

ACER_BAP10/BXP10 MAIN BOARD---A01

2010.04.02

INVENTEC			
TITLE			
ACER_BAP10/BXP10			
TIME			
SIZE	CODE	DOC NUMBER	REV
Custom	CS	CS-131	A01
SHEET		1 of 45	

1. Schematic Page Description :

Montavina Schematic Ver : X01

1. Title

2. Schematic Page DESCR

3. Block Diagram

4. Power Block Diagram

5. Annotations

6. Schematic Modify

7. Timing Diagram

8. PWR_Adaptor in/Charge

9. PWR_CPU Core Power

10. PWR_Graphics Core

11. PWR_DDR PWR

12. PWR_1.1VS_VTT/1.1VS

13. PWR_5VA/5VLA/3VA/3VLA

14. PWR_3VS/5VS/1.8VS/5VUSB

15. PWR_Reserve

16. Processor(1/4)
17. Processor(2/4)

18. Processor(3/4)

19. Processor(4/4)

20. PCH_RTC,SATA,PCI-E,CLK

21. PCH_DMI,MISC,LVDS,CRT

22. PCH_USB, PCI,NVRAM,XDP

23. PCH Power 1

24. PCH Power 2

25. PCH Power 3 (GND)

26. Clock Generator

27. DDR3 SDRAM SO-DIMM 0/1

28. LCD,CMA,CRT PLUG

29. USB/MDC

30. LAN(BCM57760)

31. CX20672-11Z / MIC / SPK

32. UMTS/WLAN
33. HDD/BT/TPM/GP/FP/LID

34. CR_AU6437-GEF

35. KBC ITE8502E*

36. EASY PORT

37. Hybrid Switch (1/2)

38. POWER SEQUENCE

39. SW/LED

40. FP board

41. GP Button board

42. SW Button/BAP10 board

43. SW Button/BXP10 board

44. LED Board/BXP10 board

41. TPM board

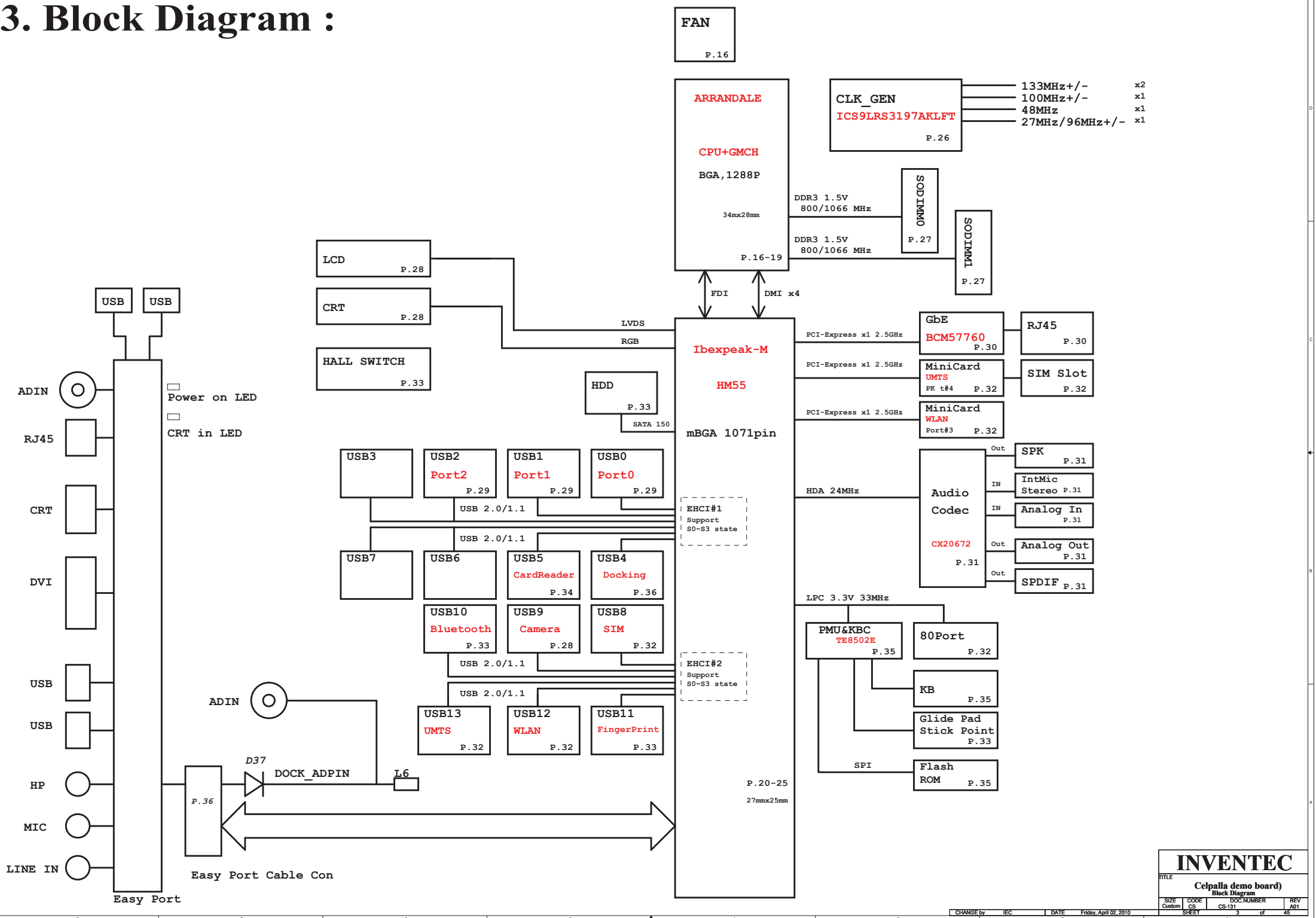
2. PCI & IRQ & DMA Description :

IDSEL	CHIP	PCIINT	CHIP	Interface	REQ	CHIP
None		None			None	

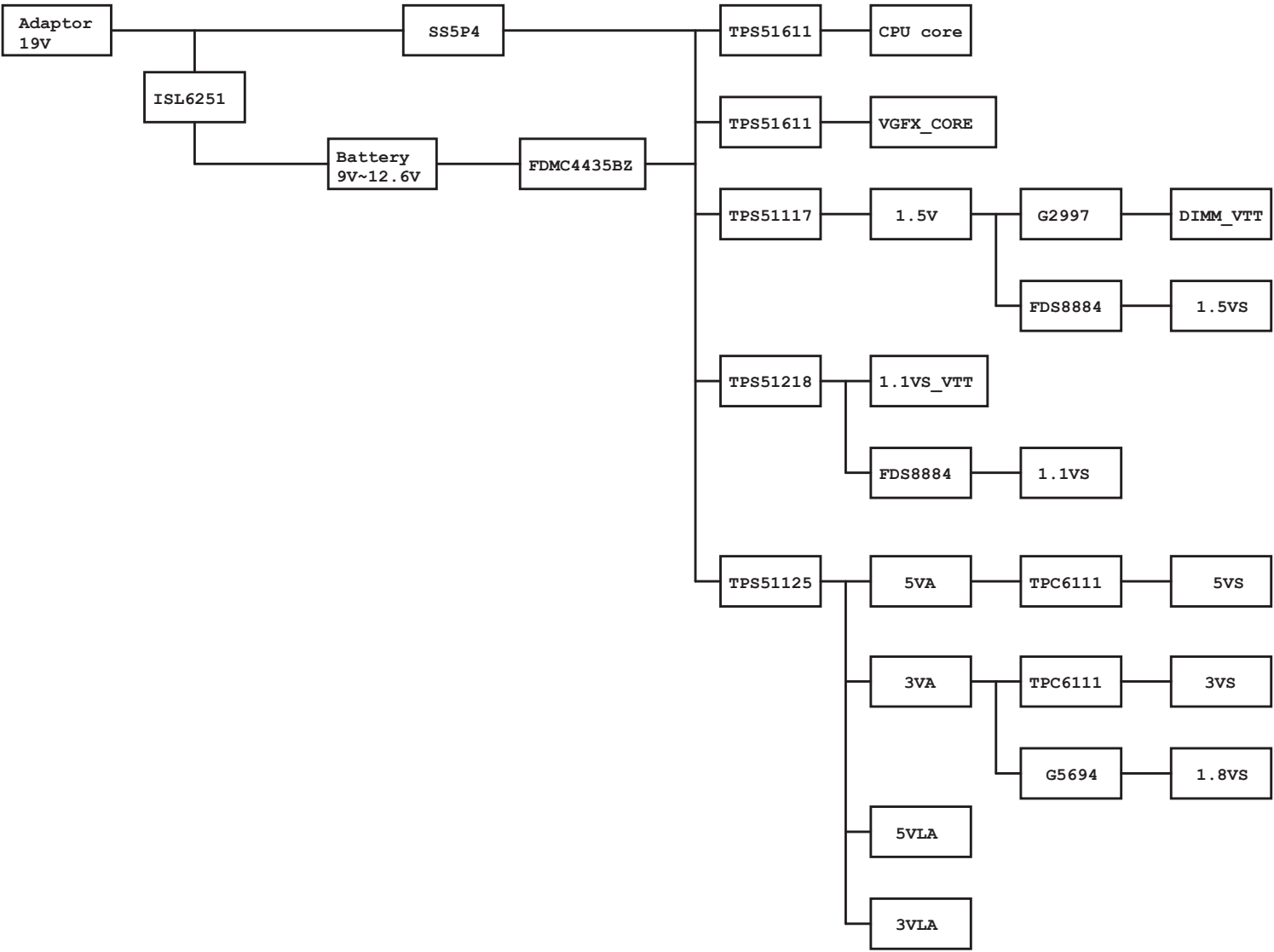
3. USB & PCI-Express & SATA Description :

USB Port	DEVICE	USB Port	DEVICE	PCI-E	DEVICE	SATA	DEVICE
Port 0	System (ESATA)	Port 7	Bluetooth	Port 1	New Card	Port 1	HDD
Port 1	System	Port 8		Port 2	Docking	Port 2	E-SATA
Port 2	System	Port 9	Web Cam	Port 3	Mini Card(WLAN)	Port 4	BAY
Port 3	System	Port 10		Port 4	Mini Card(3G)	Port 5	None
Port 4	CardReader	Port 11	FingerPrint	Port 5	Mini Card(ROBSON)		
Port 5		Port 12		Port 6	Giga-LAN		
Port 6		Port 13	3G				

3. Block Diagram :



Power Block Diagram :



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TITLE			
ACER_BAP10/BXP10			
Power Block Diagram			
SIZE	CODE	DOC NUMBER	REV
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4. Net name Description :

Voltage Rails

DCIN	Primary DC system power supply
3VLA	3.3V always on power rail by DCIN
5VLA	5.0V always on power rail by DCIN
EC 3VLA	3.3V always on power rail by 5VAUXON
3VA	3.3V always on power rail by LATCH_ON
5VA	5.0V always on power rail by LATCH_ON
3VM	3.3V power rail by SUSM#
1.05VM	1.05V switched power rail by SUSM#
1.5V	1.5V switched power rail by SUSC#
1.8V	1.8V power rail by SUSC#
3VS	3.3V power rail by SUSB#
5VS	5.0V power rail by SUSB#
1.5VS	1.5V power rail by SUSB#
1.05VS	1.05V power rail by SUSB#
PWR_DIMM_VTT	0.75V DDR Termination Voltage by SUSB#
VGFX_CORE	1.05V power rail for UMA by SUSB#
PEG_1.8VS	1.8V switched power rail for NB9x by SUSB#
PEG_PEX_1.1VS	1.1V switched power rail for NB9x by SUSB#
PEG_NVDD	Variable switched power rail for NB9x by SUSB#

Vcore_CPU Core switched power rail for CPU

Part Naming Conventions





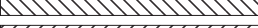


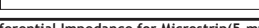
C = Capacitor	Q = Transistor
CN = Connector	R = Resistor
D = Diode	RP = Resistor Pack
F = Fuse	U = Arbitrary Logic Device
L = Inductor	Y = Crystal and Osc

Name Suffix

= Active Low signal
NU = No Stuff

5. Board Stack up Description

PCB Layers

Layer 1		Component Side, Microstrip signal Layer
Layer 2		Ground Plane
Layer 3		Stripline Layer
Layer 4		Power Plane
Layer 5		Stripline Layer
Layer 6		Stripline Layer
Layer 7		Ground Plane
Layer 8		Solder Side, Microstrip signal Layer

	Differential Impedance for Microstrip(5-mils)	Differential Impedance for Stripline(4-mils)
Host Clock	95 ohm +/- 20%	100 ohm +/- 20%
PCI-E Clock	95 ohm +/- 20%	100 ohm +/- 20%
DDR2 CLK	70 ohm +/- 20%	70 ohm +/- 20%
DDR2 Strobe	85 ohm +/- 20%	90 ohm +/- 20%
DMI Bus	95 ohm +/- 20%	100 ohm +/- 20%
PCIE Bus	95 ohm +/- 20%	100 ohm +/- 20%
SDVO	95 ohm +/- 20%	100 ohm +/- 20%
SATA	95 ohm +/- 20%	100 ohm +/- 20%
USB	90 ohm +/- 20%	95 ohm +/- 20%
LVDS		100 ohm +/- 20%
Lan	95 ohm +/- 20%	100 ohm +/- 20%

Power Rail	Destination	Voltage	S0 Current
VCC_CORE	Penryn HFM: LFM:	1.3319V-1.4375V-1.4591V 0.9221V-0.9625V-0.9739V	36A
1.05VS	Penryn: AGTL+ termination Cantiga GM: Core Cantiga GM: PCIE Cantiga GM:Core+IMEL+HSIO Cantiga GM:VCC_GMCH Cantiga GM:VCCA_SM_CK and NCTF Cantiga GM:VCC_DMI Cantiga GM:VCCA_SM Cantiga GM:VTT ICH9M:VCC1_05 ICH9M:DMI ICH9M:CPU_IO	1V-1.05V-1.10V 0.997V-1.05V-1.102V 0.9975V-1.05V-1.1025V 0.9975V-1.05V-1.1025V 0.997V-1.05V-1.102V 0.997V-1.05V-1.102V 0.997V-1.05V-1.102V 0.997V-1.05V-1.102V 0.997V-1.05V-1.102V 0.997V-1.05V-1.102V 0.997V-1.05V-1.102V	4.5A 8.7A 1.78A 2.898A 10.154A 37.95mA 456mA 747.5mA 852mA 1.634A 48mA 2mA
1.5VS	Penryn PLL Cantiga GM: QDAC Cantiga GM: LVDS Cantiga GM: TVDAC Cantiga GM: Various PLLS analog supply Cantiga GM: VCC_SM_CK Cantiga GM: VCC_SM ICH9M:PCIE_ICH ICH9M:SATA_ICH ICH9M:VCC_GLAN Mini Card: Express Card:	1.425V-1.5V-1.575V 1.425V-1.5V-1.575V 1.71V-1.8V-1.89V 1.425V-1.5V-1.575V 1.425V-1.5V-1.575V 1.425V-1.5V-1.575V 1.425V-1.5V-1.575V 1.425V-1.5V-1.575V 1.425V-1.5V-1.575V 1.425V-1.5V-1.575V 1.425V-1.5V-1.575V	130mA 0.5mA 60.31mA 35mA 485mA 149.5mA 3.1625A 646mA 1.342A 80mA
1.5V	Cantiga GM: DDRIII System Memory	1.425V-1.5V-1.575V	3.1A(800M) 4.1A(1067M)
0.75VDDT_DDRIII:DDRIII Terminator:		0.7125V-0.75V-0.7875V	1.0A
3VS	Cantiga GM: HV CMOS Cantiga GM: VCCS_TV DAC ICH9M:VCC3_3 ICH9M:VCCGLAN3_3 Thermal Sensor: Mini Card: UMTS Express Card: CLK Generator: ICS9LPRS397BKLFT Mini Card: WirelessLan Bluetooth: Super I/O: IT8305E Azalia Codec: ALC262 Azalia MDC:	3.135V-3.3V-3.465V 3.135V-3.3V-3.465V 3.135V-3.3V-3.465V 3.135V-3.3V-3.465V 3.0V-3.3V-3.6V 3.135V-3.3V-3.465V 3.135V-3.3V-3.465V 3.0V-3.3V-3.6V	105.3mA 78mA 308mA 1mA 5mA 1.3A 500mA
1.8VS	DVI	3.0V-3.3V-3.6V	120mA
3VA	ICH9M: RTC ICH9M:VCCSUS3_3 ICH9M:VCCCL3_3 ICH9M:VCCLAN3_3 LCD: Lan:82567LM Azalia MDC: Flash ROM: BIOS	2V-3.3V-3.465V 3.135V-3.3V-3.465V 3.135V-3.3V-3.465V 3.135V-3.3V-3.465V 3.0V-3.3V-3.6V 1.0V and 1.8V 3.0V-3.3V-3.6V	6uA 212mA 73mA 78mA 2A Each 1A
5VS	Cardreader: GL827 Azalia Codec: ALC262 HDD: SATA ODD: SATA Audio AMP: G1432 Inverter: WebCam	3.0V-3.3V-3.6V 3.0V-3.3V-3.6V 4.75V-5.0V-5.25V 4.75V-5.0V-5.25V 4.75V-5.0V-5.25V	Max: 1.5A ; R/W: 460mA ; STDBY: 70mA Max: 1.5A ; R/W: 900mA ; STDBY: 45mA
5VA	USB: x 2 ports USB and ESATA	5VA 5VA	1A 1.5A 2A
5VLA	Control Power		
3VLA	EC: ITE8512E	3.0V-3.3V-3.6V	300mA

INVENTEC

TITLE

ACER BAP10/BXP10

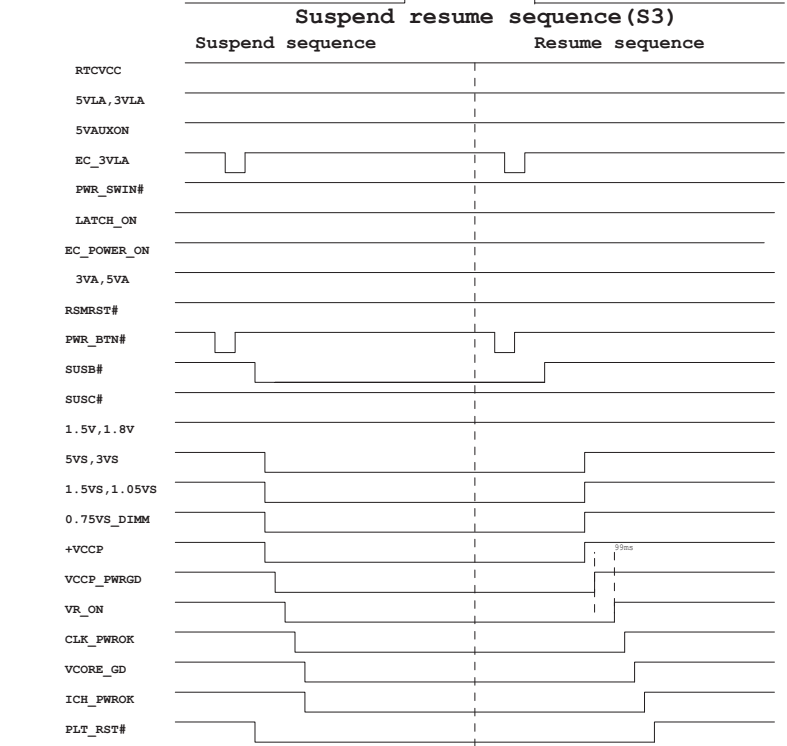
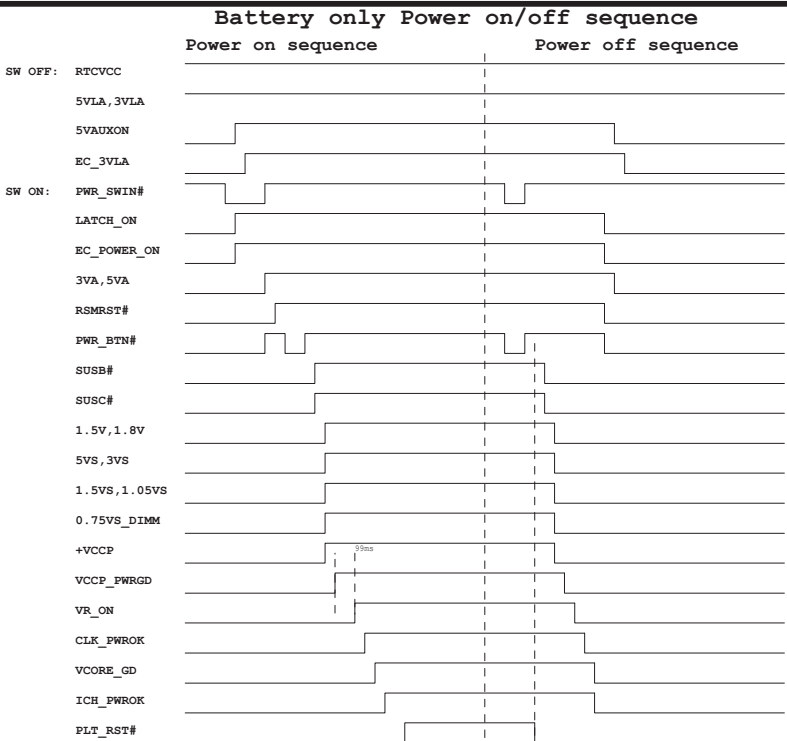
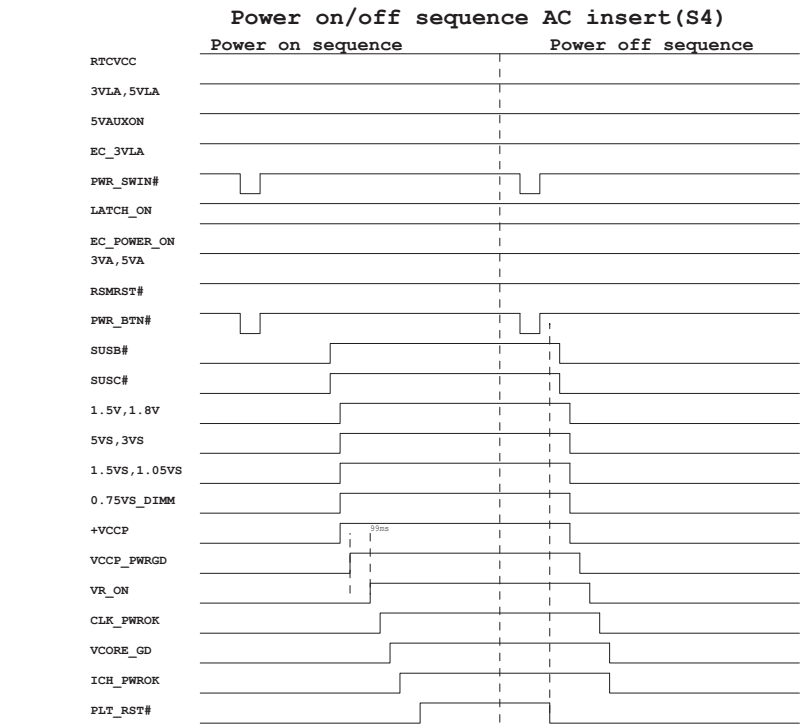
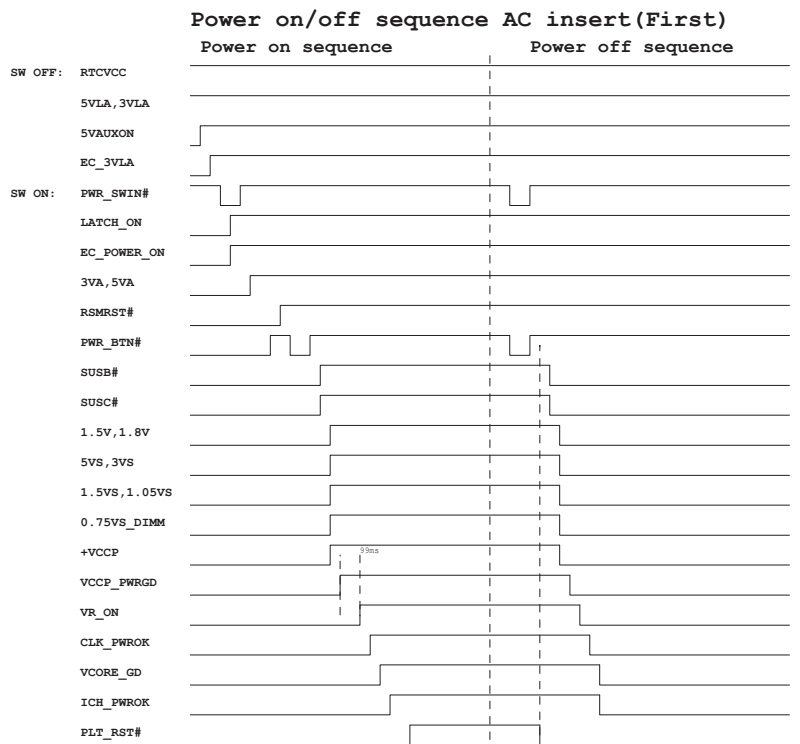
SIZE Custom CODE CS DOCNUMBER CS-131 REV A01

SHEET 5 of 45

6.Schematic modify Item and History :

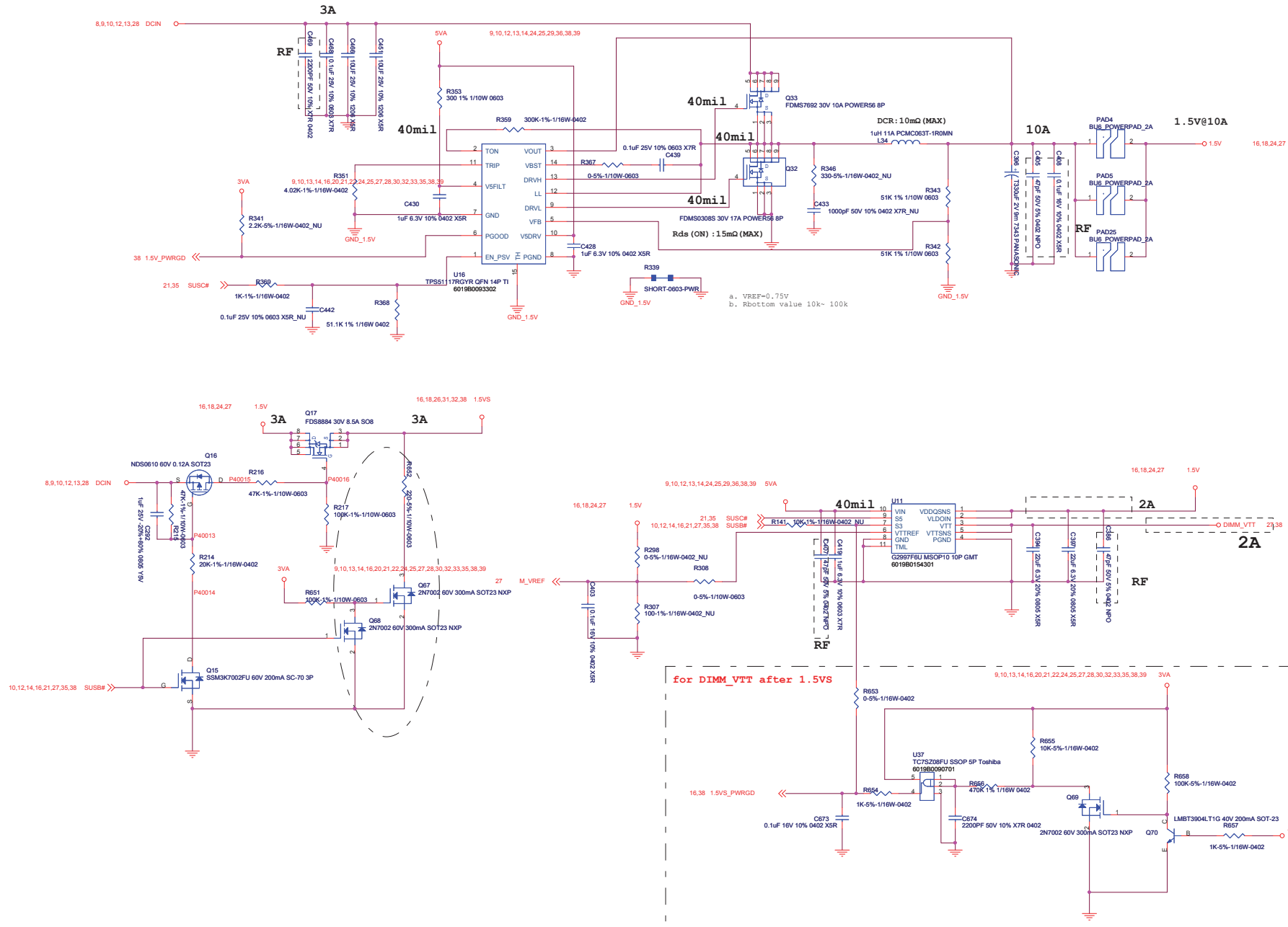
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TITLE			
ACER BAP10/BXP10			
schematics modify			
SIZE	CODE	DOC NUMBER	REV
Custom	CS	CS-131	AX1
SHEET		8	of 45

8.SYSTEM POWER SEQUENCE :





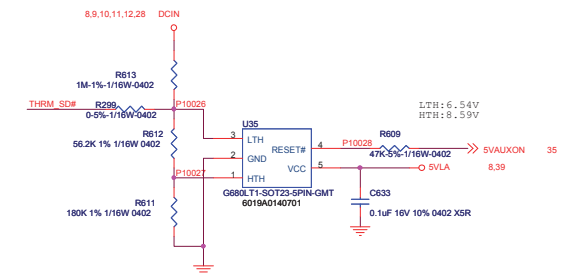
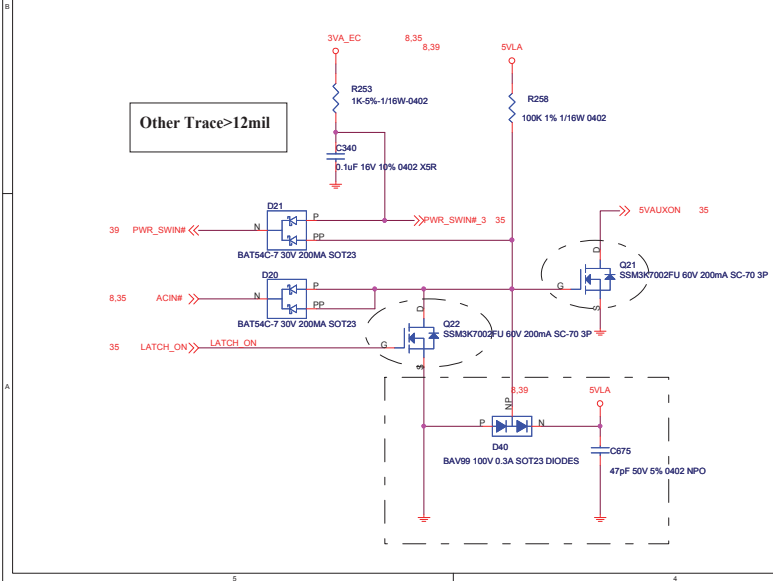
DDR POWER



Control by 1.5VS

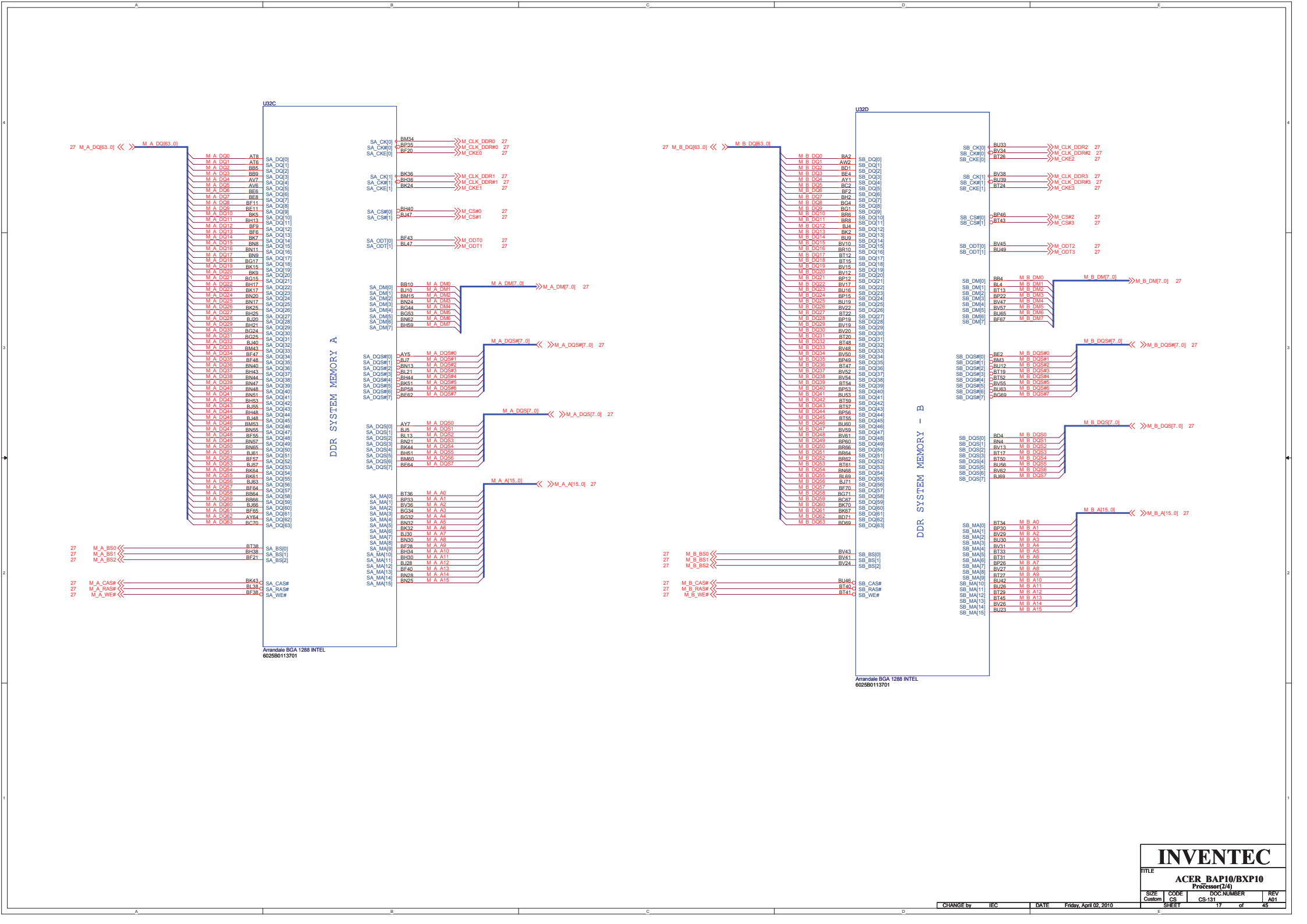
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TITLE			
ACER BAP10/BXP10 DDR PWR			
SIZE Custom	CODE CS	DOC. NUMBER CS-131	REV A01
SHEET		11	of 45



TITLE			
ACER BAP10/BXP10 5V \bar{A} /5VLA/3VA/3VLA			
SIZE	CODE	DOC. NUMBER	REV
Custom	CS	CS-131	A01
SHEET		13	of 45

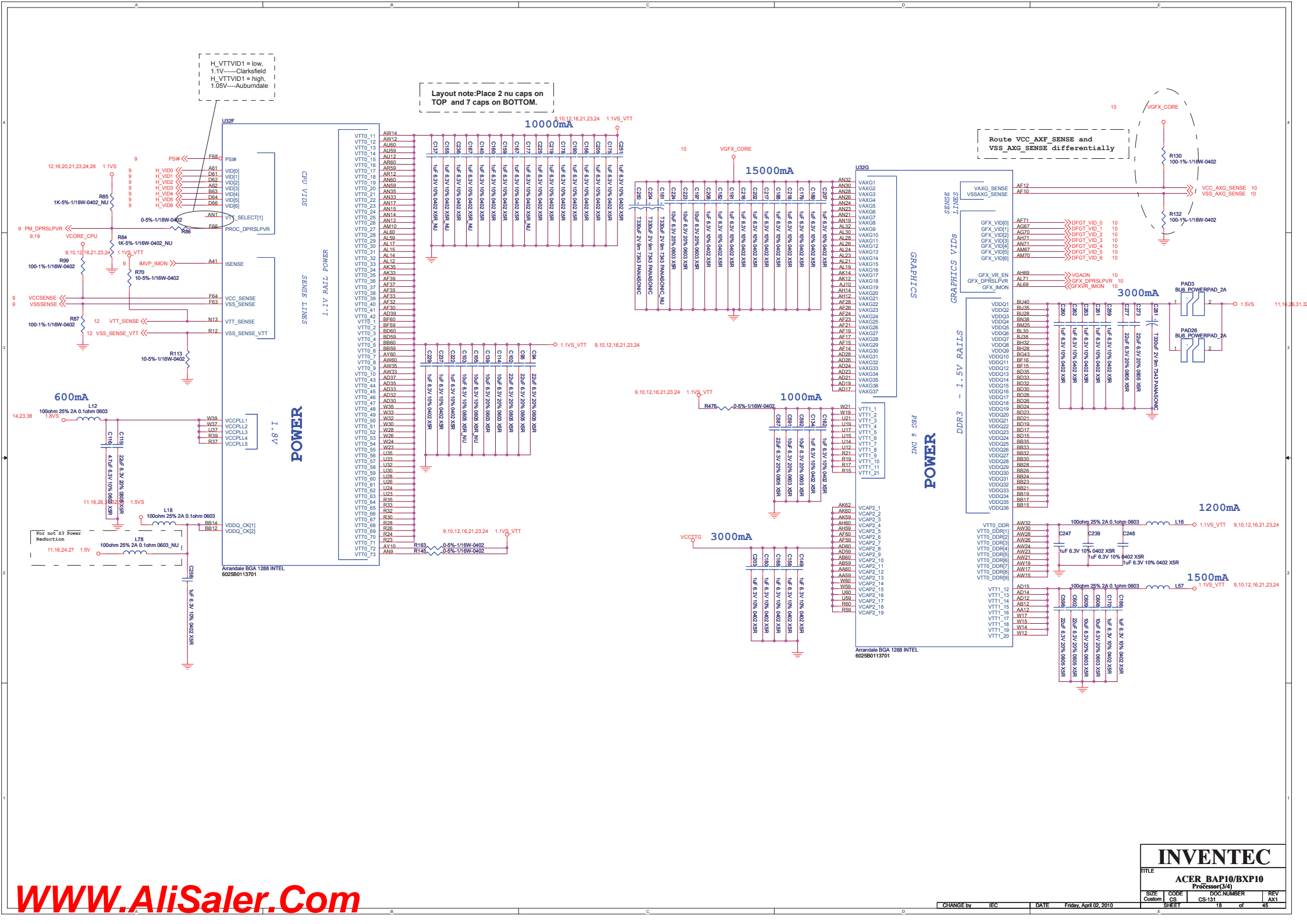
Blank



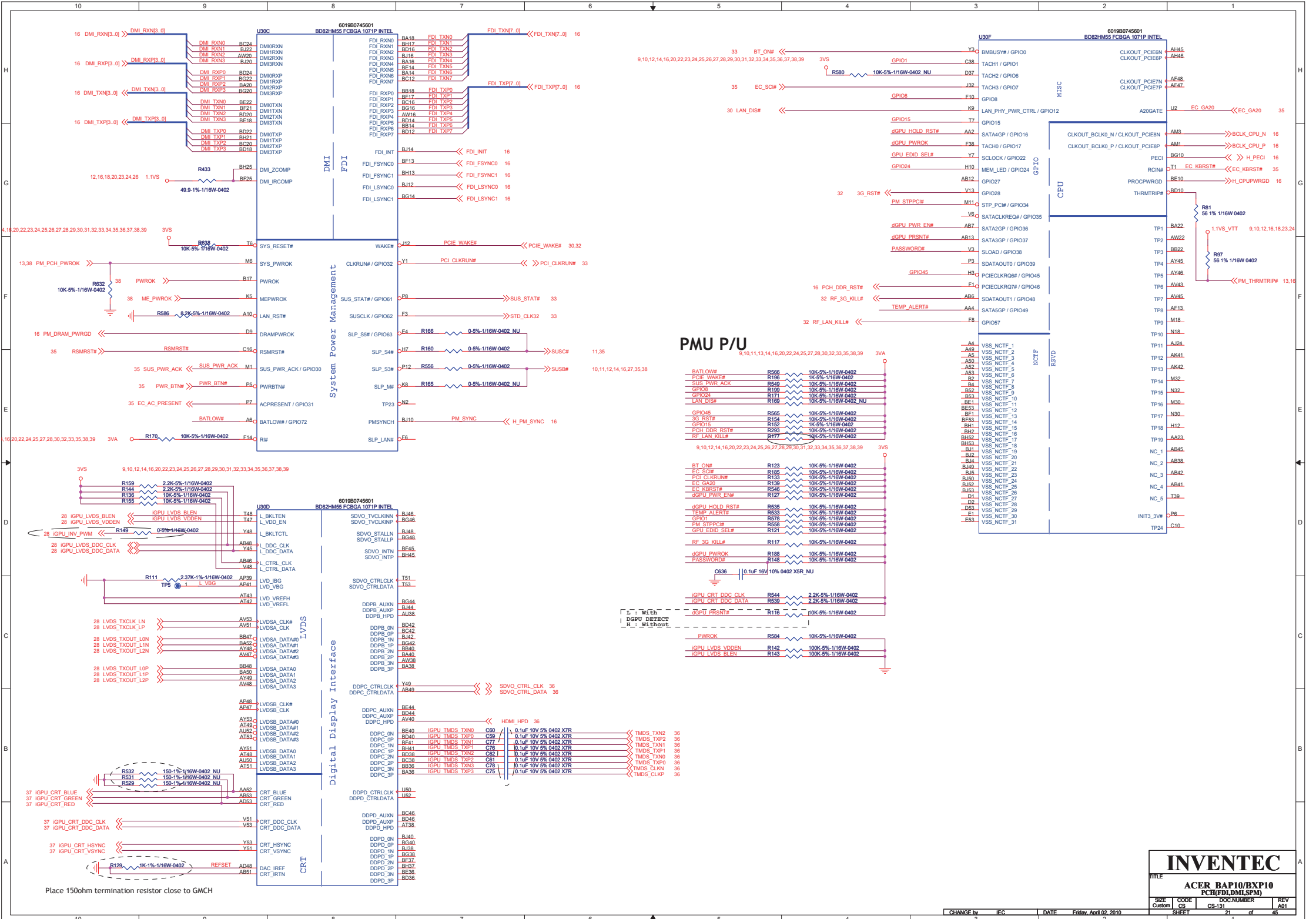
H_VTTVID1 = low,
1.1V-----Clarksfield
H_VTTVID1 = high,
1.05V-----Auburndale

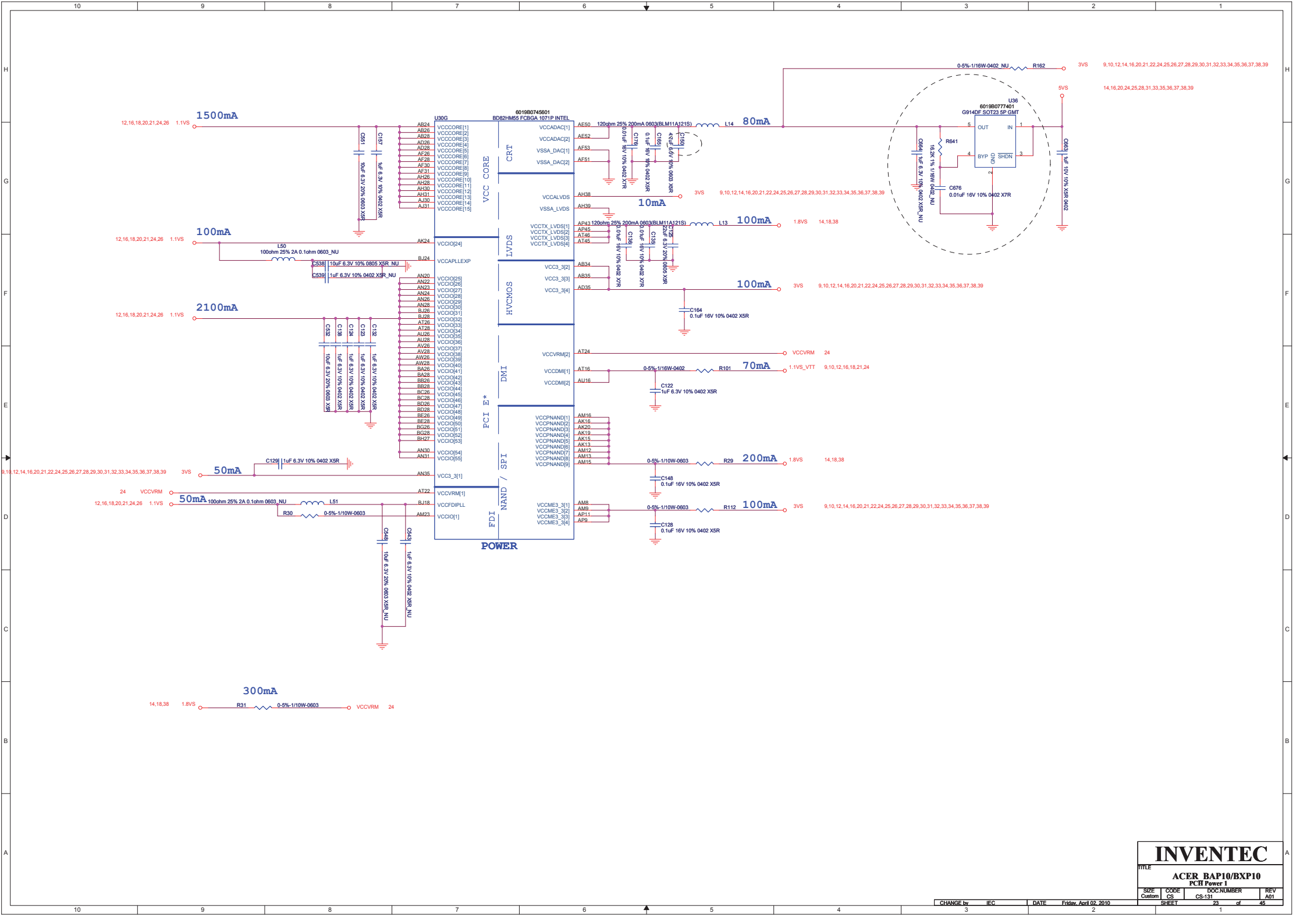
Layout note: Place 2 nu caps on
TOP and 7 caps on BOTTOM.

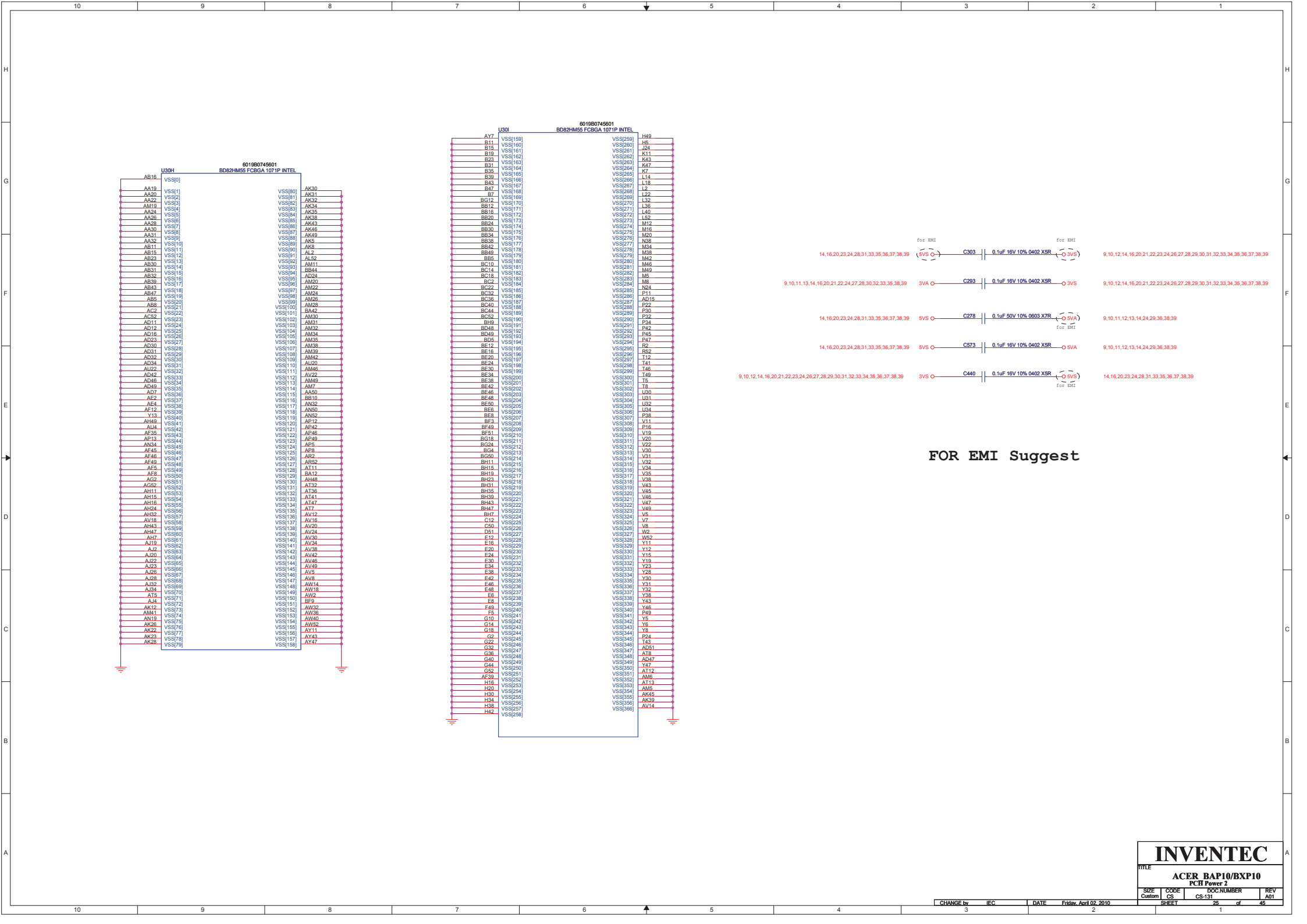
Route VCC_AXF_SENSE and
VSS_AXF_SENSE differentially

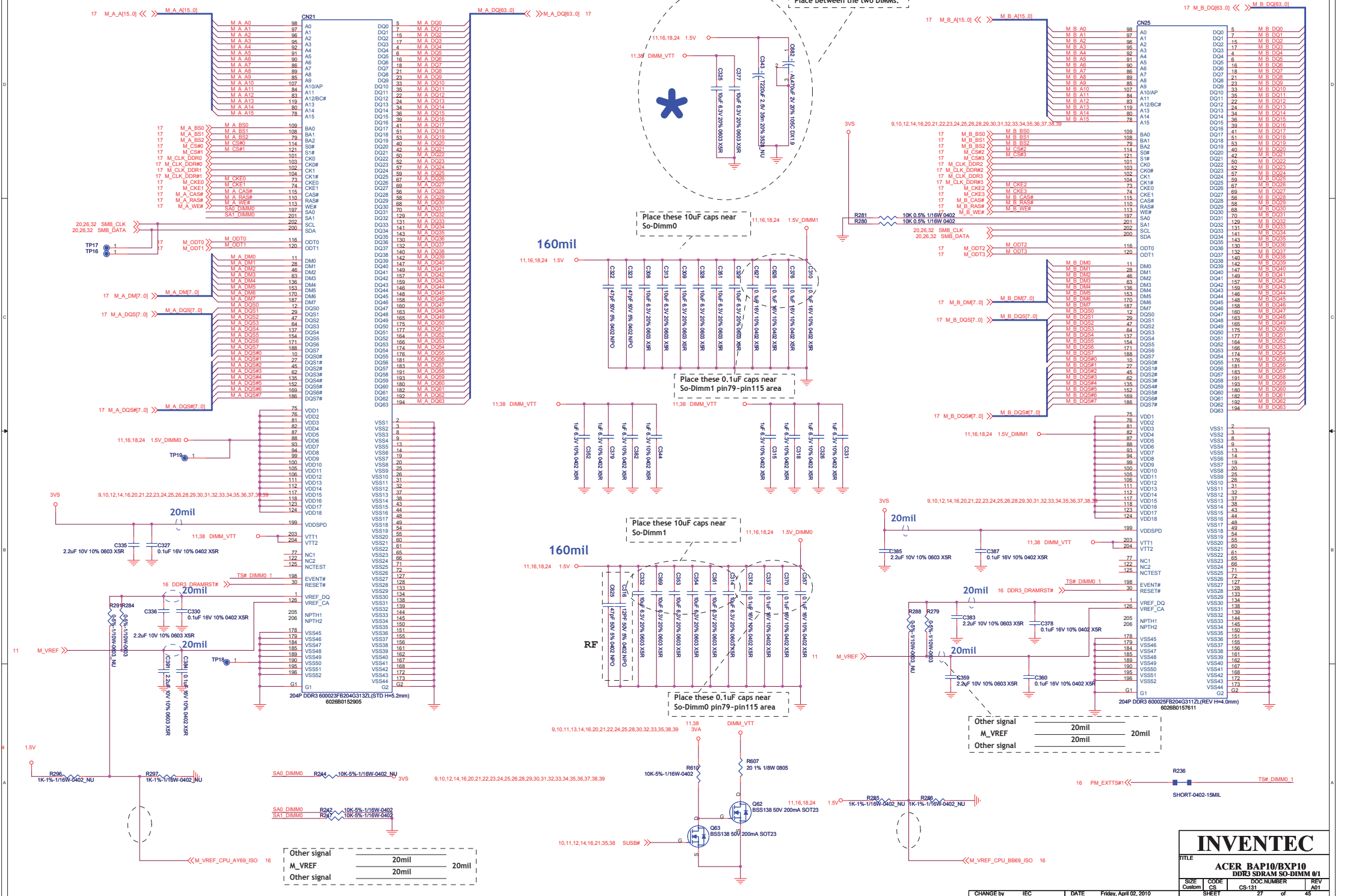








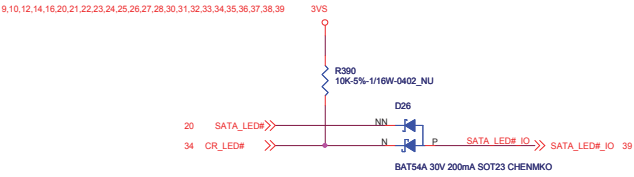
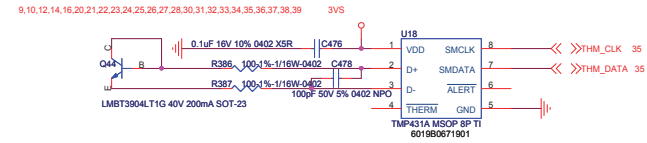


SO-DIMM 1

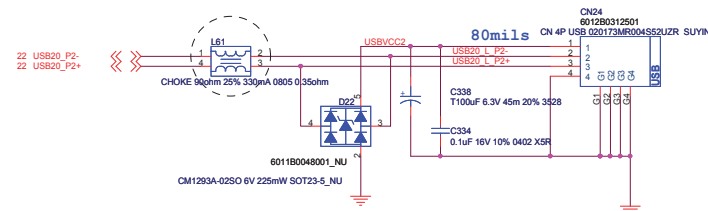
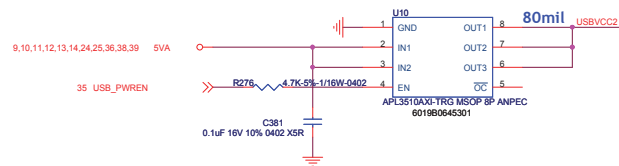
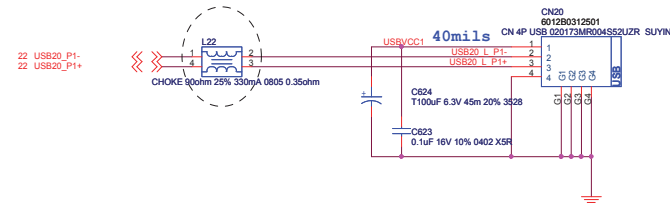
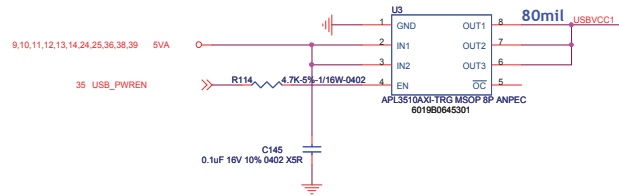
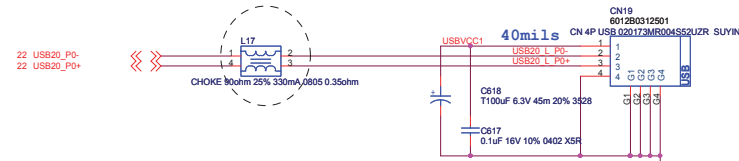
Thermal Sensor

REMOTE thermal sensor

Place near the hottest spot area under Palm-rest



USB



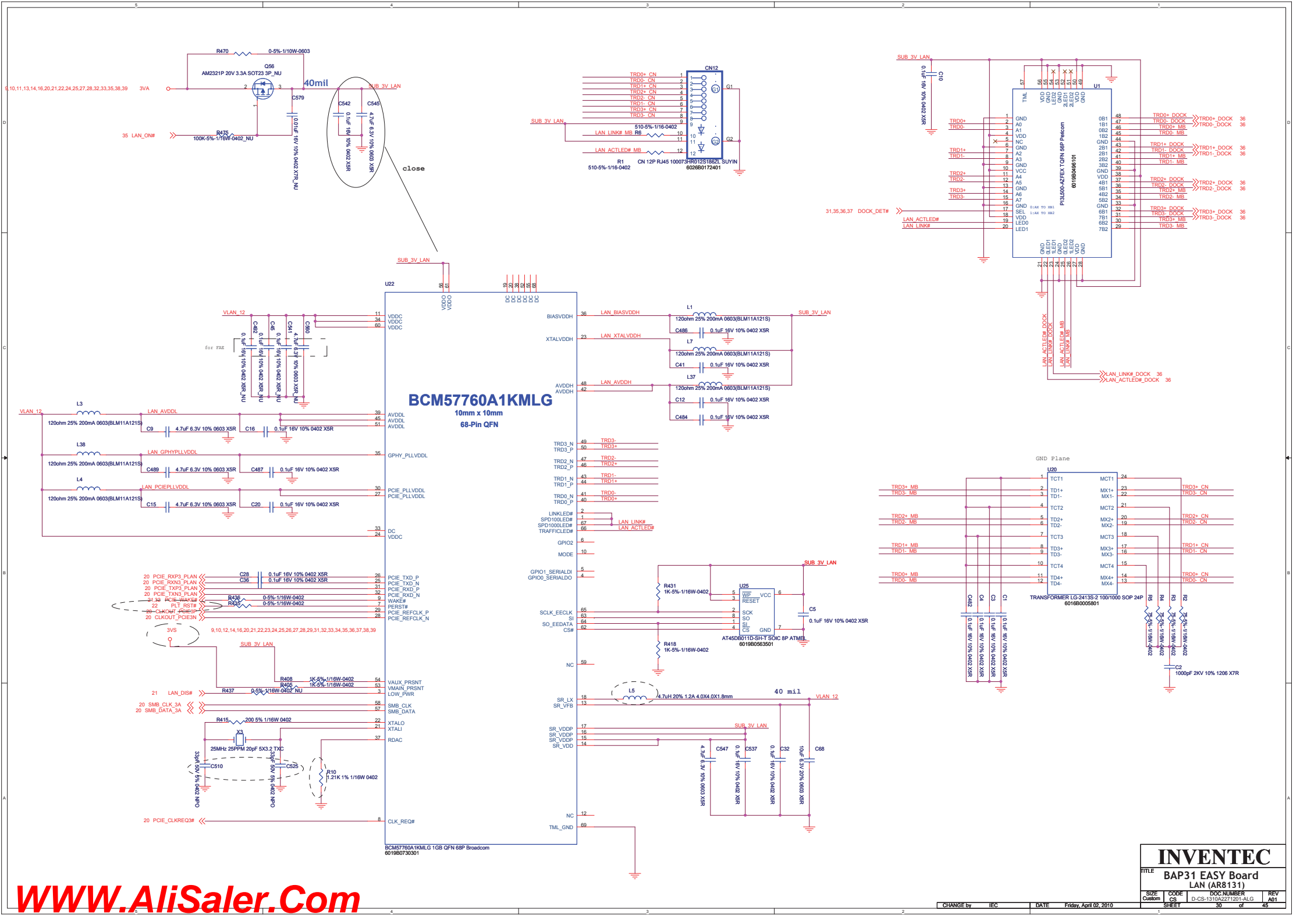
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TITLE ACER BAP10/BXP10

USBSensor

SIZE Custom CODE CS DOC NUMBER CS-131 REV A01

CHANGE by IEC DATE Friday, April 02, 2010 SHEET 29 of 45



INVENTEC

TITLE BAP31 EASY Board
LAN (AR8131)

SIZE Custom CODE CS DOC NUMBER D-CS-1310A2271201-ALG REV A01

CHANGE by IEC DATE Friday, April 02, 2010 SHEET 30 of 45

Note:
To support Wake-on-Jack, the CODEC VAUX_3.3 pins must be powered by a Standby supply.

AUDIO CODEC

SPEAKER

30mIL

9,10,12,14,16,20,21,22,23,24,25,26,27,28,29,30,32,33,34,35,36,37,38,39

3VS

INT MIC

Ext MIC JACK

MB(AUDIO) To MB /B

Port Configuration

- Port A: Headphone jack (jack shared with S/PDIF)
- Port B: Internal analog mono mic (stereo option)
- Port C: Microphone jack
- Port G: Internal stereo speakers
- Port J: Optional internal stereo digital mic
- Port H: S/PDIF (jack shared with headphone)

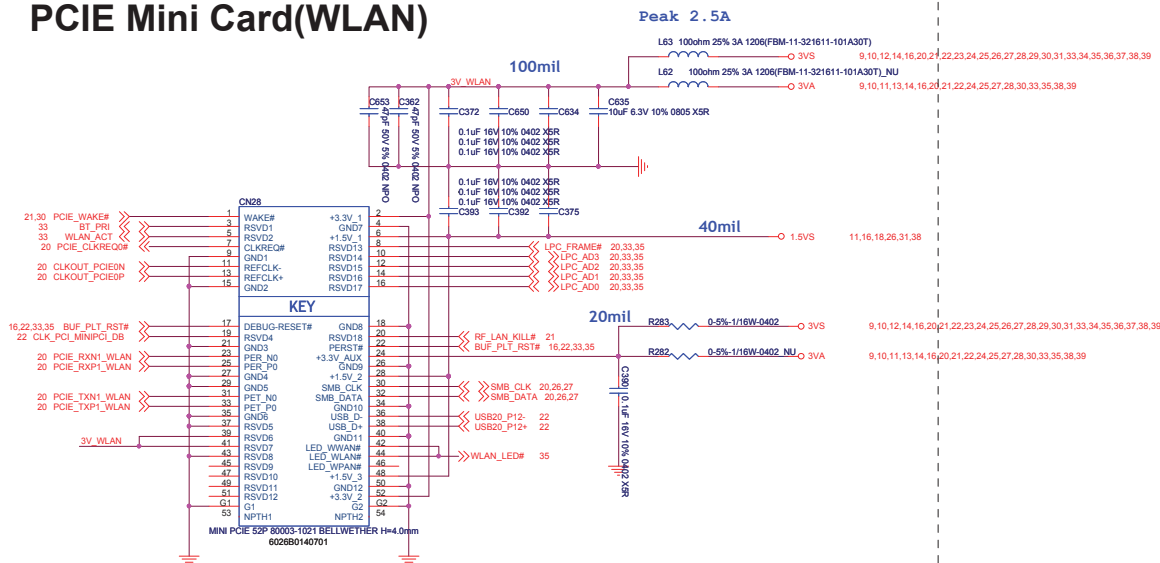
For EMC

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TITLE			
ACER BAP10/BXP10			
Audio Codec / AMP			
SIZE	CODE	DOC NUMBER	REV
Custom	CS	CS-131	A01
SHEET		31	of 45

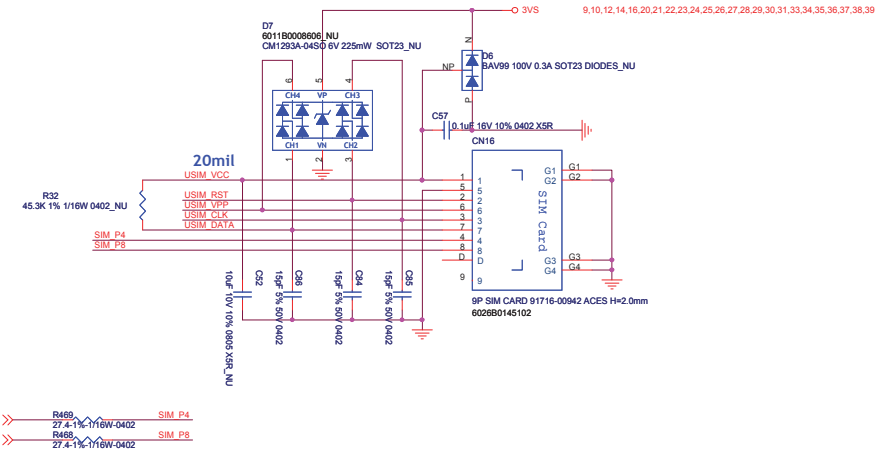
CHANGE by IEC DATE Friday, April 02, 2010

PCIE Mini Card(WLAN)

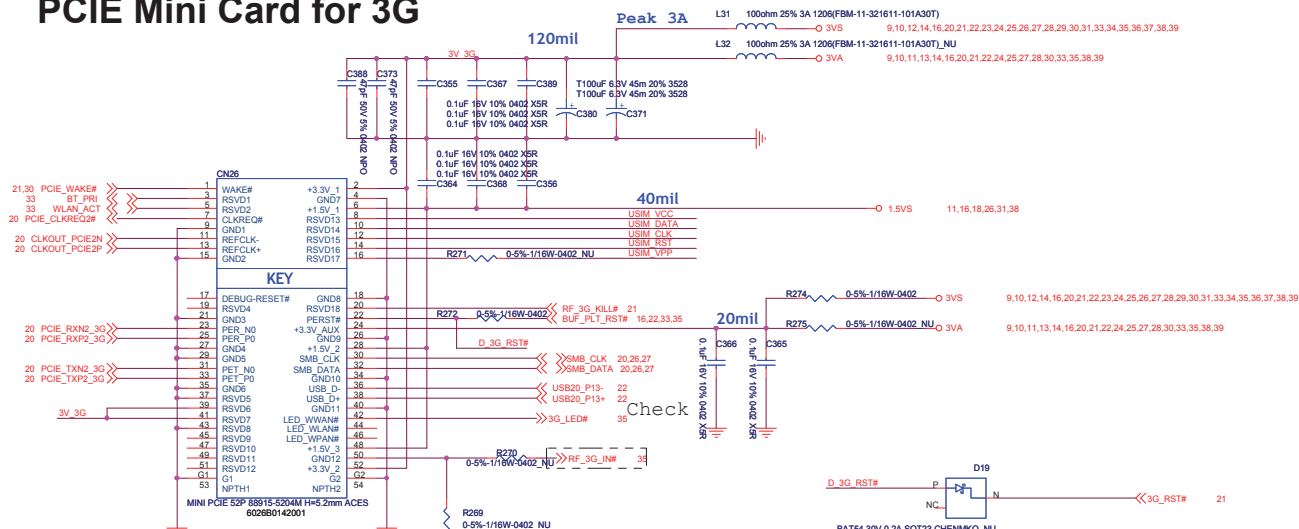


On Chip 5V to 3.3V regulator. No external regulator required
On-Chip power MOSFETs for supplying flash media card power.

SIM CARD slot



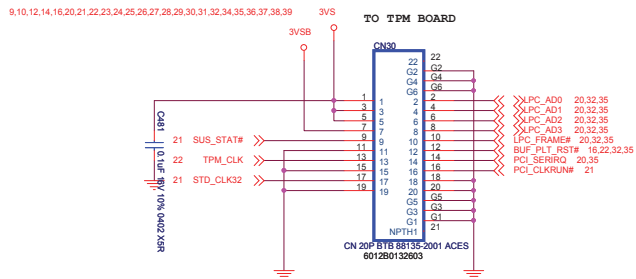
PCIE Mini Card for 3G



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TITLE			
ACER BAP10/BXP10 3G/WLAN			
SIZE Custom	CODE CS	DOC. NUMBER CS-131	REV A01
SHEET 32 of 45			

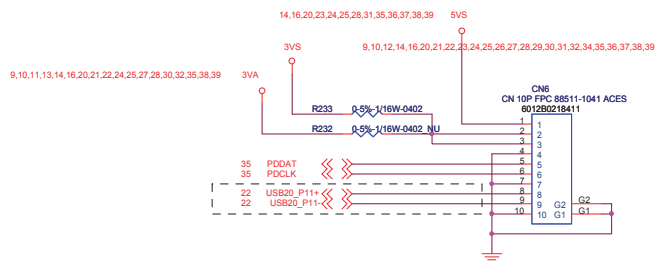
TO TPM CNN.



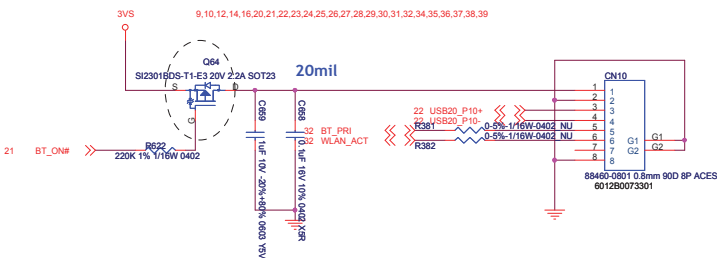
IN TPM SKU STUFF



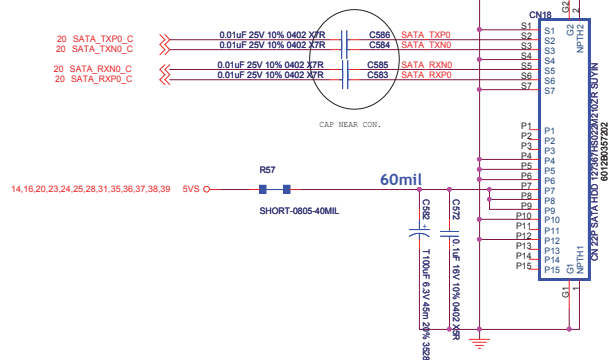
GP + FP CNN.



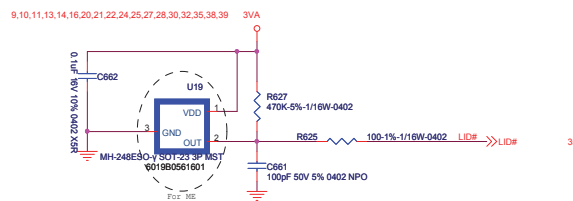
Bluetooth CNN.



HDD I/F

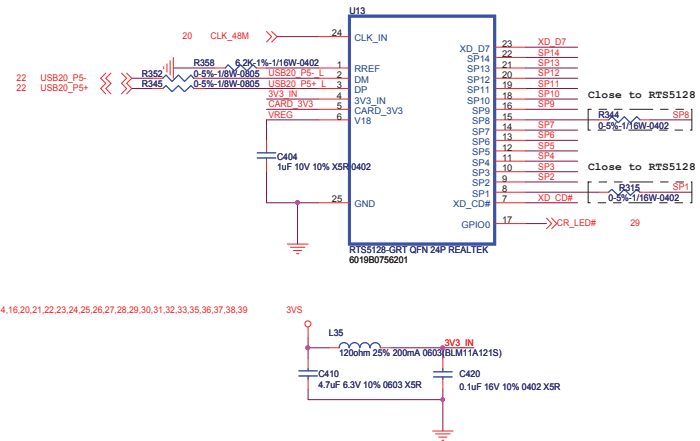
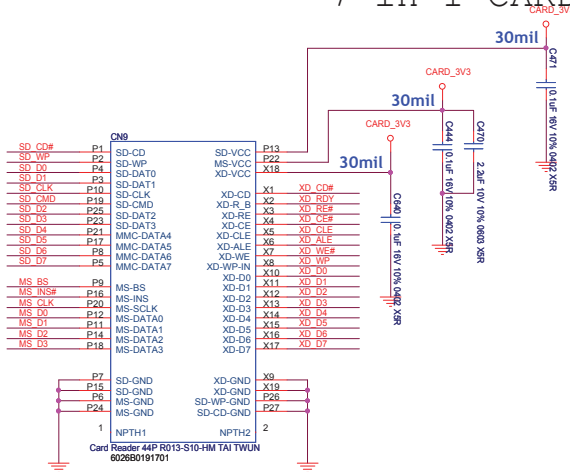


HALL Switch



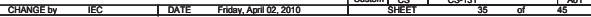
INVENTEC			
TITLE ACER BAP10/BXP10 USB/eSATA/G-sensor/CON			
SIZE Custom	CODE CS	DOC.NUMBER CS-131	REV A01
SHEET		33	of 45

7 in 1 CARDREADER

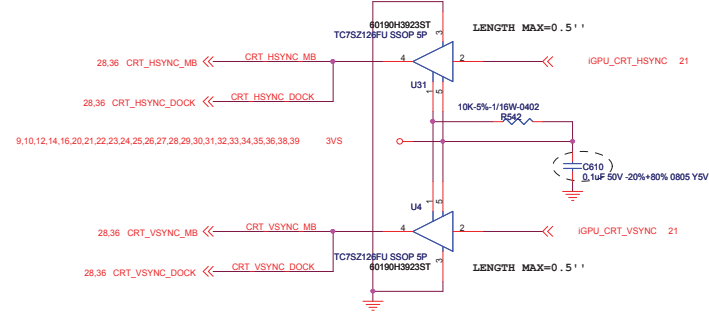


SP1	XD RDY	SD WP	MS CLK
SP2	XD RE#		MS IN#
SP3	XD CE#	SD D1	
SP4	XD CLE	SD D0	MS D7
SP5	XD ALE	SD D7	MS D3
SP6	XD WE#	SD CD#	
SP7	XD WP	SD D6	MS D6
SP8	XD D0	SD CLK	MS D2
SP9	XD D1	SD D5	MS D0
SP10	XD D2	SD CMD	
SP11	XD D3	SD D4	MS D4
SP12	XD D4	SD D3	MS D1
SP13	XD D5	SD D2	MS D5
SP14	XD D6		MS B5

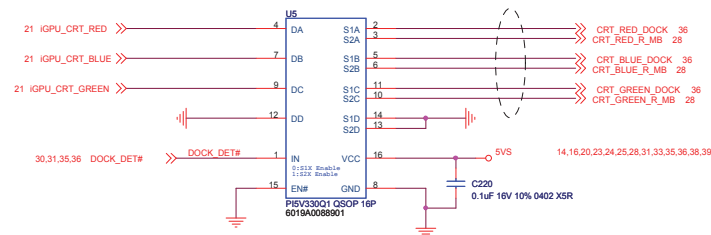
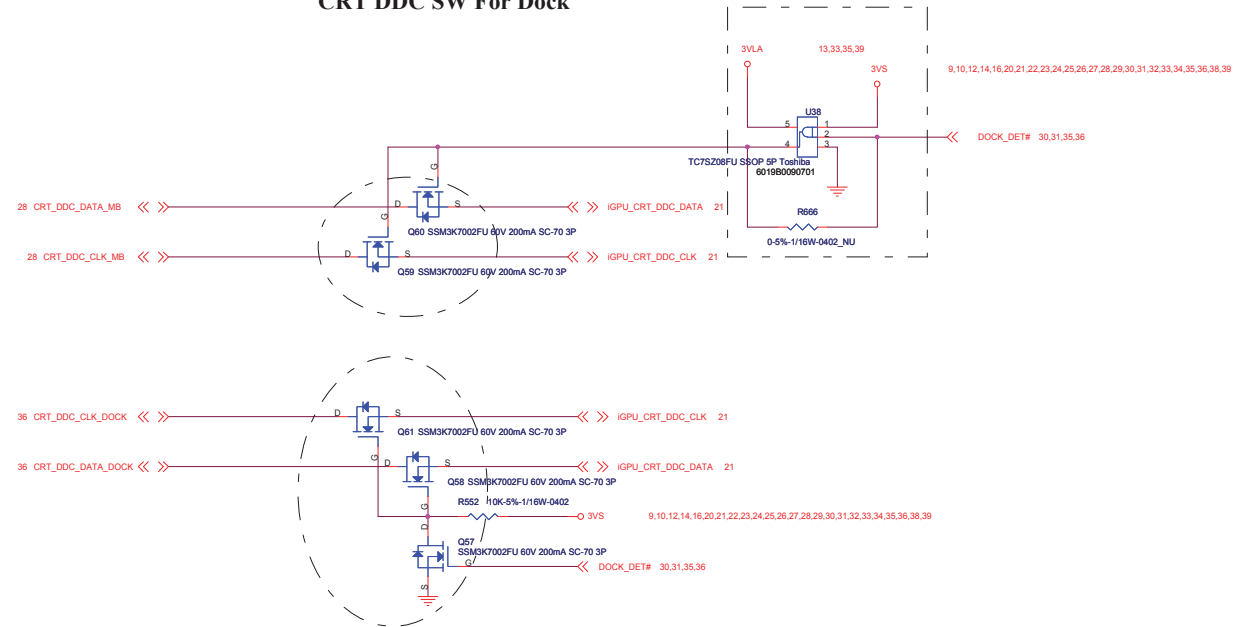
Close to connector



CRT HSYNC/VSYNC SW For Dock

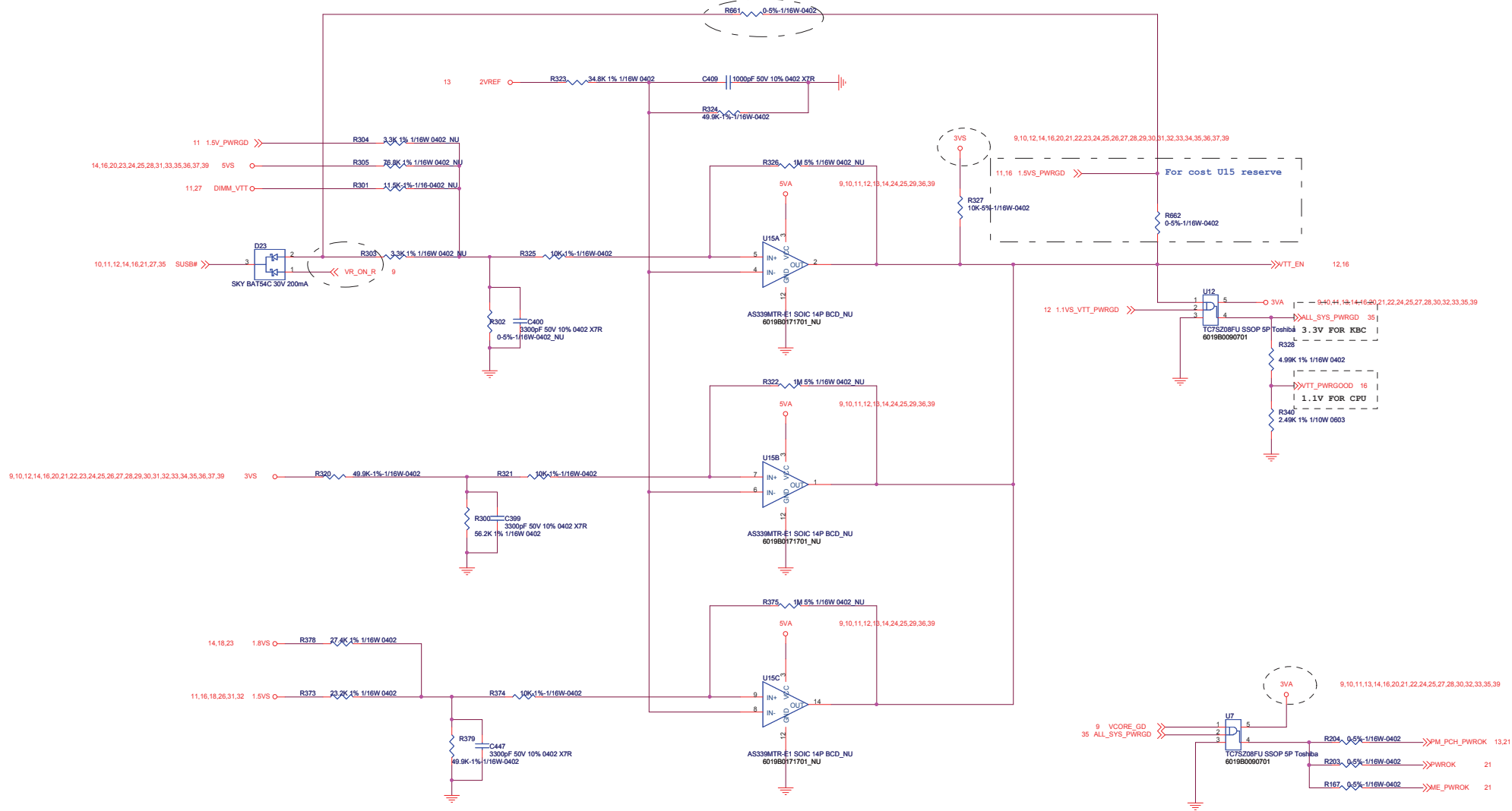


CRT DDC SW For Dock



INVENTEC			
TITLE			
ACER BAP10/BXP10			
Hybird Switch (1/2)			
SIZE	CODE	DOC NUMBER	REV
Custom	CS	CS-131	A01
SHEET		37	of 45

For cost U15 reserve



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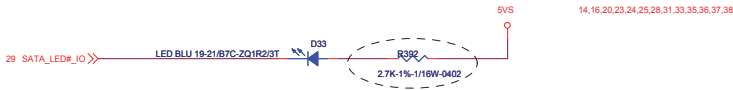
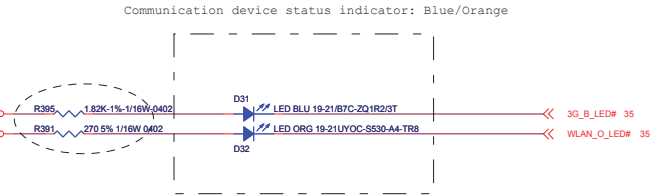
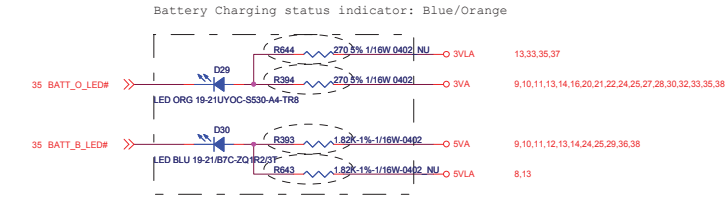
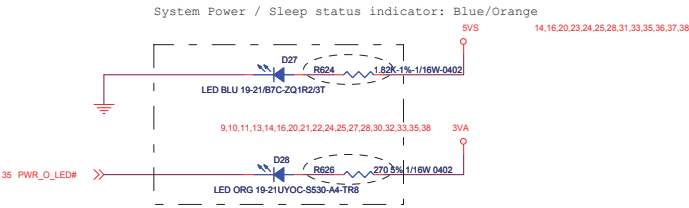
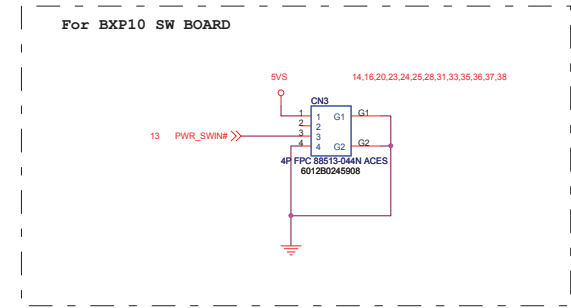
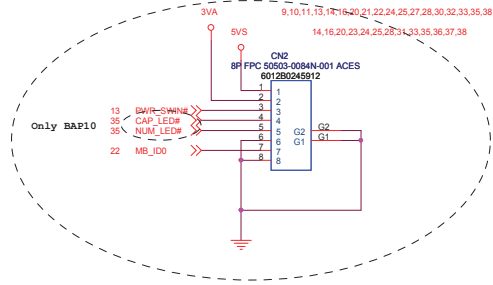
TITLE			
ACER BAP10/BXP10 Hybrid Switch (2/2)			
SIZE	CODE	DOC NUMBER	REV
Custom	CS	CS-131	A01
SHEET		38	of 45

CHANGE by IEC DATE Friday, April 02, 2010

For BAP10 SW BOARD and BXP10 LED

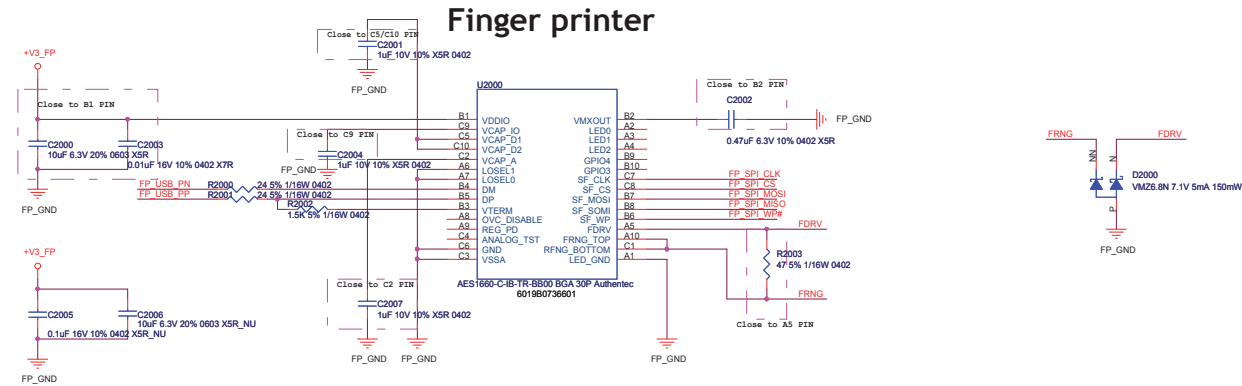
Pin2 for BIOS ID setting

Project	MB_ID0
BAP10 (UMA)	1
BXP10 (UMA)	0

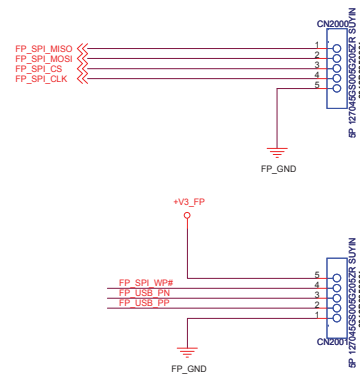


WWW.AliSaler.Com

w/ Fingerprint: Stuff
w/o Fingerprint: OPEN



TO GP PIN HEADER

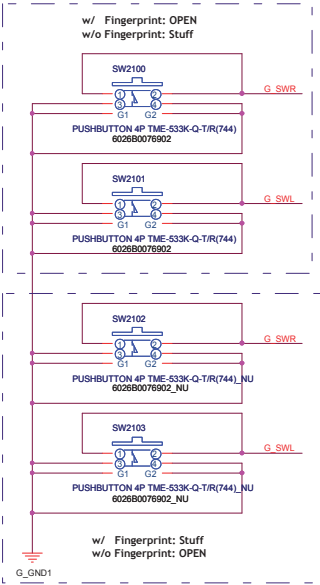
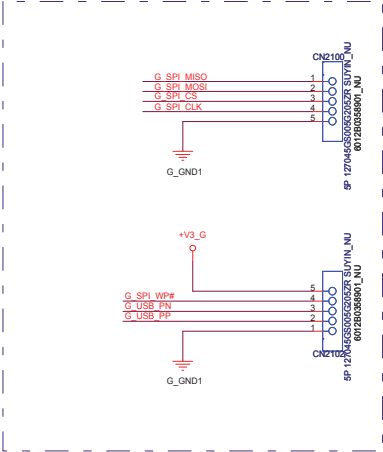


INVENTEC			
TITLE			
ACER BAP10/BXP10			
GP Button			
SIZE	CODE	DOC. NUMBER	REV
Custom	CS	CS-131	A01
SHEET		40 of	45

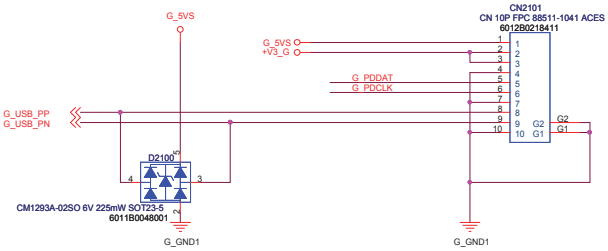
GP Board

GP Button

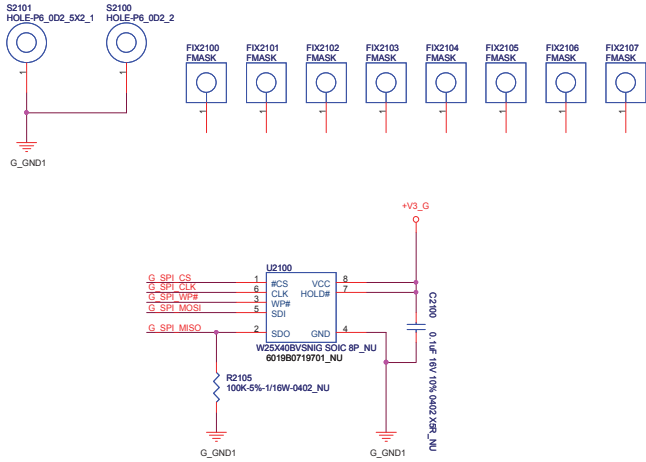
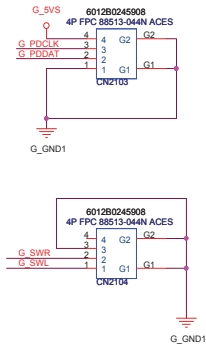
TO FP PIN HEADER



TO MB



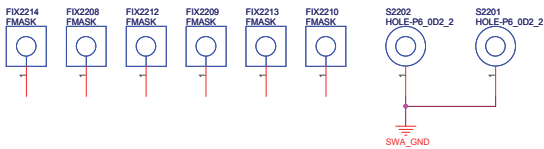
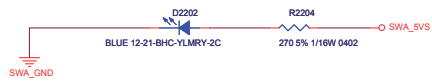
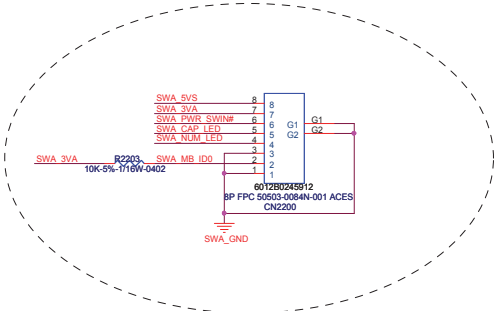
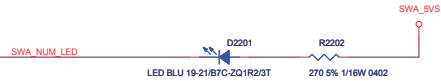
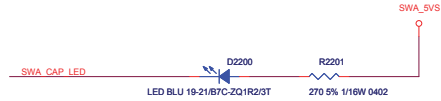
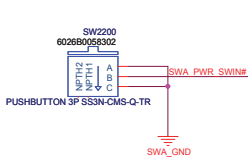
TO touch Pad



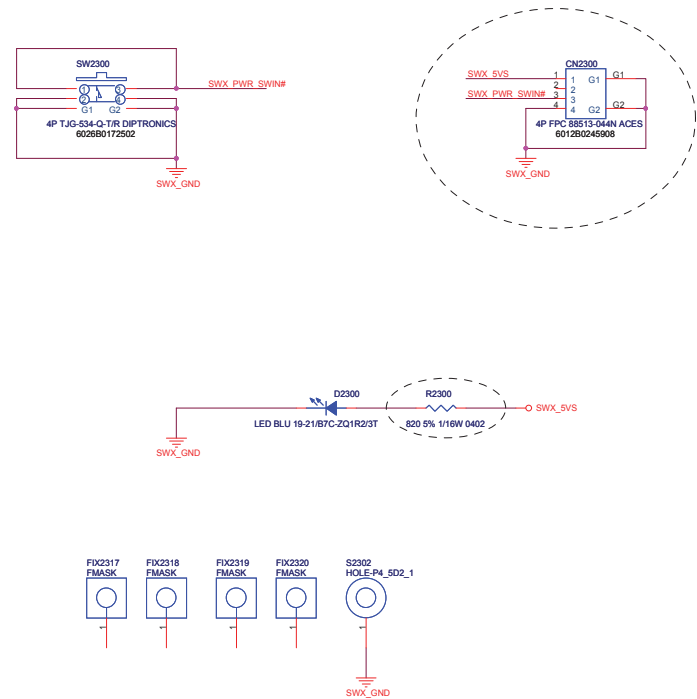
BAP10 1 SW+3 LED Board

Pin2 for BIOS ID setting

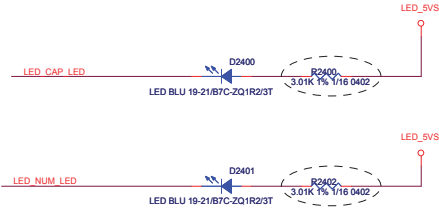
Project	MB_ID0
BAP10 (UMA)	1
BXP10 (UMA)	0



BXP10 1 SW+1 LED Board

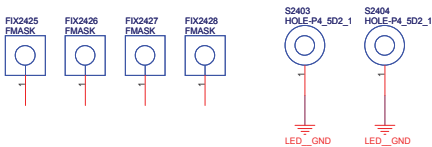
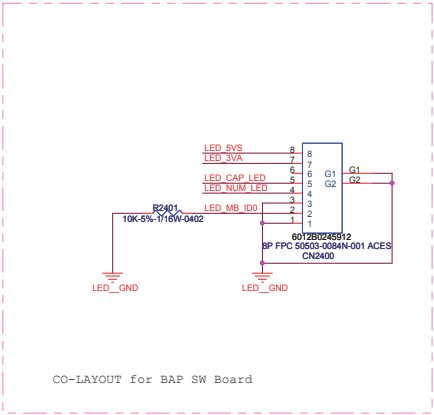


BXP10 2 LED Board



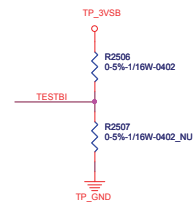
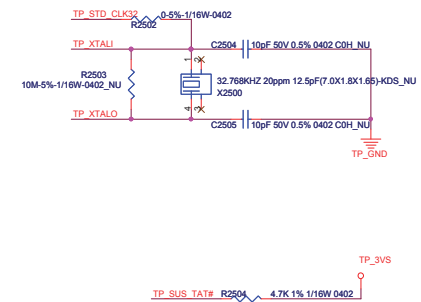
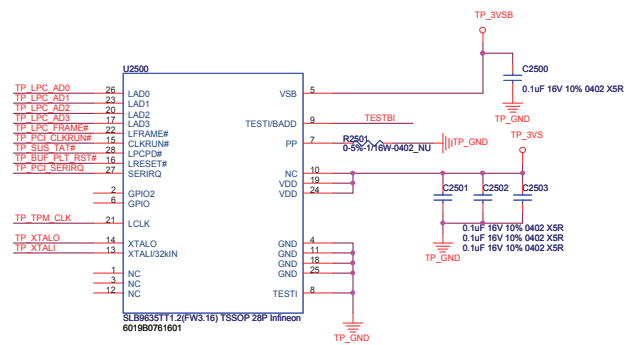
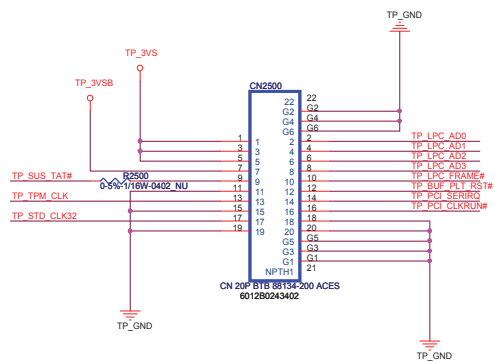
Pin2 for BIOS ID setting

Project	MB_ID0
BAP10 (UMA)	1
BXP10 (UMA)	0



INVENTEC			
TITLE			
ACER BXP10			
LED			
SIZE	CODE	DOC NUMBER	REV
Custom	CS	CS-131	A01
SHEET		44	of 45

TO MB BOARD



TESTBI	I/O ADDRESS
	CONFIG REGISTER
HIGH	4EH
LOW	2EH

