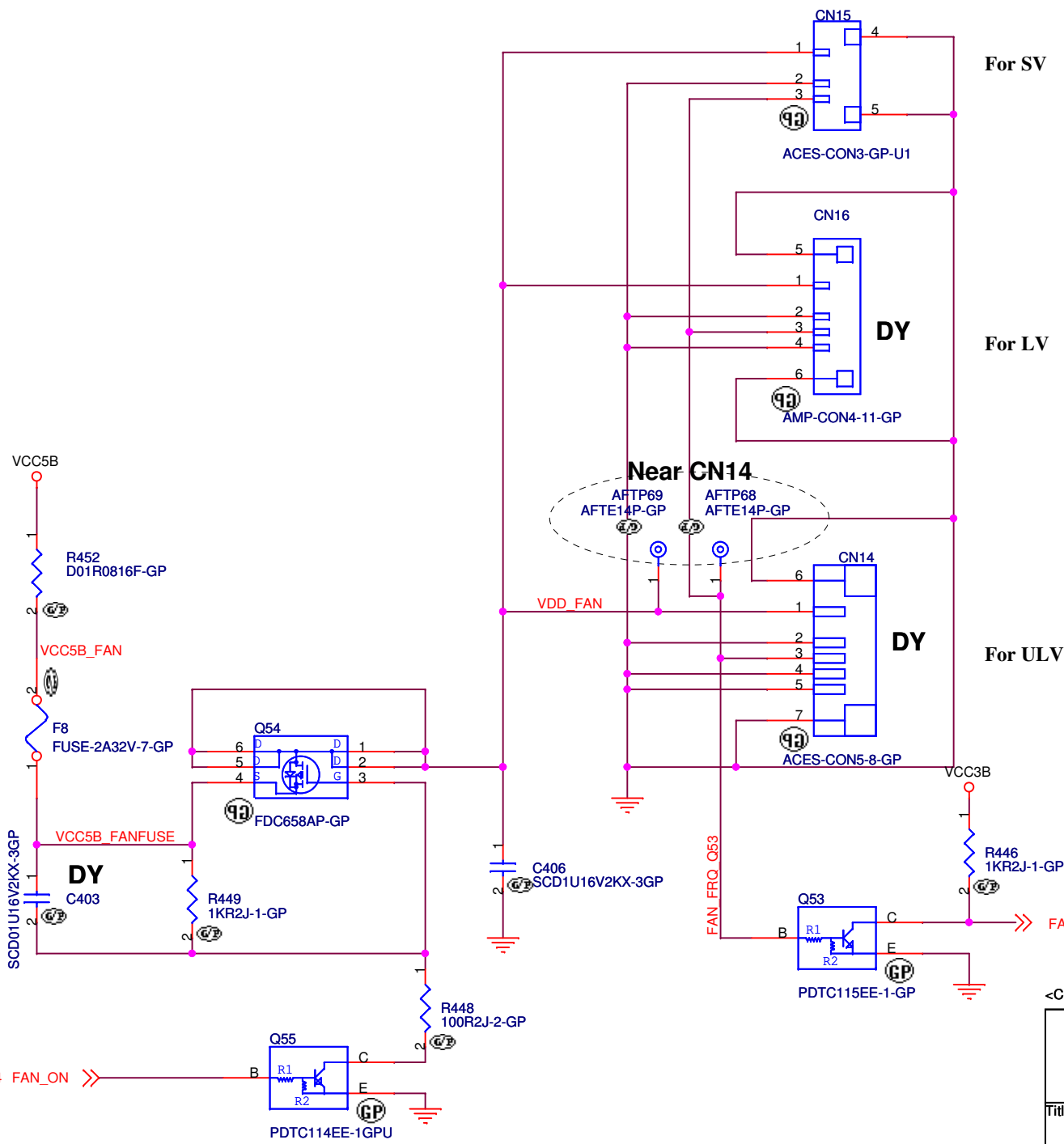
TCPA



	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)**



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		

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Title

FAN CONTROL

Size A4

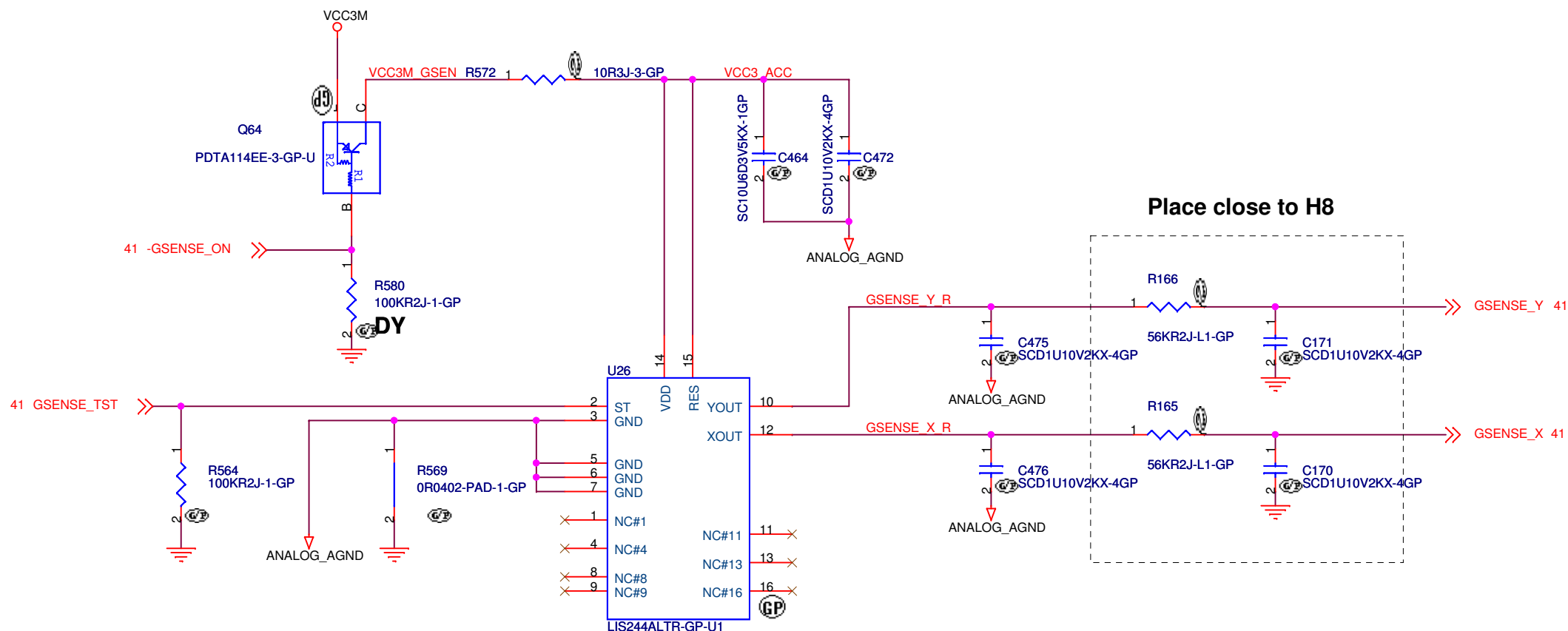
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	LIS244AL LIS34AL	No Accel
R580	NO_ASM	ASM
R564	ASM	ASM
All other	ASM	NO_ASM

U26

Primary	STMicro LIS244AL	74.00244.0BZ
Second	STMicro LIS34AL	74.00034.0BZ

Layout Comment :

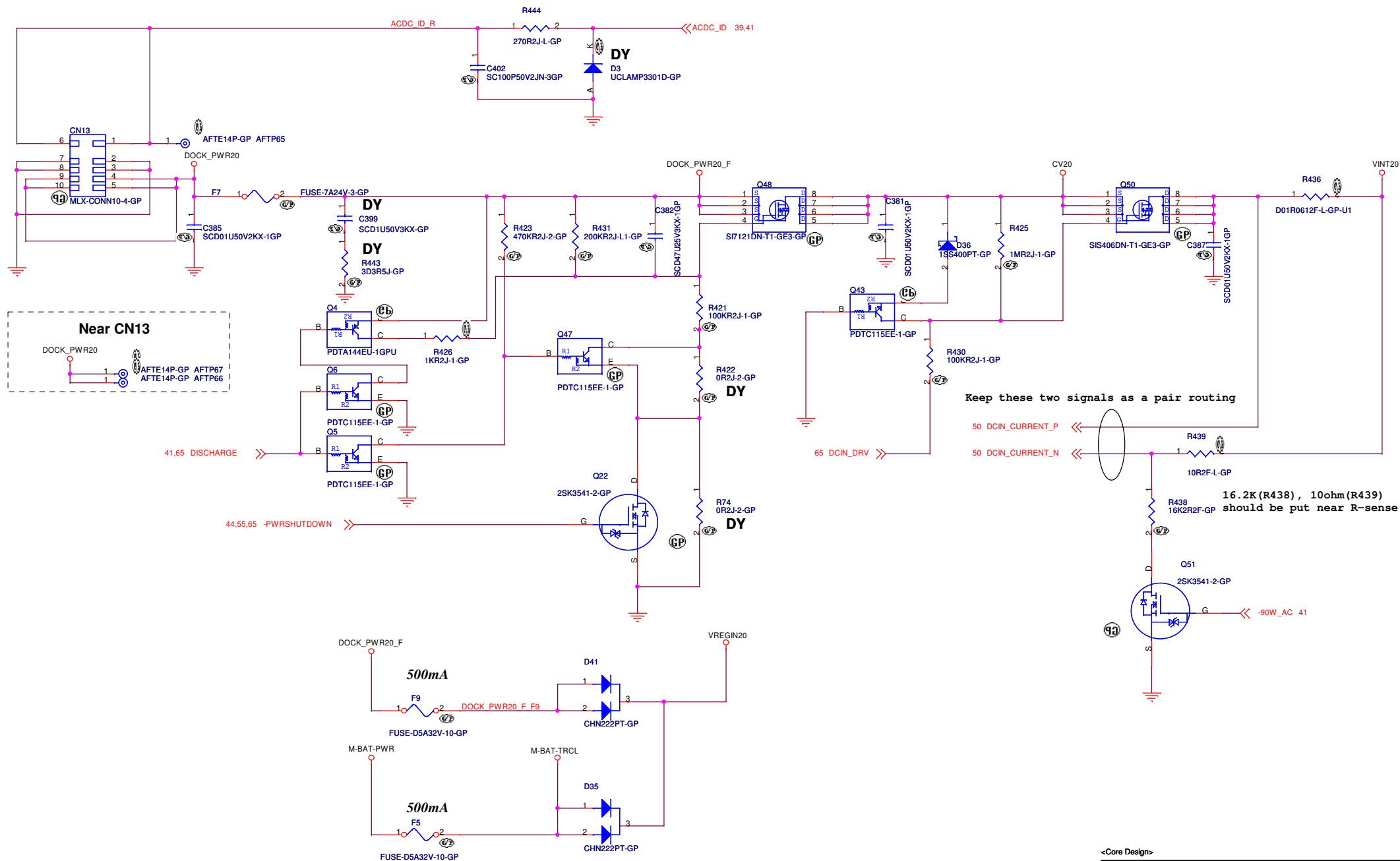
(1) Place C475,C476,Q64,R572,R580
C464,C472,R564,R569 close to U26

(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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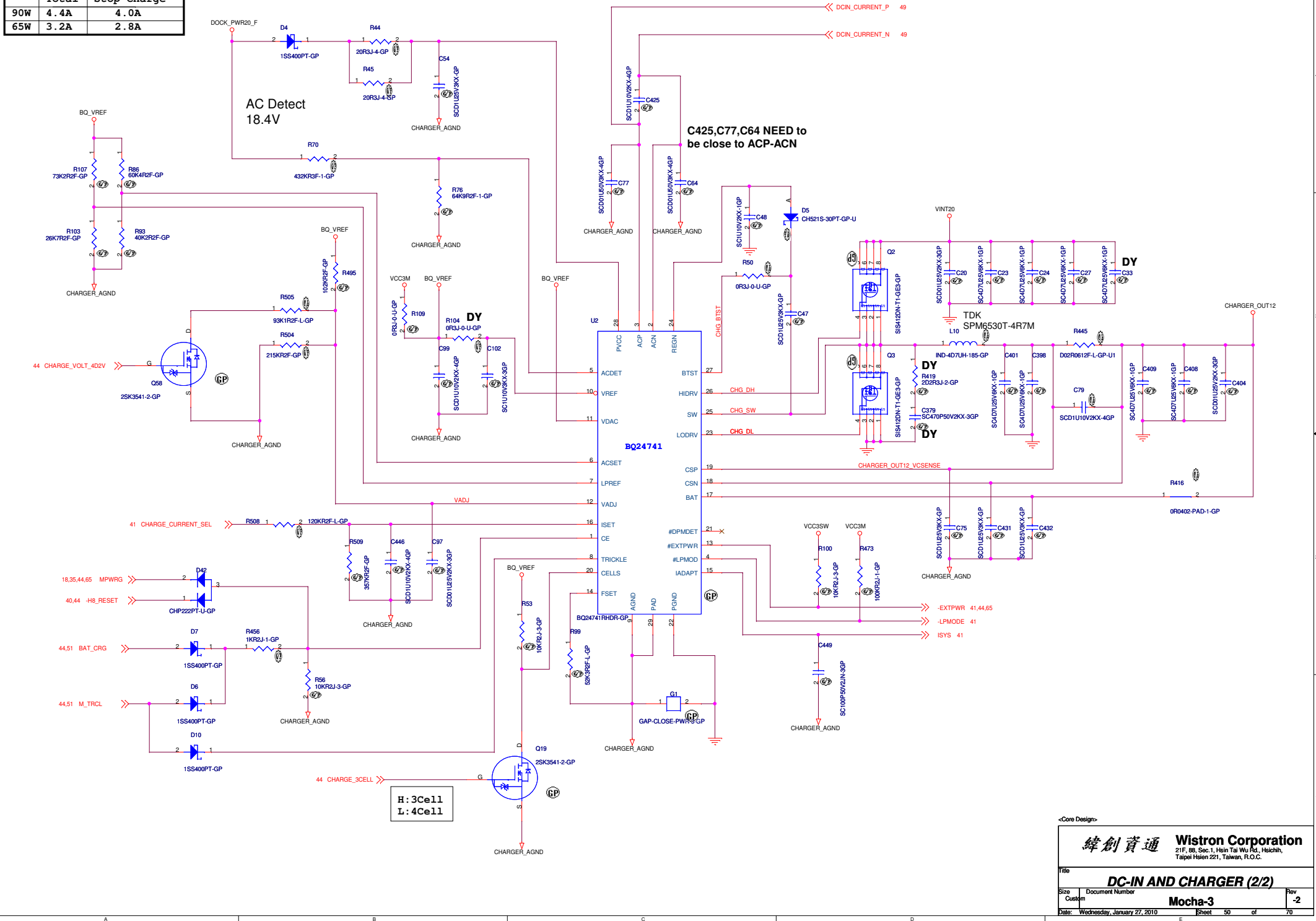


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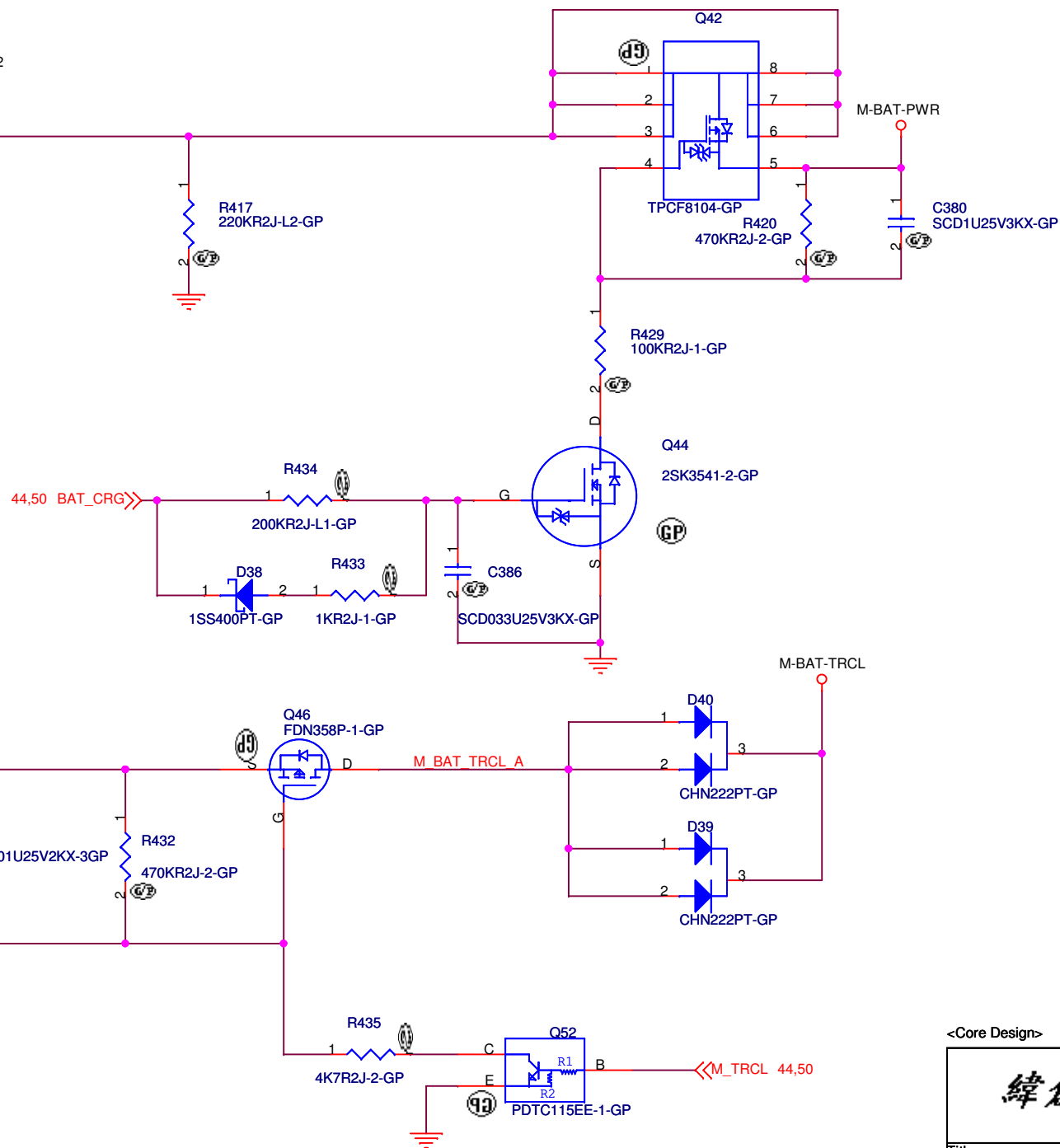
緯創資通 Wistron Corporation
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Taipei Hsien 221, Taiwan, R.O.C.

Title				
DC-IN AND CHARGER (1/2)				
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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

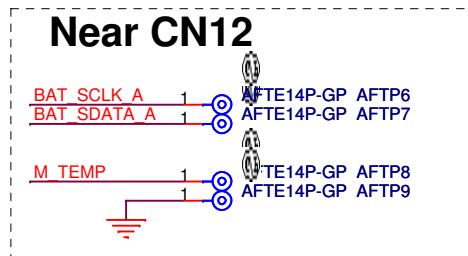
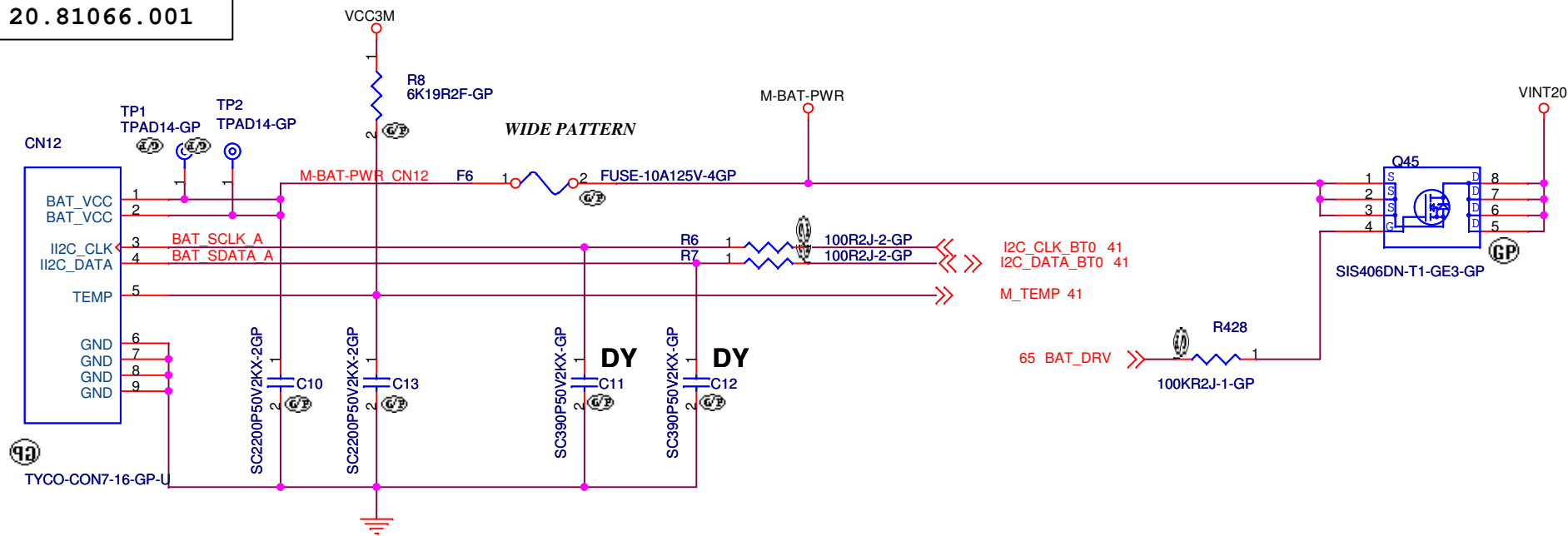
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CN12
AMP 2041614-1
20.81066.001



<Core Design>

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

Title

BATTERY INPUT

Size
A4

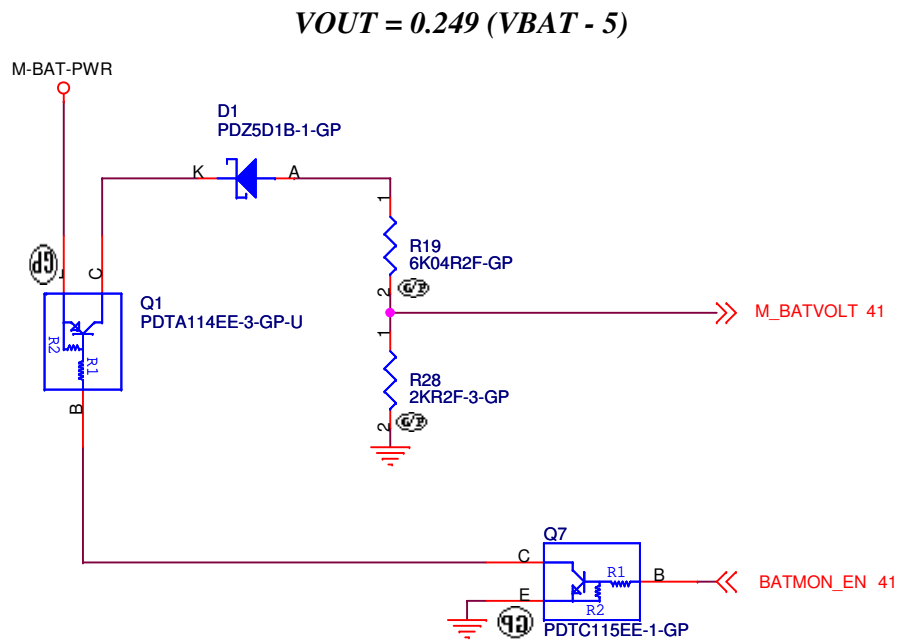
Document Number

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<Core Design>

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

Title

BATTERY MONITOR

Size
A4

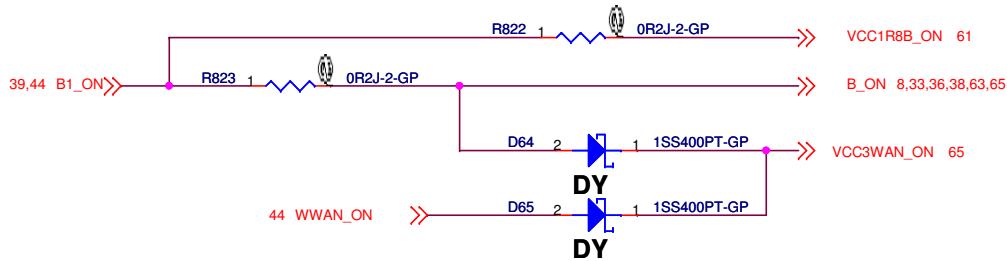
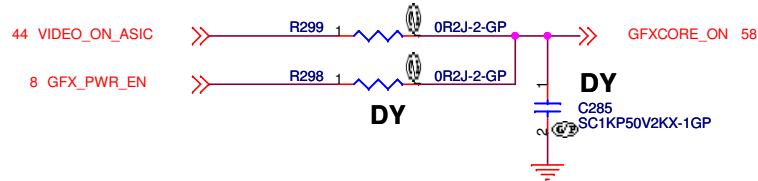
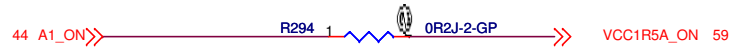
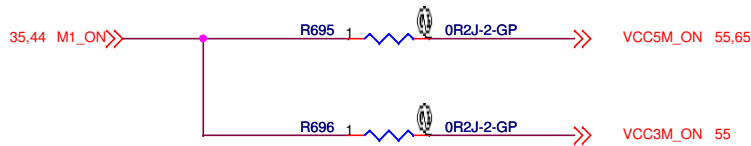
Document Number

Mocha-3

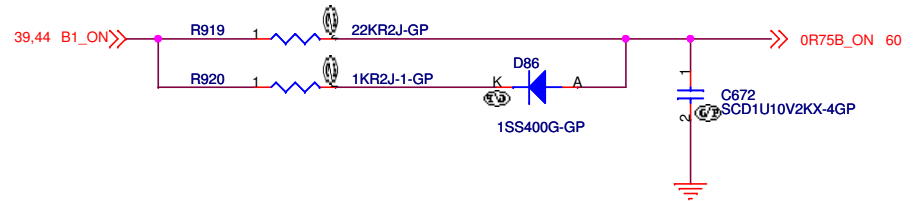
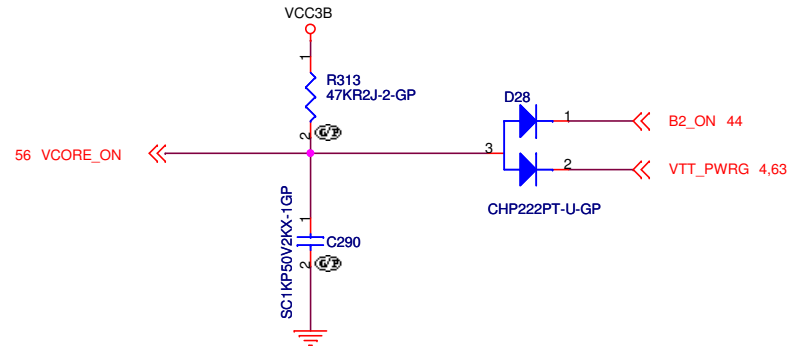
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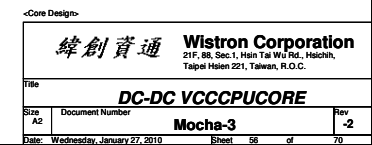


Constant Connect	Enable	Disable
D64	ASM	NoASM
D65	ASM	NoASM




<Core Design>

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			
Size	Document Number		Rev
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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>

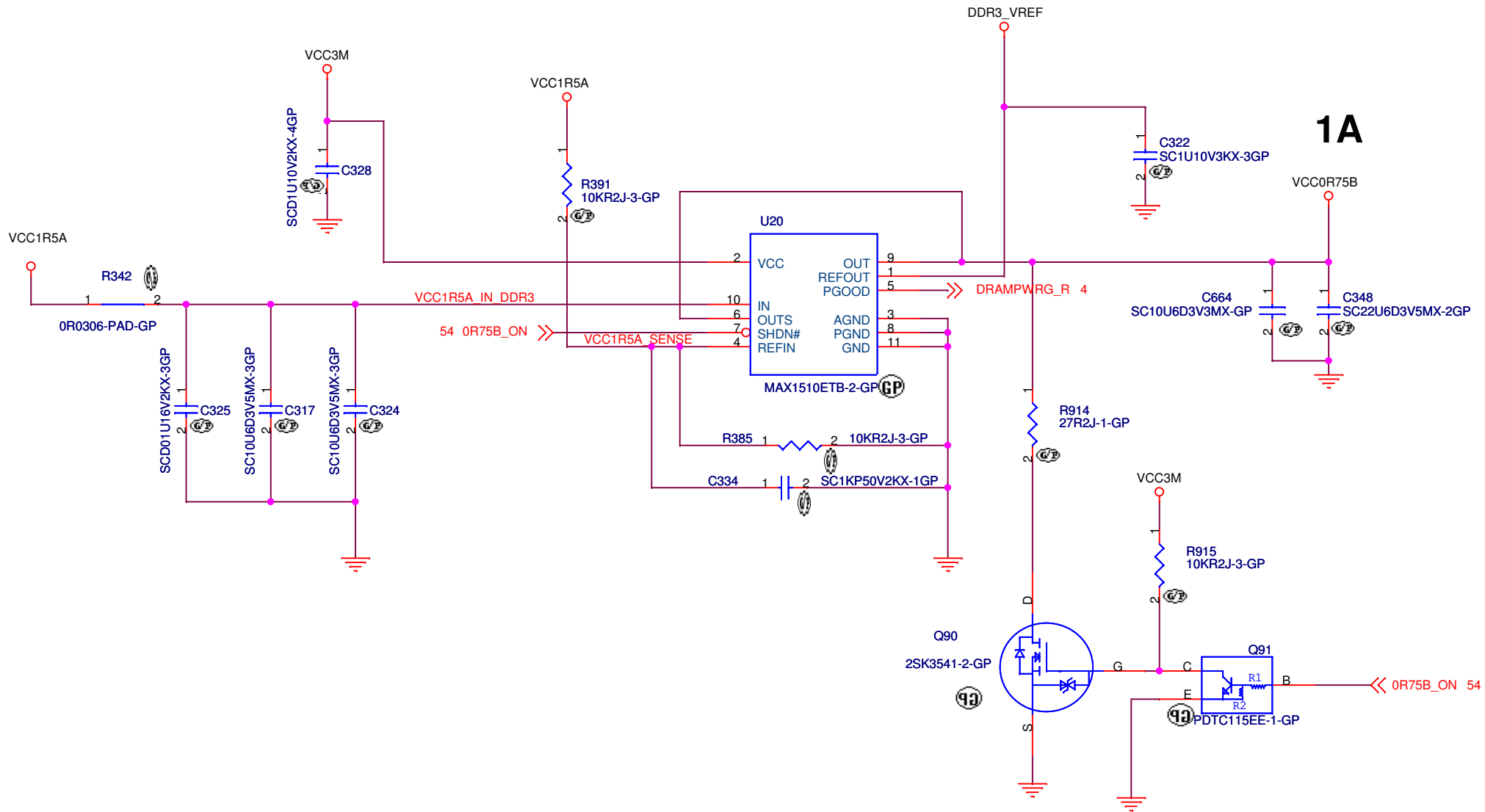
		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
<i>DC-DC VCCCPUCORE</i>			
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I_{out}=22A ==>GFX_IMON=1V
Ideal R_{mon}(900mV):0.9*13.3K/
(10*7m-ohm*22A)
Adding positive offset for 8.5%:
8.66K+681K 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

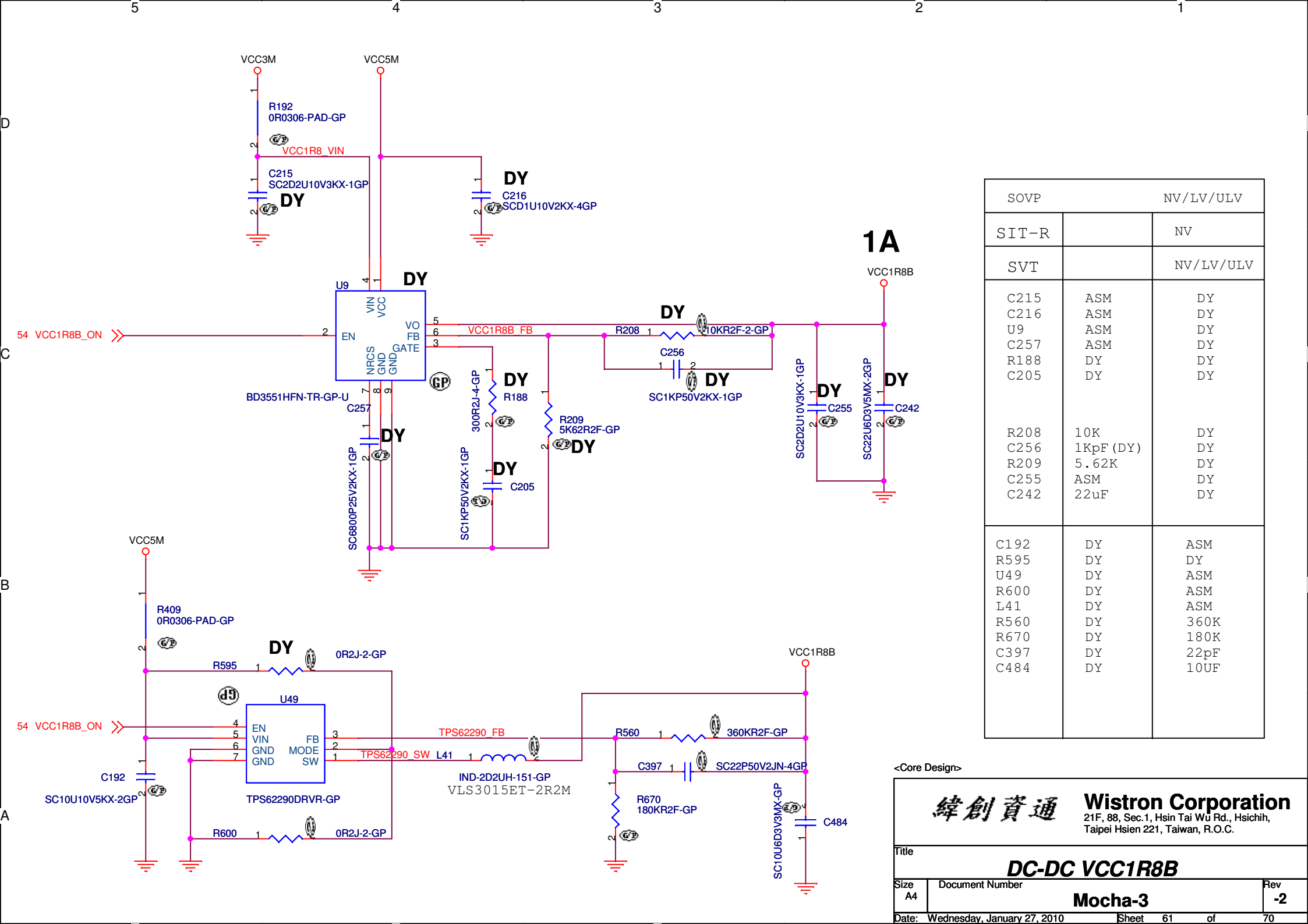
	SV(22A)	LV(15A)	ULV(12A)
OCP	38A	30A	23A
C52	ASM	DY	DY
R507	8.66K	10K	9.53K
R535	13.3K	10.5K	8.06K
R899	681K	787K	750K
TC2	470uF	330uF	220uF
TC3	470uF	330uF	220uF

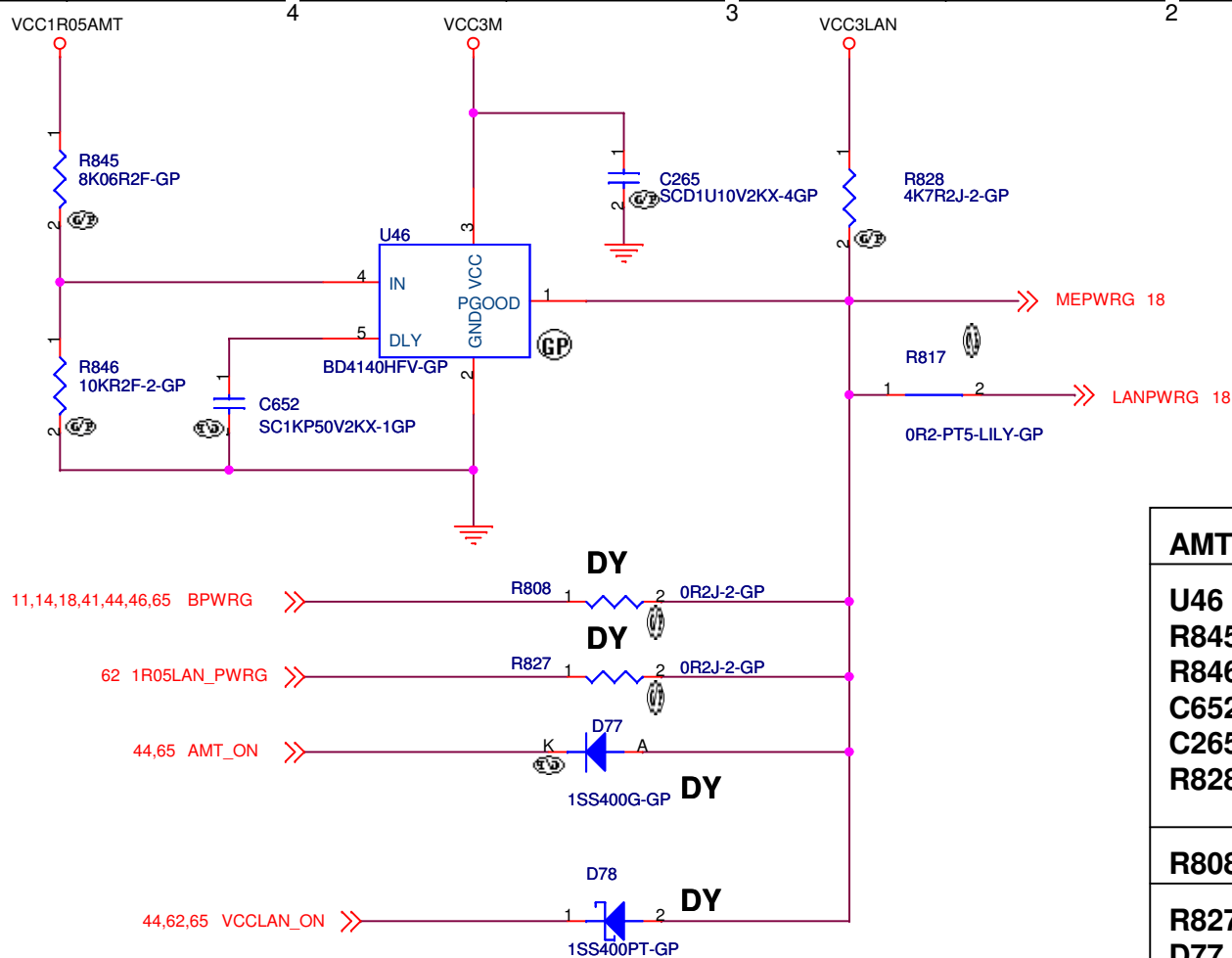
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Title			
DC-DC VCC0R75B			
Size A4	Document Number		Rev -2
Mocha-3			
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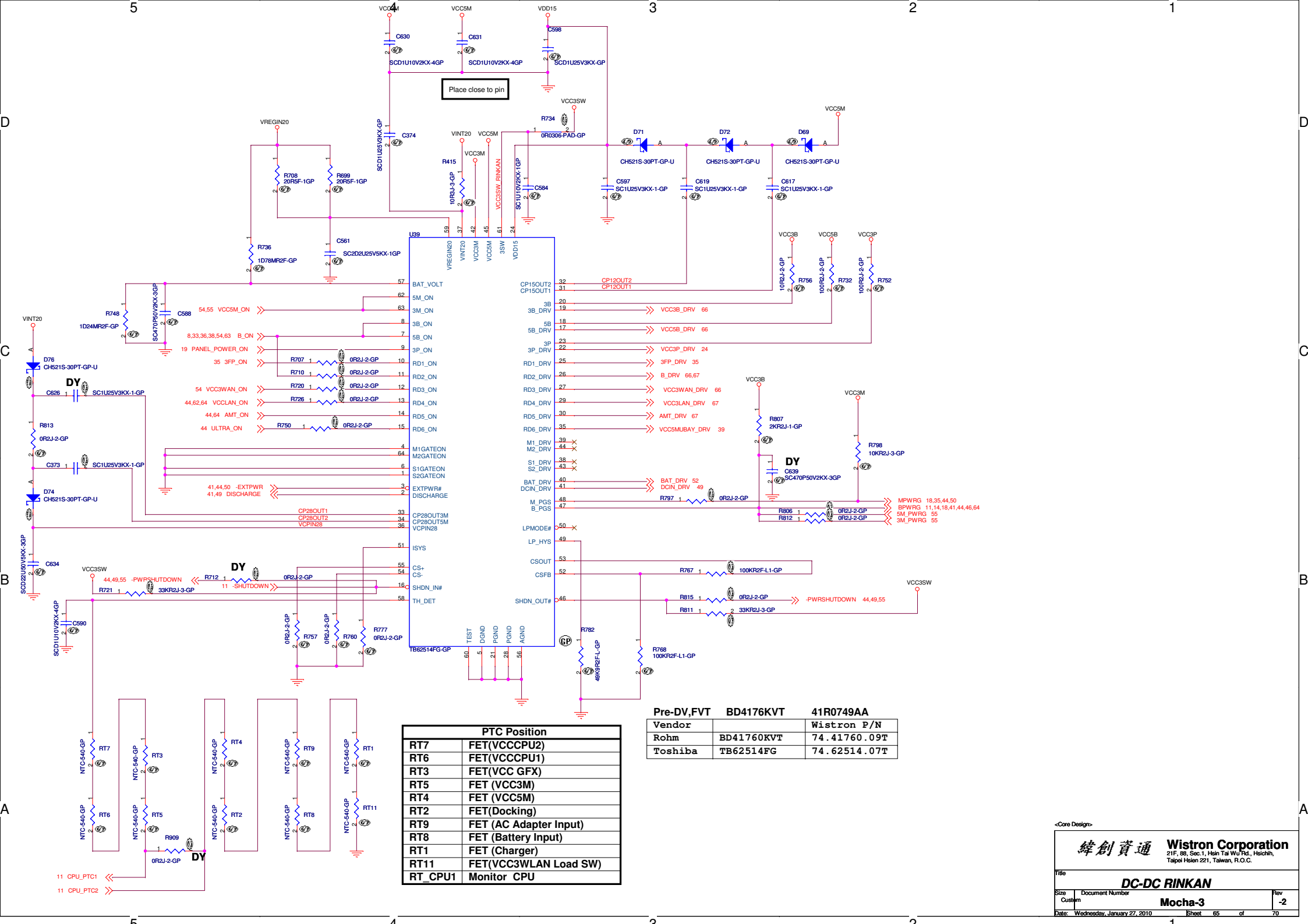




AMT	YES	NO
U46	ASM	DY
R845	ASM	DY
R846	ASM	DY
C652	ASM	DY
C265	ASM	DY
R828	ASM	DY
R808	DY	ASM
R827	DY	DY
D77	DY	DY
D78	DY	DY
R817	ASM	ASM

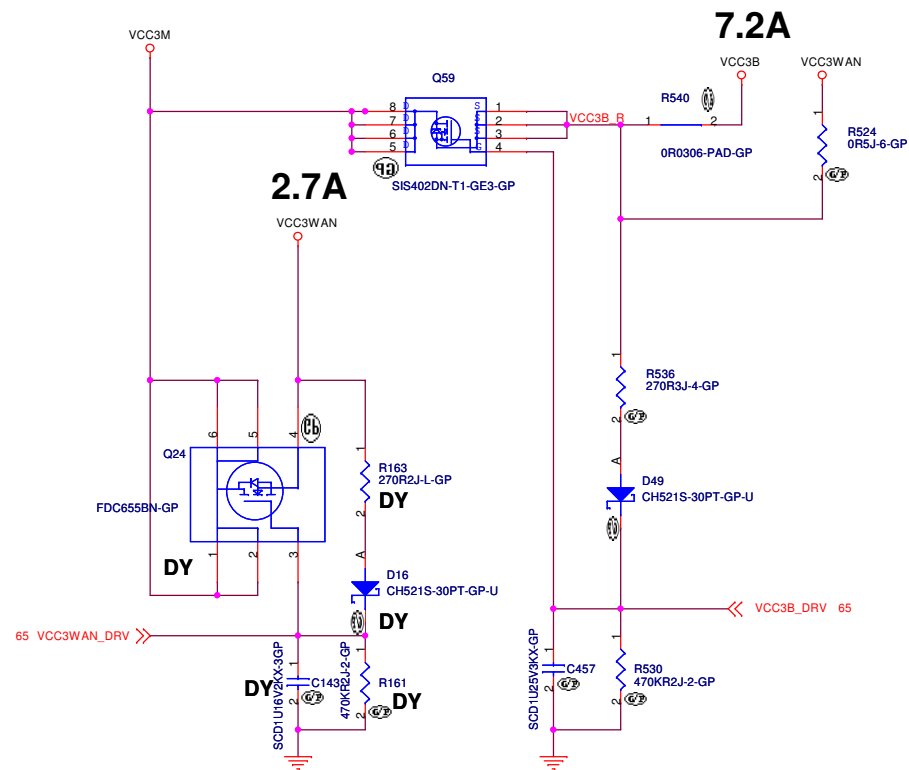
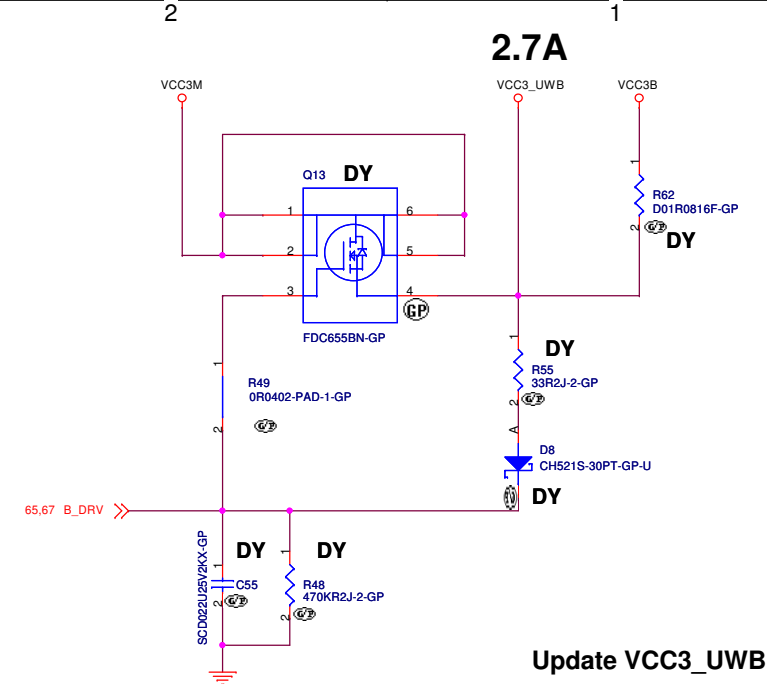
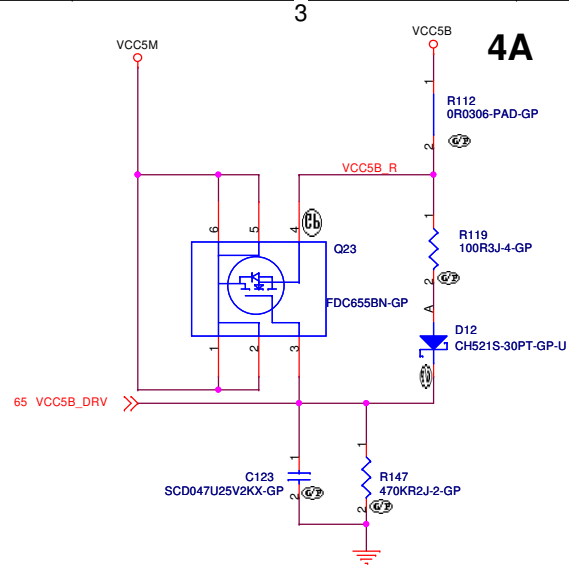
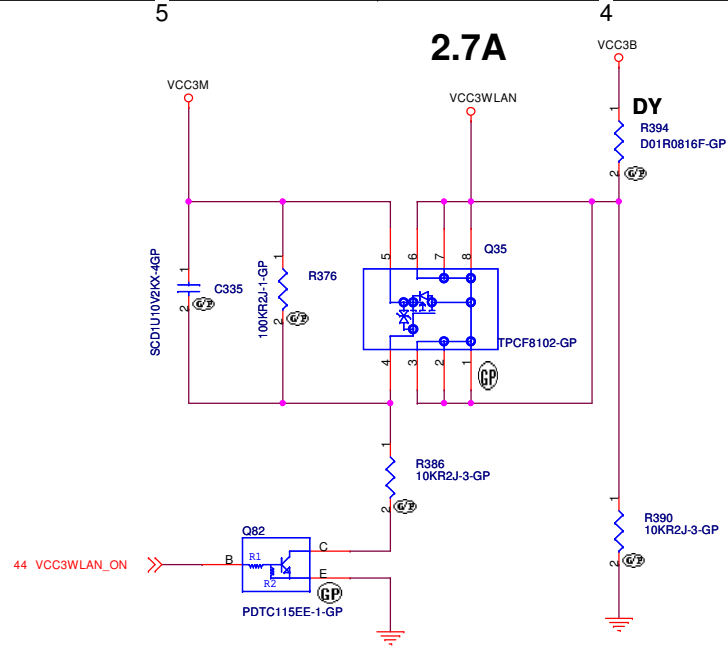
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Title			
<div>POWER GOOD</div>			
Size	Document Number		Rev
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PTC Position	
RT7	FET(VCCCPU2)
RT6	FET(VCCCPU1)
RT3	FET(VCC GFX)
RT5	FET (VCC3M)
RT4	FET (VCC5M)
RT2	FET(Docking)
RT9	FET (AC Adapter Input)
RT8	FET (Battery Input)
RT1	FET (Charger)
RT11	FET(VCC3WLAN Load SW)
RT_CPU1	Monitor CPU

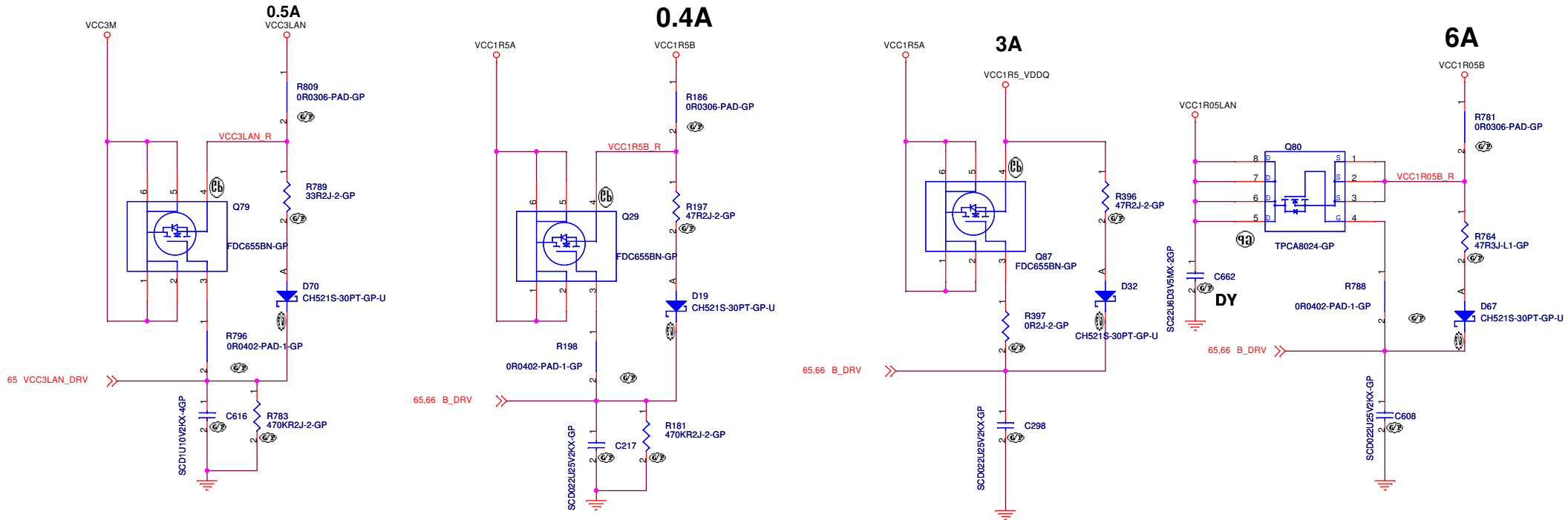
Pre-DV,FVT	BD4176KVT	41R0749AA
Vendor		Wistron P/N
Rohm	BD41760KVT	74.41760.09T
Toshiba	TB62514FG	74.62514.07T



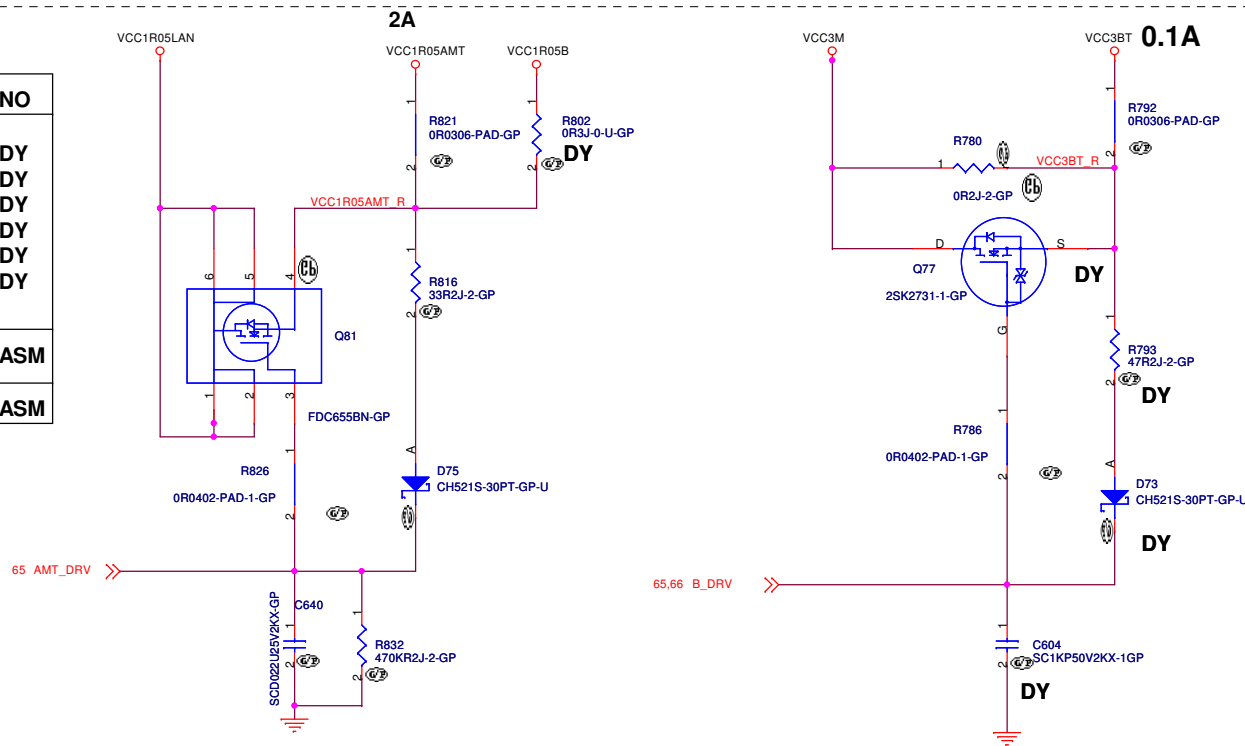
No-asm for no WWAN CONN. MODEL

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

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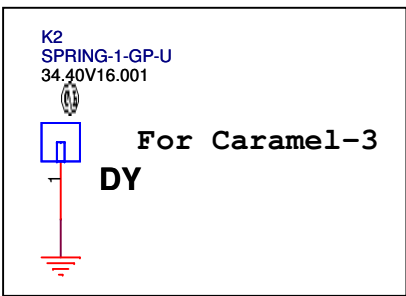
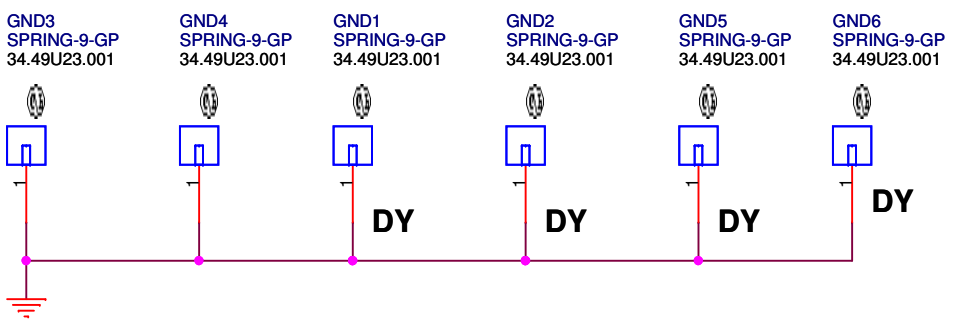
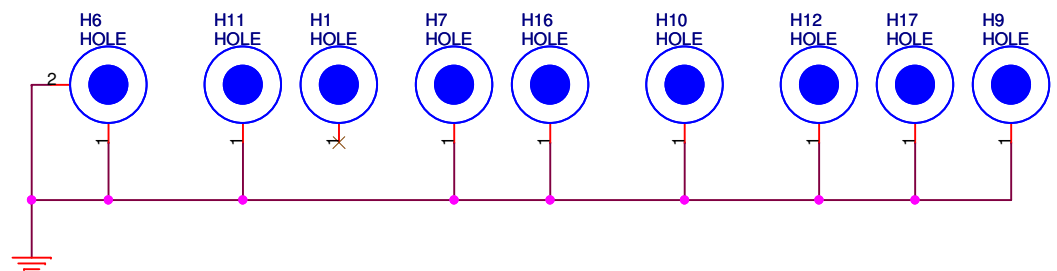
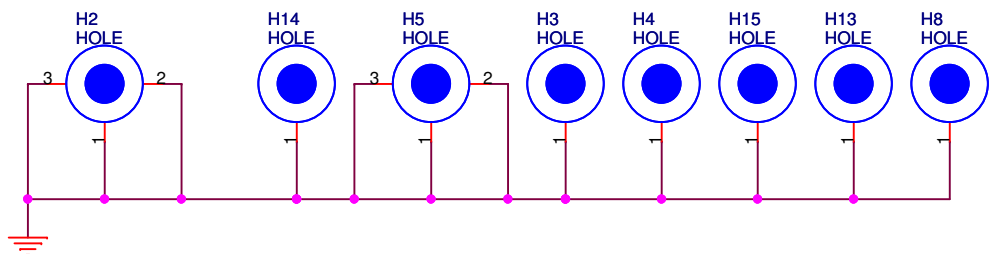


AMT	YES	NO
Q81	ASM	DY
R826	ASM	DY
R816	ASM	DY
R832	ASM	DY
D75	ASM	DY
C640	ASM	DY
R802	DY	ASM
R821	ASM	ASM



Q77

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



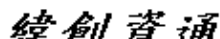
For Caramel-3

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

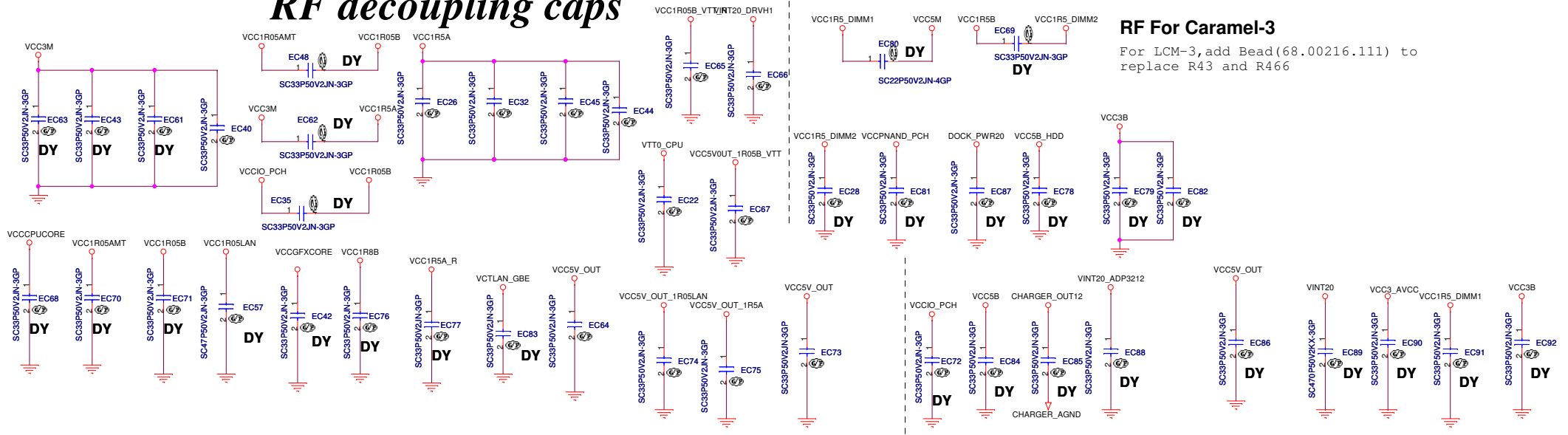
For Caramel-3

Standoff	34.4Y421.001	H3, H4	ASM
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Title			
HOLES/GND/PADS			
Size A4	Document Number Mocha-3		Rev -2
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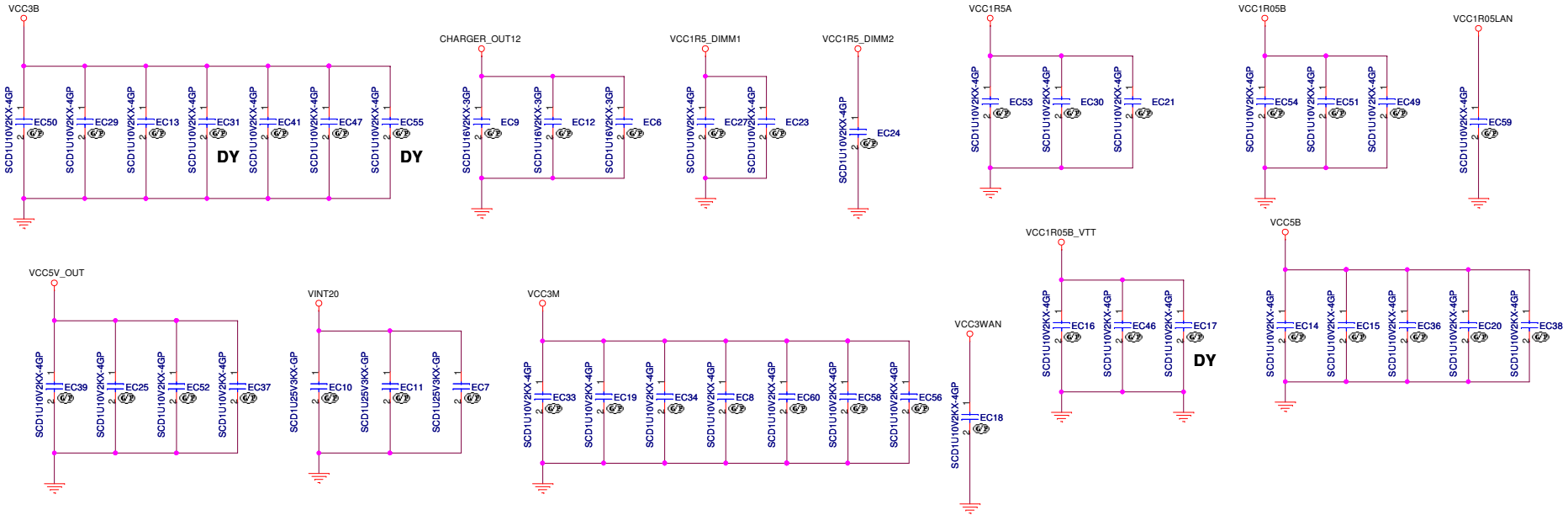
RF decoupling caps



RF For Caramel-3

For LCM-3, add Bead(68.00216.111) to replace R43 and R466

Long power trace EMI decoupling caps



<Core Design>

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							R36	DY	DY	ASM
	U23	DY	DY	ASM							R35	ASM	ASM	DY
C378	DY	DY	ASM					R453	ASM		ASM	DY		
Bluetooth	R411	ASM	ASM	DY	Touch PAD	R168	ASM	ASM	ASM		R451	DY	DY	ASM
	R412	ASM	ASM	DY		R169	ASM	ASM	ASM	R35	ASM	ASM	DY	
	R413	DY	DY	ASM		F3	ASM	ASM	ASM	R453	ASM	ASM	DY	
	R414	DY	DY	ASM		C226	ASM	ASM	ASM	R451	DY	DY	ASM	
	CN10	DY	DY	ASM		R178	ASM	ASM	ASM	R455	ASM	ASM	DY	
	F4	DY	DY	ASM		R180	ASM	ASM	ASM	R454	DY	DY	ASM	
	C372	DY	DY	ASM		CN3	ASM	ASM	ASM	R37	DY	DY	ASM	
						U6	ASM	ASM	ASM	R38	DY	DY	ASM	
Super IO	U7	DY	DY	ASM	C473	ASM	ASM	ASM	Q10	ASM	ASM	DY		
	C159	DY	DY	ASM	R556	ASM	ASM	ASM	Q11	ASM	ASM	DY		
	C146	DY	DY	ASM	R577	ASM	ASM	ASM	Q12	ASM	ASM	DY		
	C122	DY	DY	ASM	R483	ASM	ASM	ASM						
	R145	DY	DY	ASM	R474	ASM	ASM	ASM	R886	ASM	ASM	DY		
	R146	DY	DY	ASM	R491	DY	DY	DY	R364	ASM	ASM	DY		
	RN1	DY	DY	ASM	R71	DY	DY	DY	R594	ASM	ASM	DY		
	R574	DY	DY	ASM					R596	ASM	ASM	DY		
	C121	DY	DY	ASM					R602	ASM	ASM	DY		
	R743	DY	DY	DY										
R754	DY	DY	ASM											
R639	DY	DY	ASM											
					Pen Sensor	CN11	DY	DY	ASM	R887	DY	DY	ASM	
						R418	DY	DY	ASM	R604	DY	DY	ASM	
						C375	DY	DY	ASM	R857	DY	DY	ASM	
										R871	DY	DY	ASM	
					Pecan ID	R293	ASM	DY	DY	uP	R599	DY	DY	ASM
						R286	DY	ASM	ASM	R601	DY	DY	ASM	
										H8	R269	DY	DY	ASM
											R270	ASM	ASM	DY

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) R43	ASM DEL	ASM DEL	ASM DEL
L31 R47	NO ASM	NO ASM	ADD DEL
L32 R220	NO ASM	NO ASM	ADD DEL
L33 L34 R790	ASM ASM DEL	ASM ASM DEL	ASM ASM DEL
L35 R794	ASM DEL	ASM DEL	ASM DEL
L36 R821	NO ASM	NO ASM	ADD DEL
L37 L38 R457	ASM ASM DEL	ASM ASM DEL	ASM ASM DEL
L39 R587	NO ASM	NO ASM	ADD DEL
L40 R502	NO ASM	NO ASM	ADD DEL
L42 R466	ASM DEL	ASM DEL	NO ASM

RF decoupling caps

Location	Mocha-3	Pecan-3	Caramel-1
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

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MP&Caramel difference list			
Title Size Custom	Document Number Custom	Mocha-3	Flow -2
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