

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	17. Processor(2/4)	33. HDD/BT/TPM/GP/FP/LID
2. Schematic Page DESCR	18. Processor(3/4)	34. CR_AU6437-GEF
3. Block Diagram	19. Processor(4/4)	35. KBC ITE8502E*
4. Power Block Diagram	20. PCH_RTC,SATA,PCI-E,CLK	36. EASY PORT
5. Annotations	21. PCH_DMI,MISC,LVDS,CRT	37. Hybrid Switch (1/2)
6. Schematic Modify	22. PCH_USB, PCI,NVRAM,XDP	38. POWER SEQUENCE
7. Timing Diagram	23. PCH Power 1	39. SW/LED
8. PWR_Adaptor in/Charge	24. PCH Power 2	40. FP board
9. PWR_CPU Core Power	25. PCH Power 3 (GND)	41. GP Button board
10. PWR_Graphics Core	26. Clock Generator	42. SW Button/BAP10 board
11. PWR_DDR PWR	27. DDR3 SDRAM SO-DIMM 0/1	43. SW Button/BXP10 board
12. PWR_1.1VS_VTT/1.1VS	28. LCD,CMA,CRT PLUG	44. LED Board/BXP10 board
13. PWR_5VA/5VLA/3VA/3VLA	29. USB/MDC	41. TPM board
14. PWR_3VS/5VS/1.8VS/5VUSB	30. LAN(BCM57760)	
15. PWR_Reserve	31. CX20672-11Z / MIC / SPK	
16. Processor(1/4)	32. UMTS/WLAN	

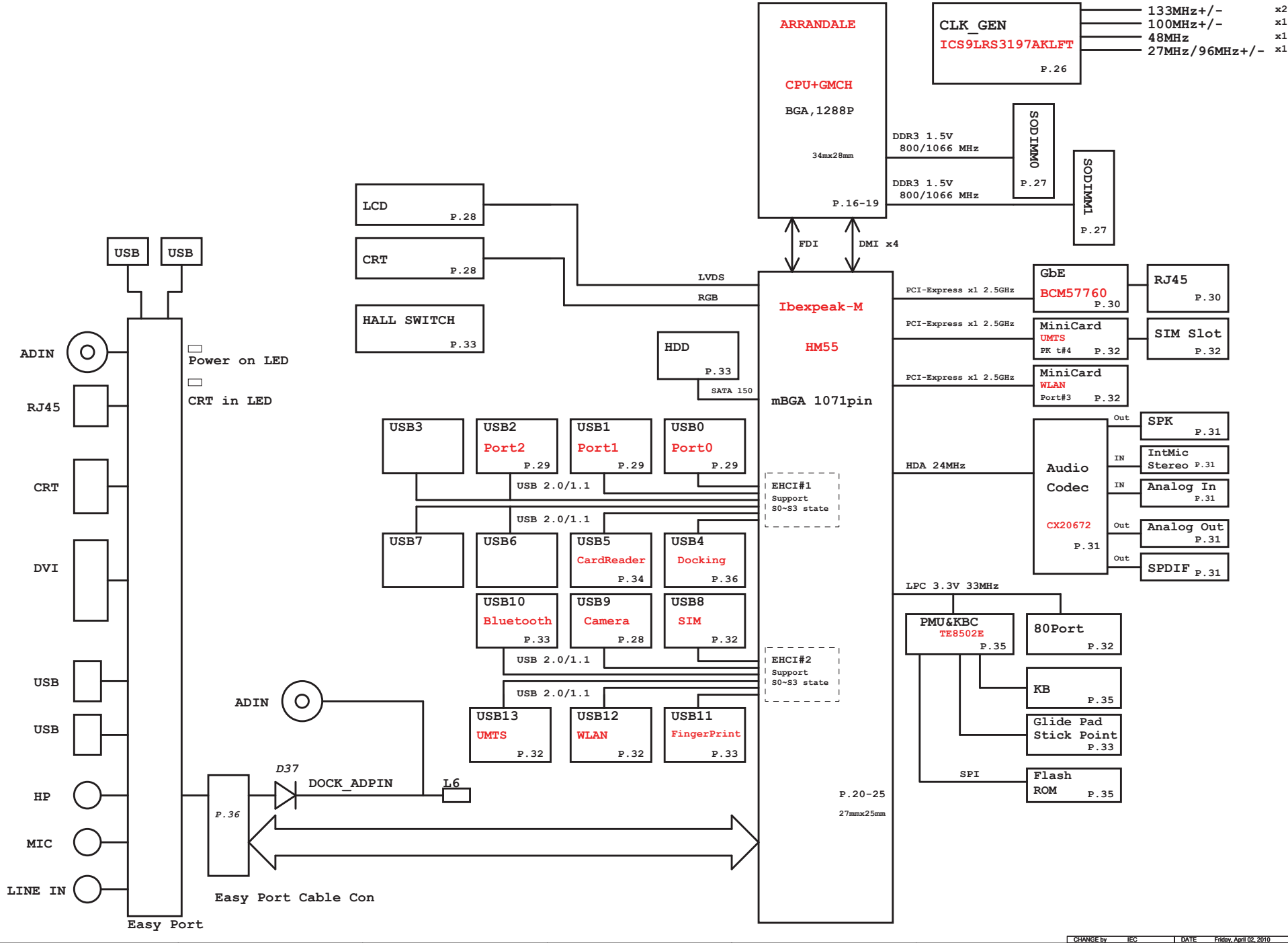
2. PCI & IRQ & DMA Description :

IDSEL	CHIP	PCIINT	CHIP	Interface	REQ	CHIP
None		None			None	

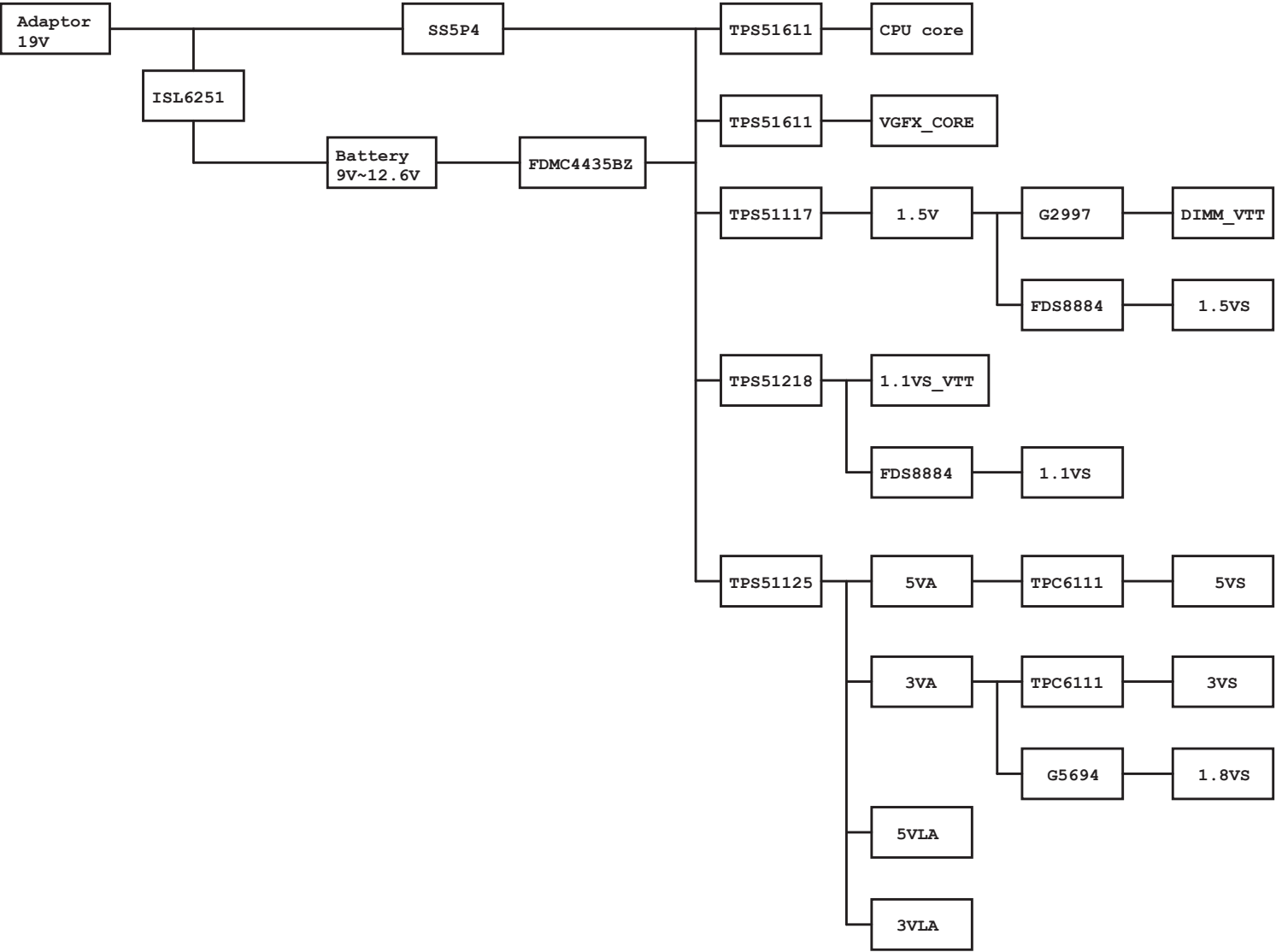
3. USB & PCI-Express & SATA Description :

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 :



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

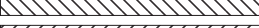
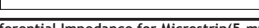
C = Capacitor	Q = Transistor
CN = Connector	R = Resistor
D = Diode	RP = Resistor Pack
F = Fuse	U = Arbitrary Logic Device
L = Inductor	Y = Crystal and Osc

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_TVDAC 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 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

Abstrations

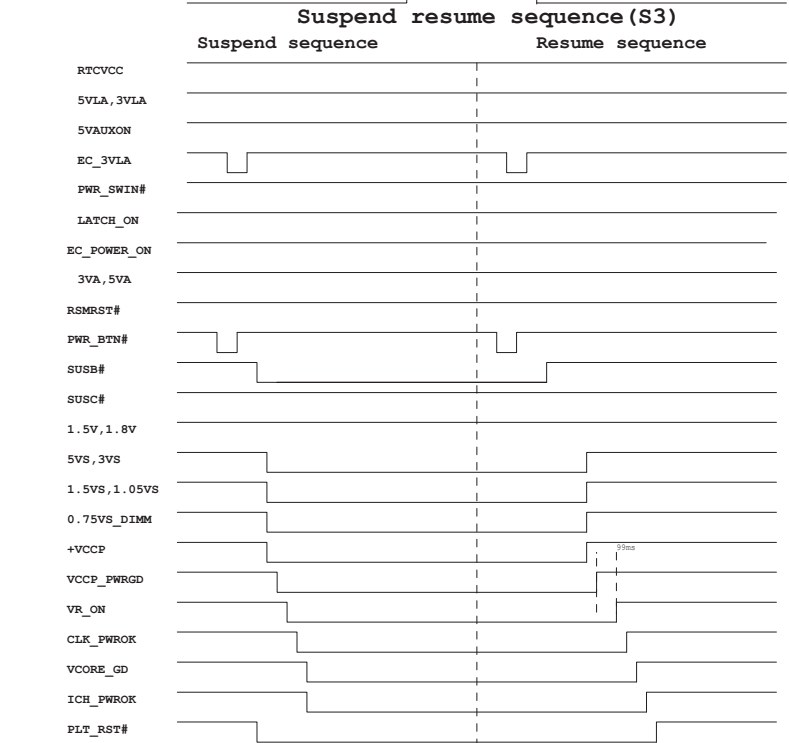
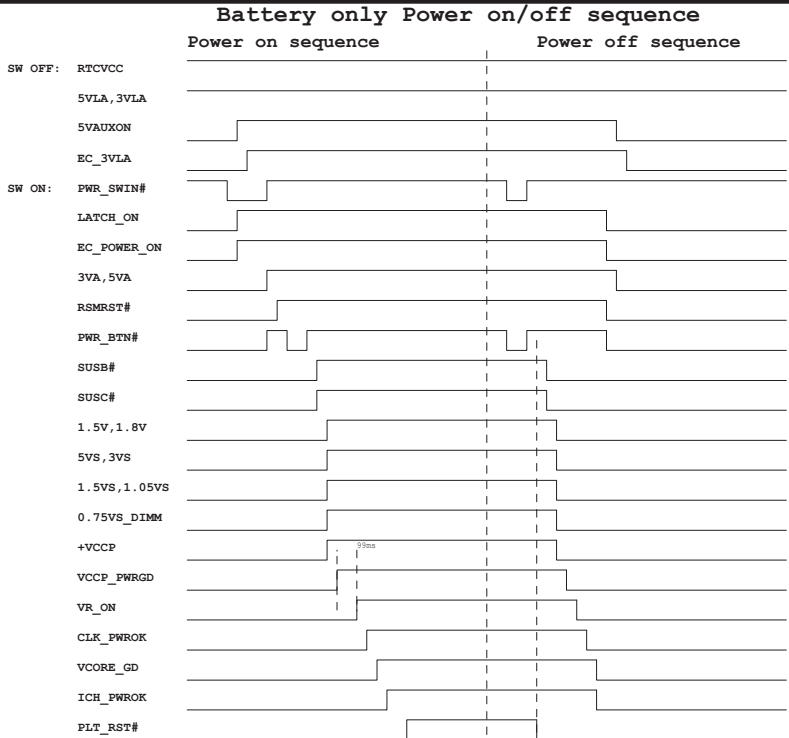
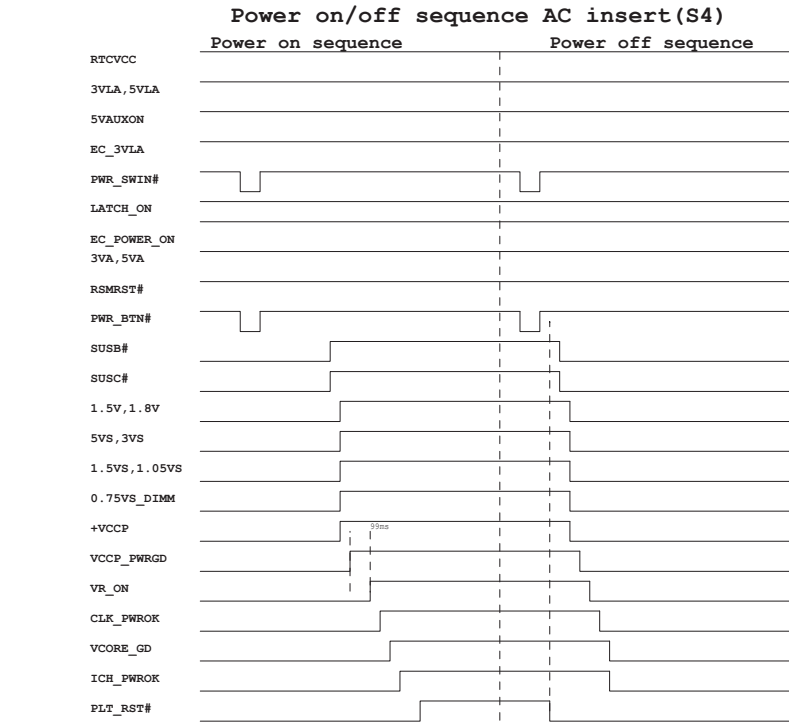
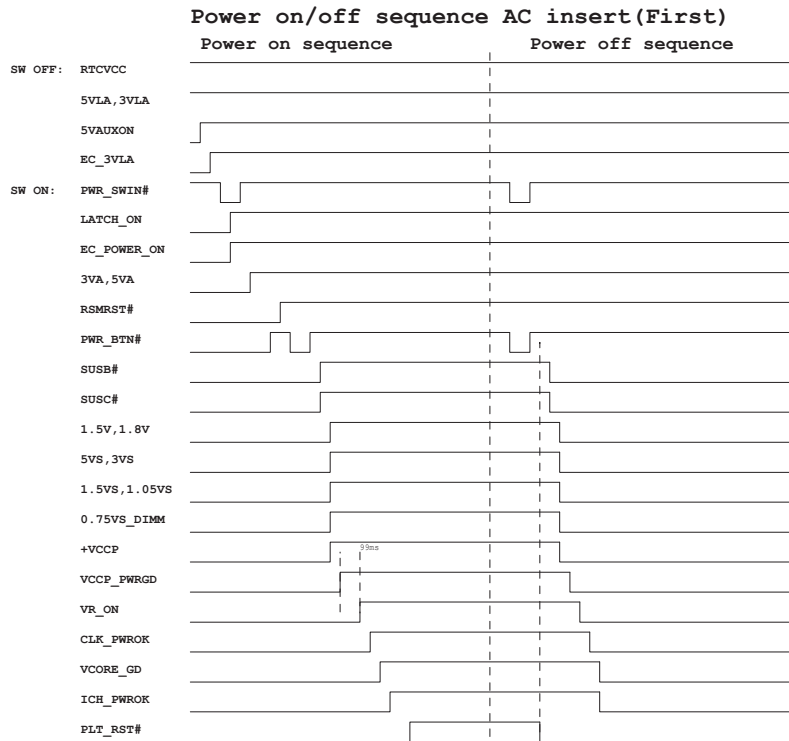
SIZE Custom CODE CS DOCNUMBER CS-131 REV A01

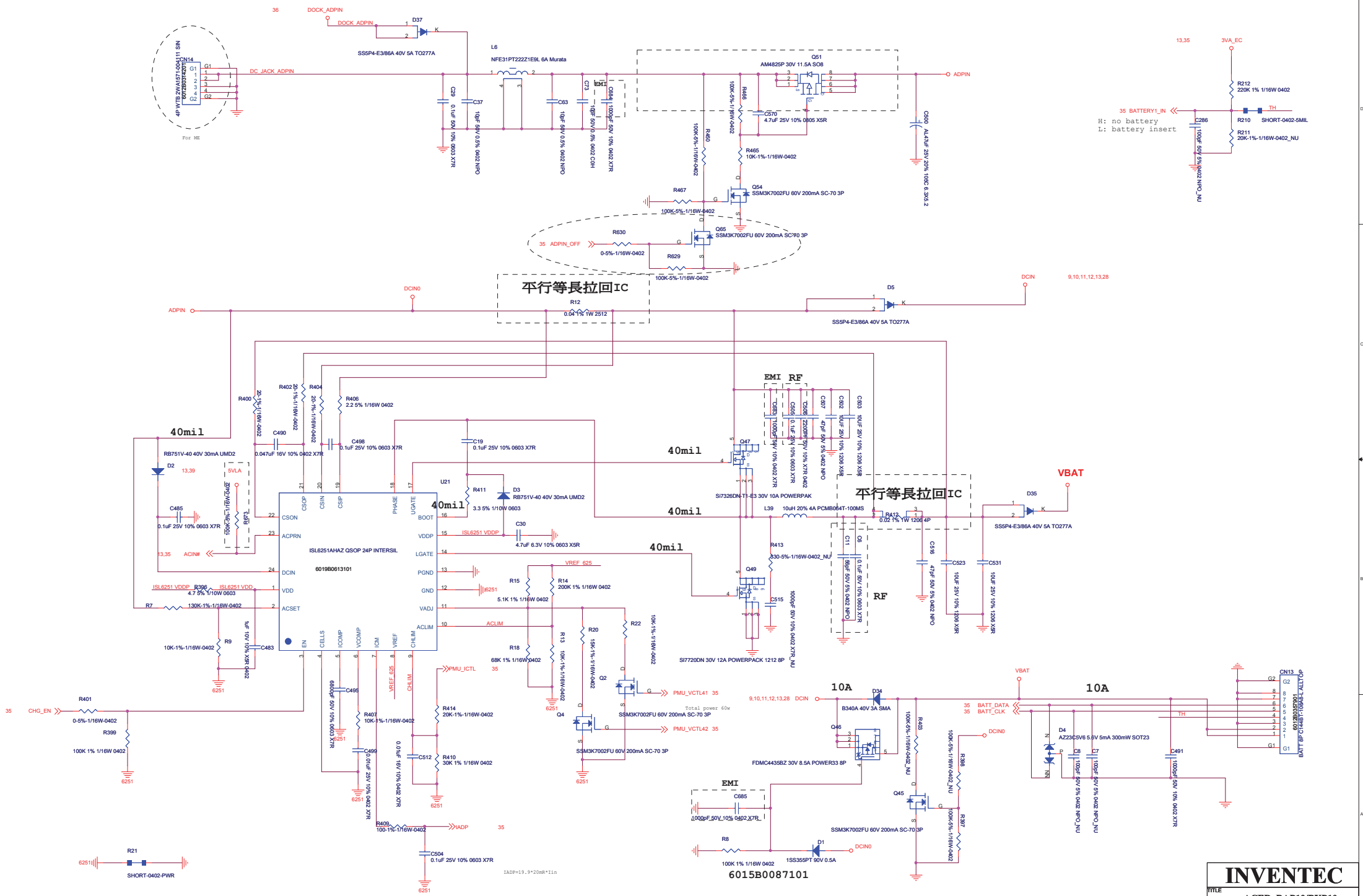
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6.Schematic modify Item and History :

INVENTEC			
TITLE			
ACER BAP10/BXP10			
schematic modify			
SIZE	CODE	DOC NUMBER	REV
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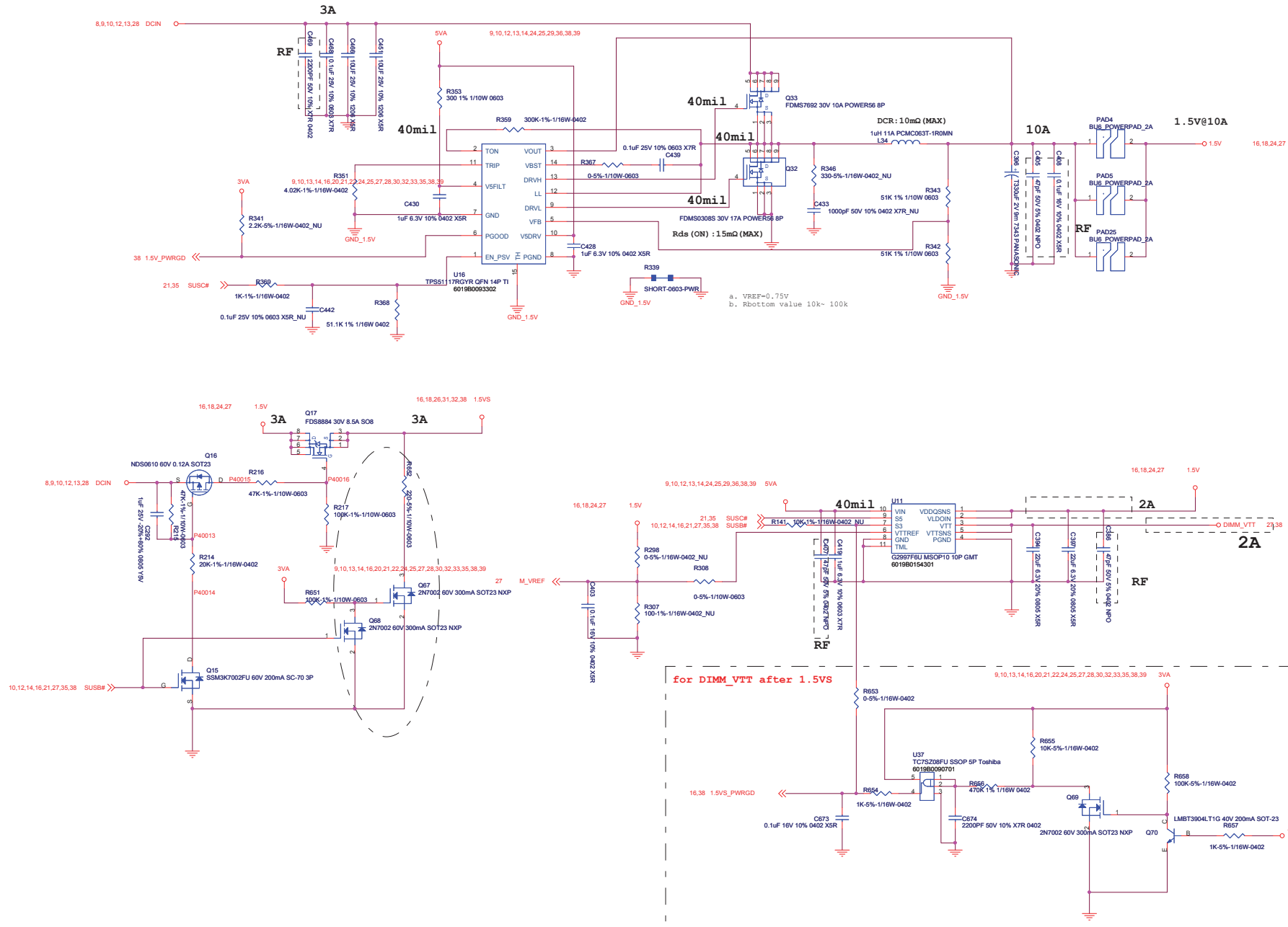
8.SYSTEM POWER SEQUENCE :





INVENTEC			
TITLE: ACER BAP10/BXP10 Adapter in-Charge			
SIZE	CODE	DOC NUMBER	REV
Custom	CS	CS-131	A01

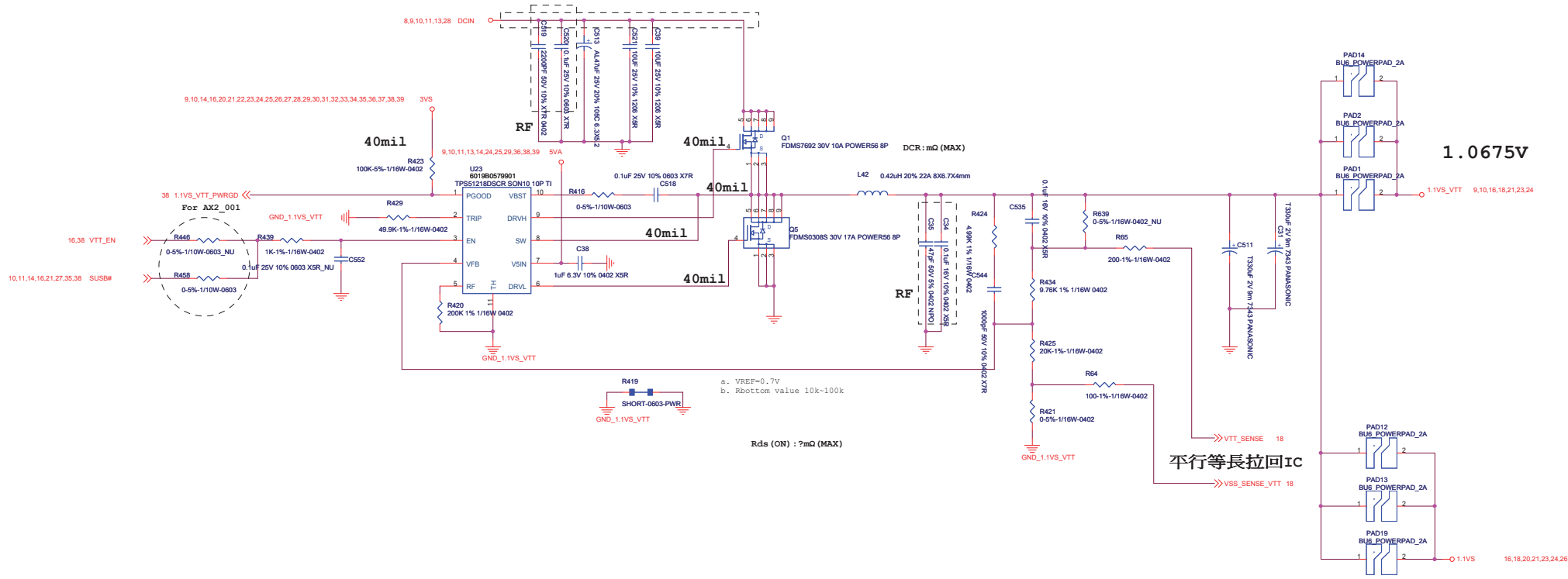
DDR POWER



Control by 1.5VS

INVENTEC

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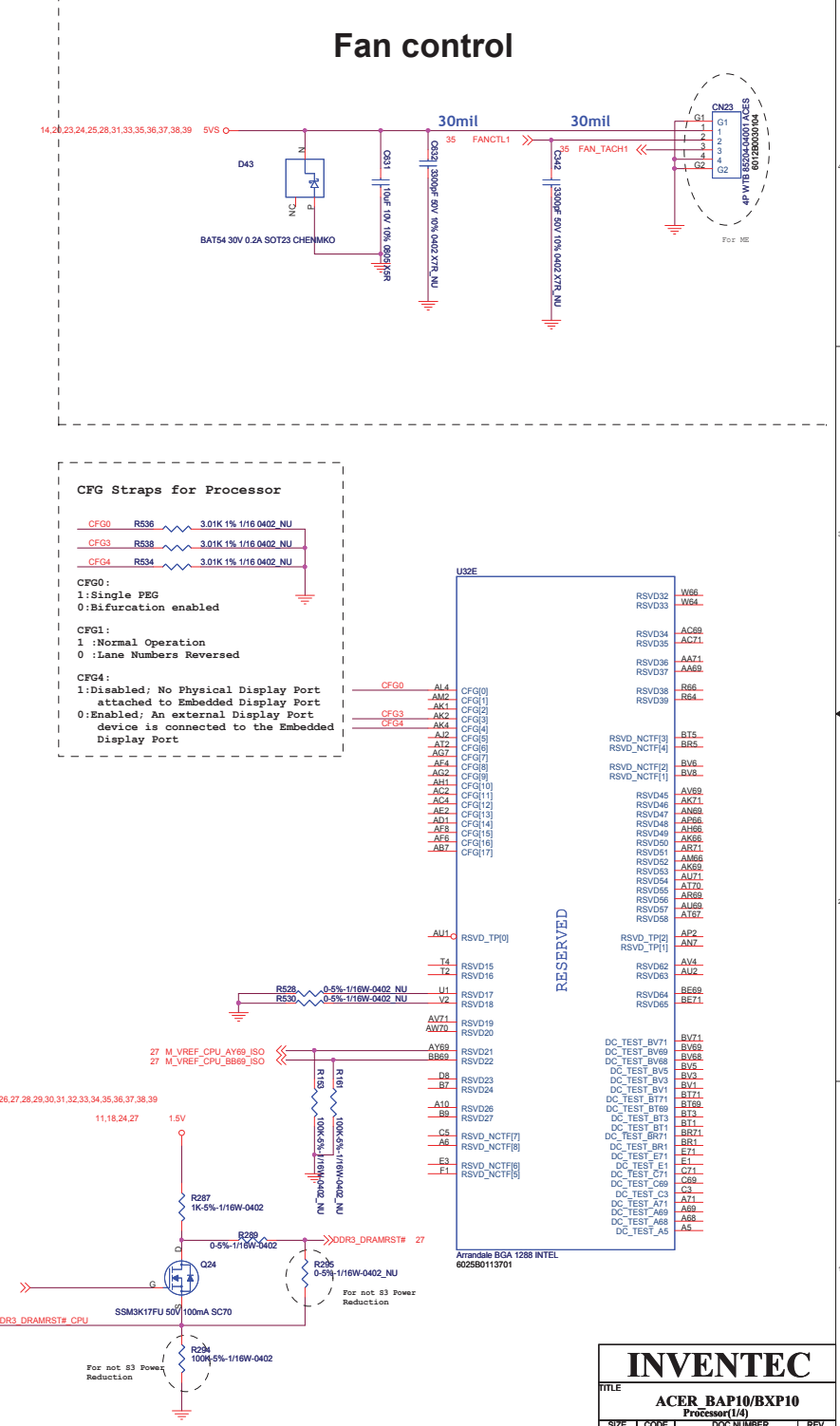
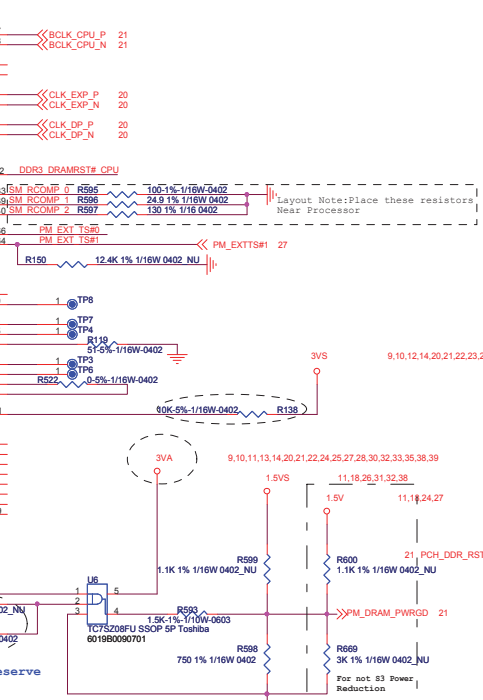
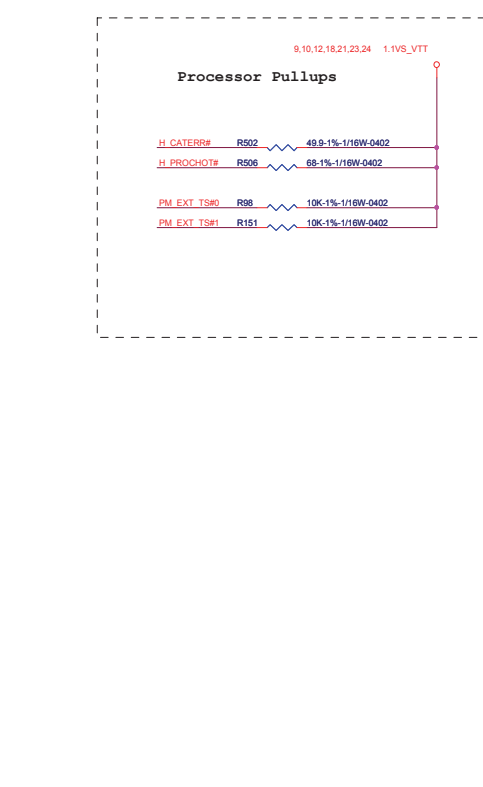
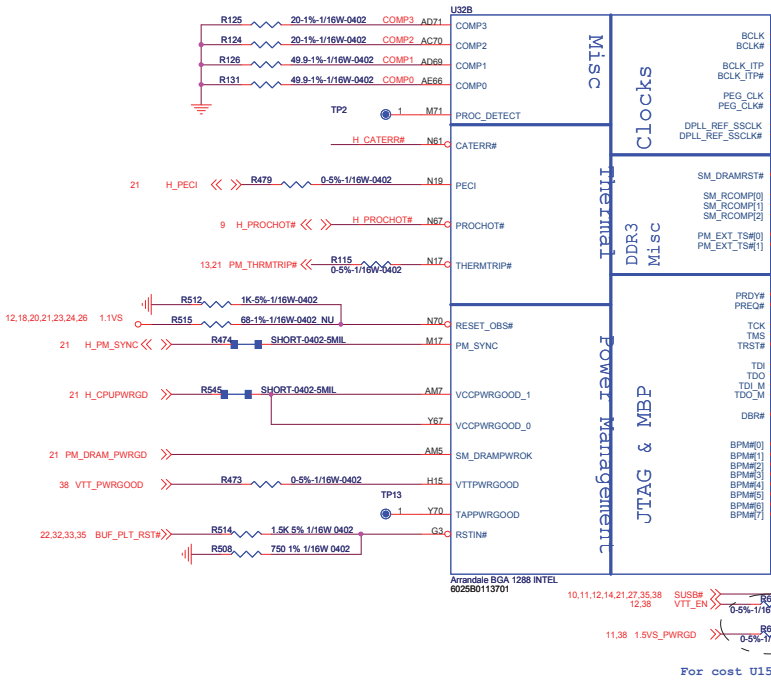
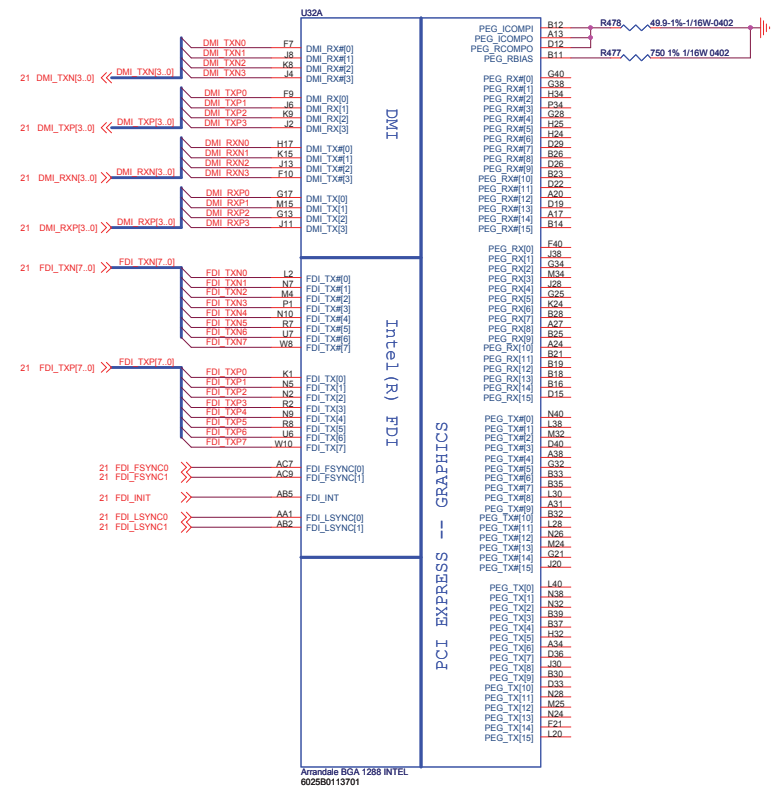


1.0675V

平行等長拉回IC

INVENTEC			
ACER_BAP10/BXP10			
L1VS_VTTL1VS			
SIZE	CODE	DOC NUMBER	REV
Custom	CS	CS-131	A01

Blank



Fan control

CFG Straps for Processor

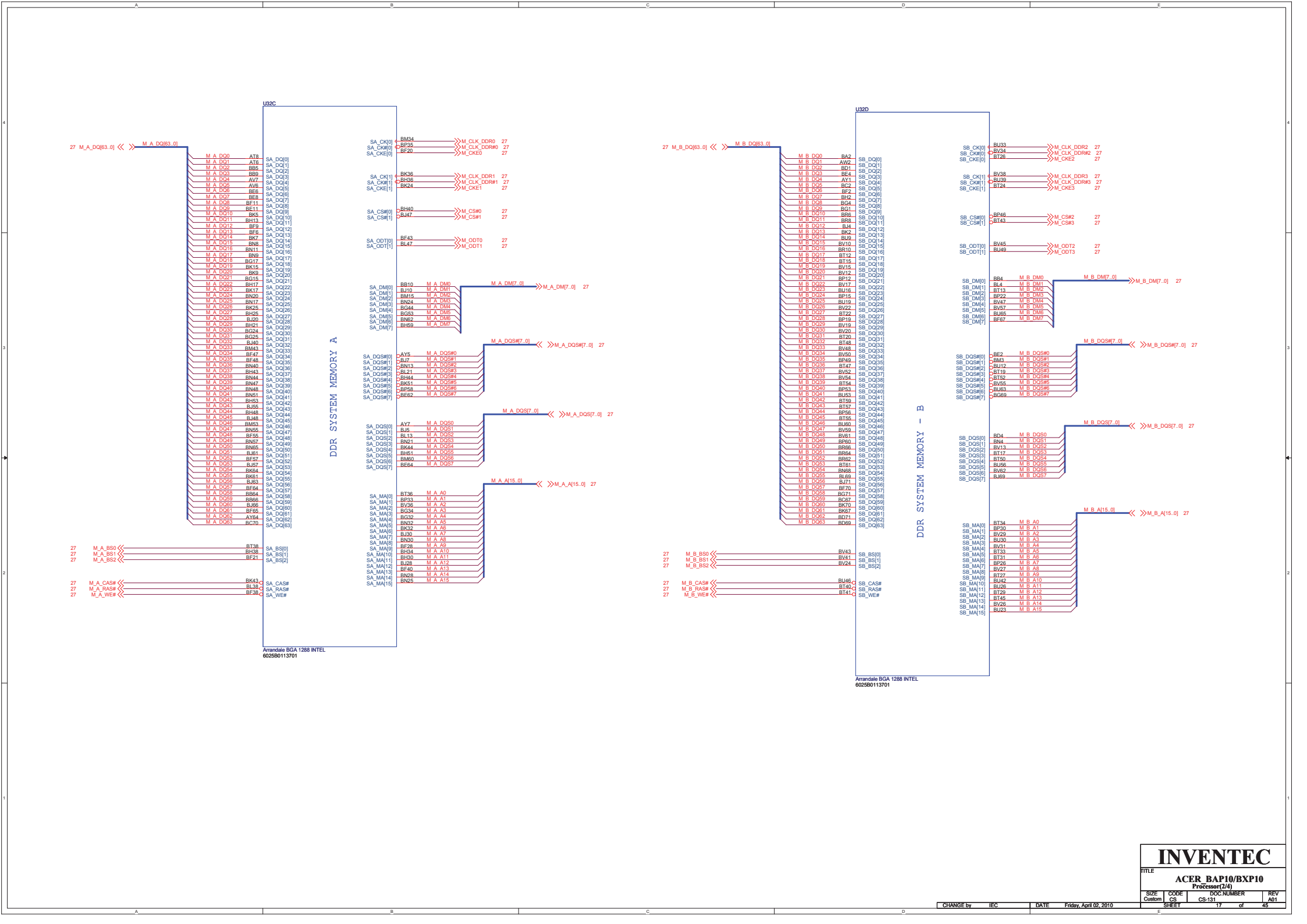
CFG0: 1:Single PEG
0:Bifurcation enabled

CFG1: 1:Normal Operation
0: Lane Numbers Reversed

CFG4: 1:Disabled; No Physical Display Port attached to Embedded Display Port
0:Enabled; An external Display Port device is connected to the Embedded Display Port

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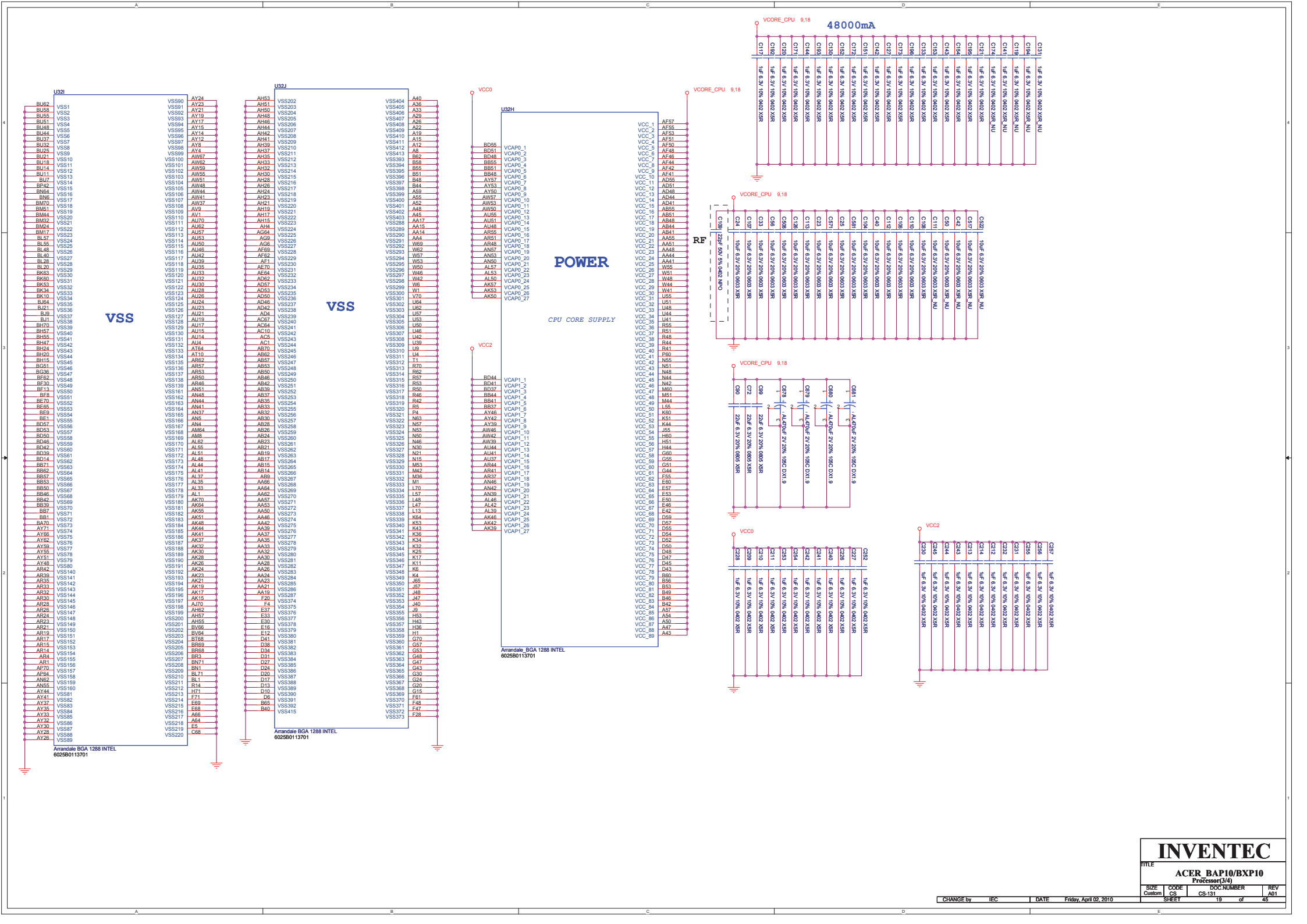
INVENTEC

TITLE
ACER BAP10/BXP10
PreCesur(24)

SIZE CODE DOC NUMBER REV
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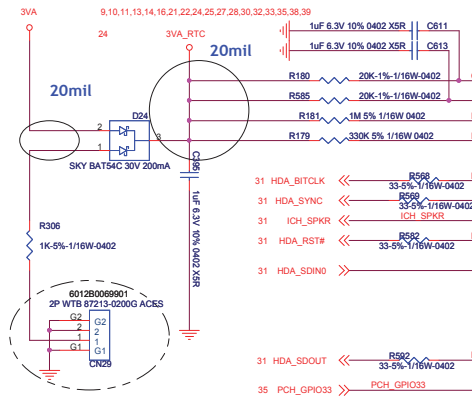




RTC Circuit



VIC-DAWN RTC 3V BATTERY CR2032
802780072201
RTC Battery Life :
35mAh(35000uAh) / 6uA = 0.666 year



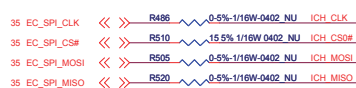
Pin 1 GND FOR BICR2032W4 Modify

SPI INTERFACE BY PCH

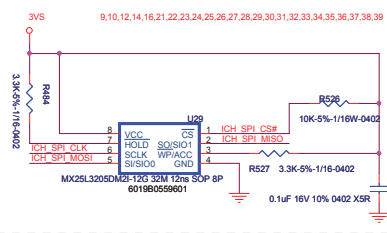


(FOR DEBUG ONLY)

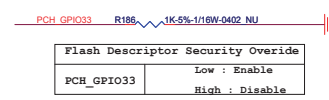
SPI INTERFACE BY EC (Default)



PCH SPI PROGRAMMING HEADER



ME CODE WRITE STRAP

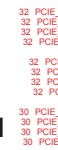


Flash Descriptor Security Override			
PCH_GPIO33	Low : Enable	High : Disable	

STUFF for iTPM enable

	Q62	R260	R285
Switchable	Install	Install	NU
Only DIS	NU	NU	Install
Only UMA	NU	Install	NU

WLAN 3G CARD PCIE LAN

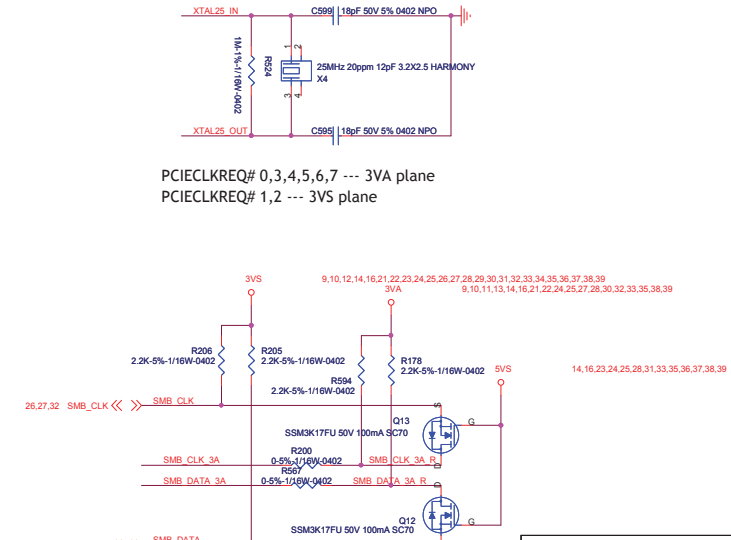


HDD I/F

WLAN 3G CARD PCIE LAN

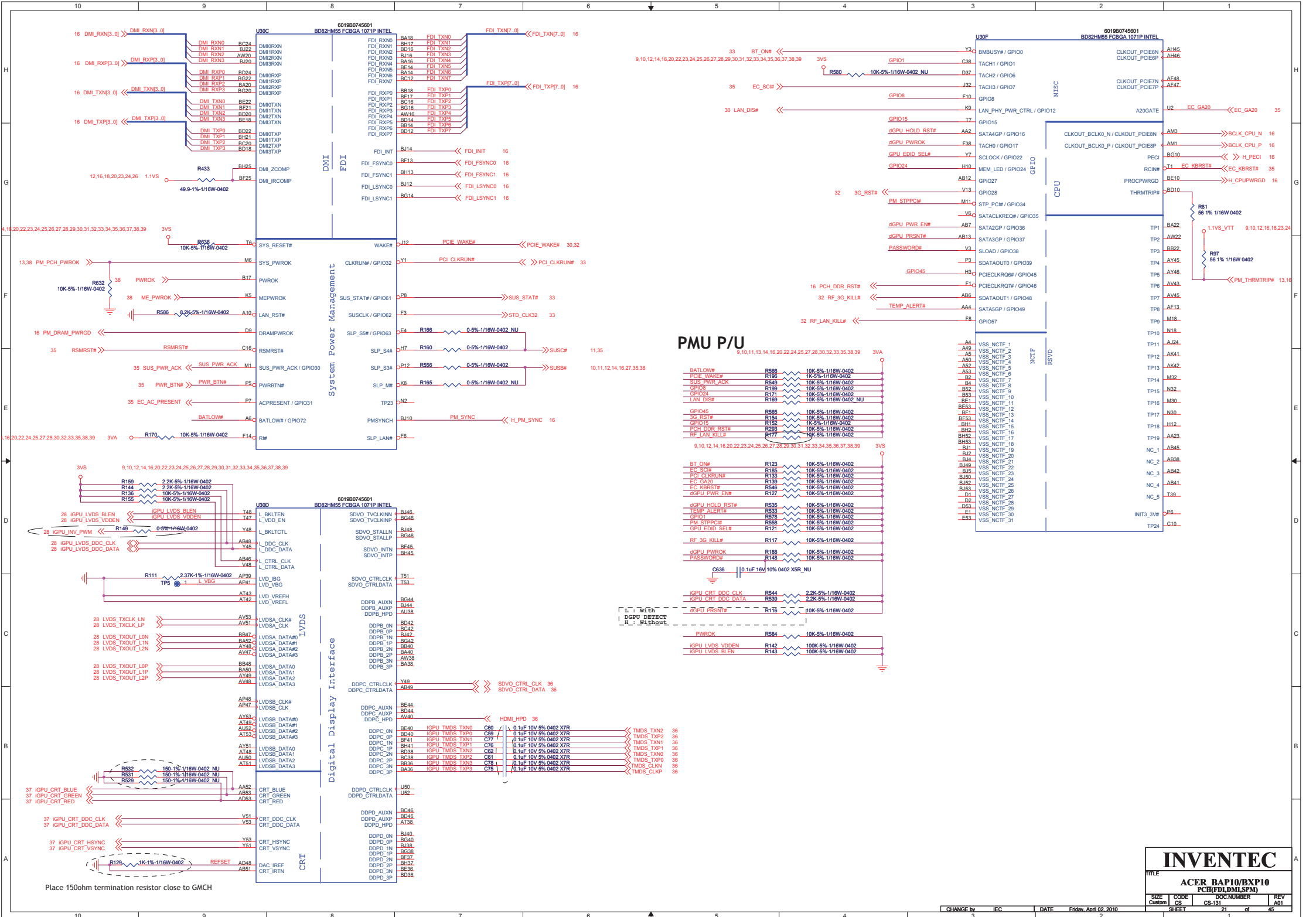


PCIECLKREQ# 0,3,4,5,6,7 --- 3VA plane
PCIECLKREQ# 1,2 --- 3VS plane



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ACER BAP10/BXP10 PCH(HDA,JTAG,SATA)			
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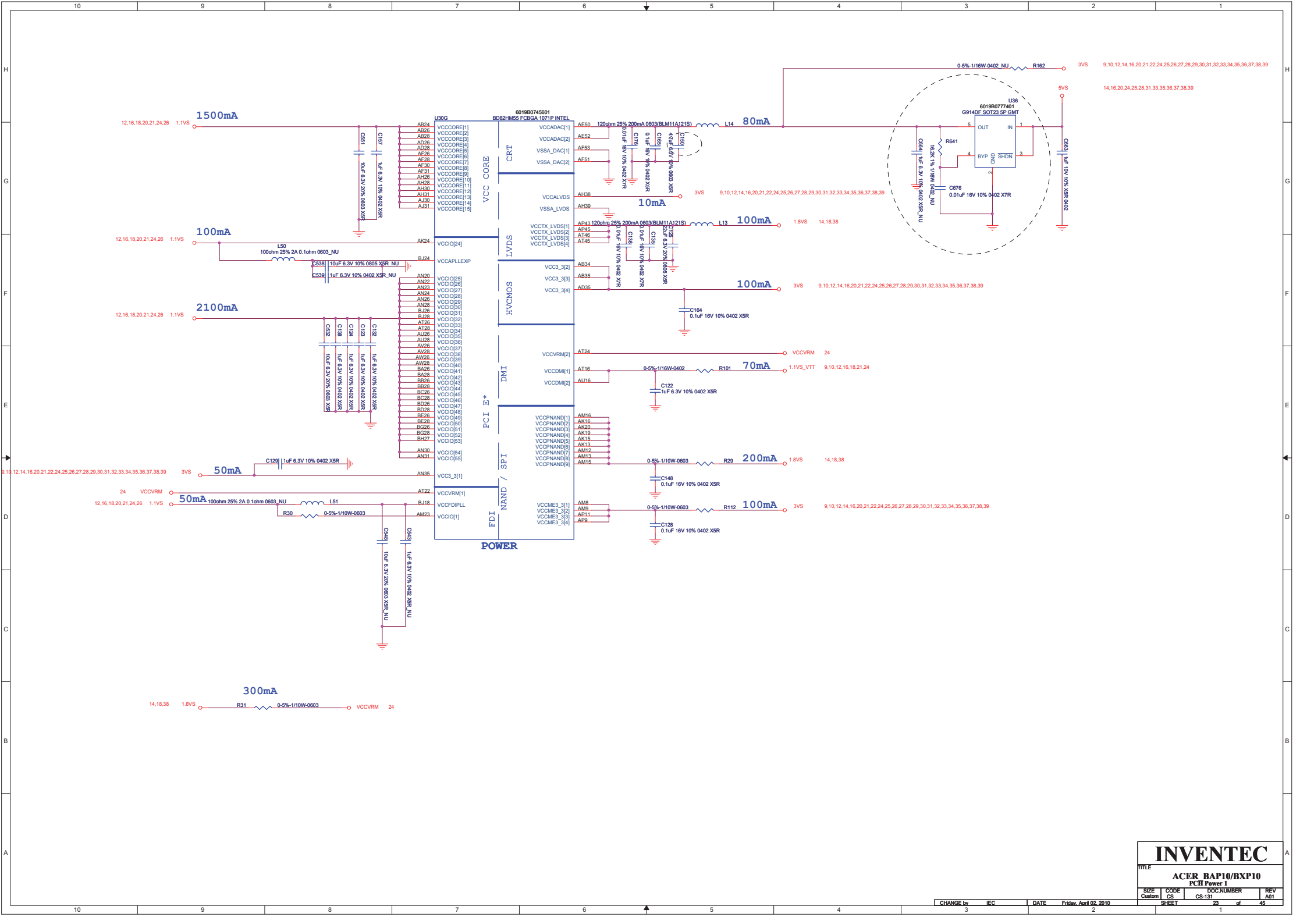
INVENTEC

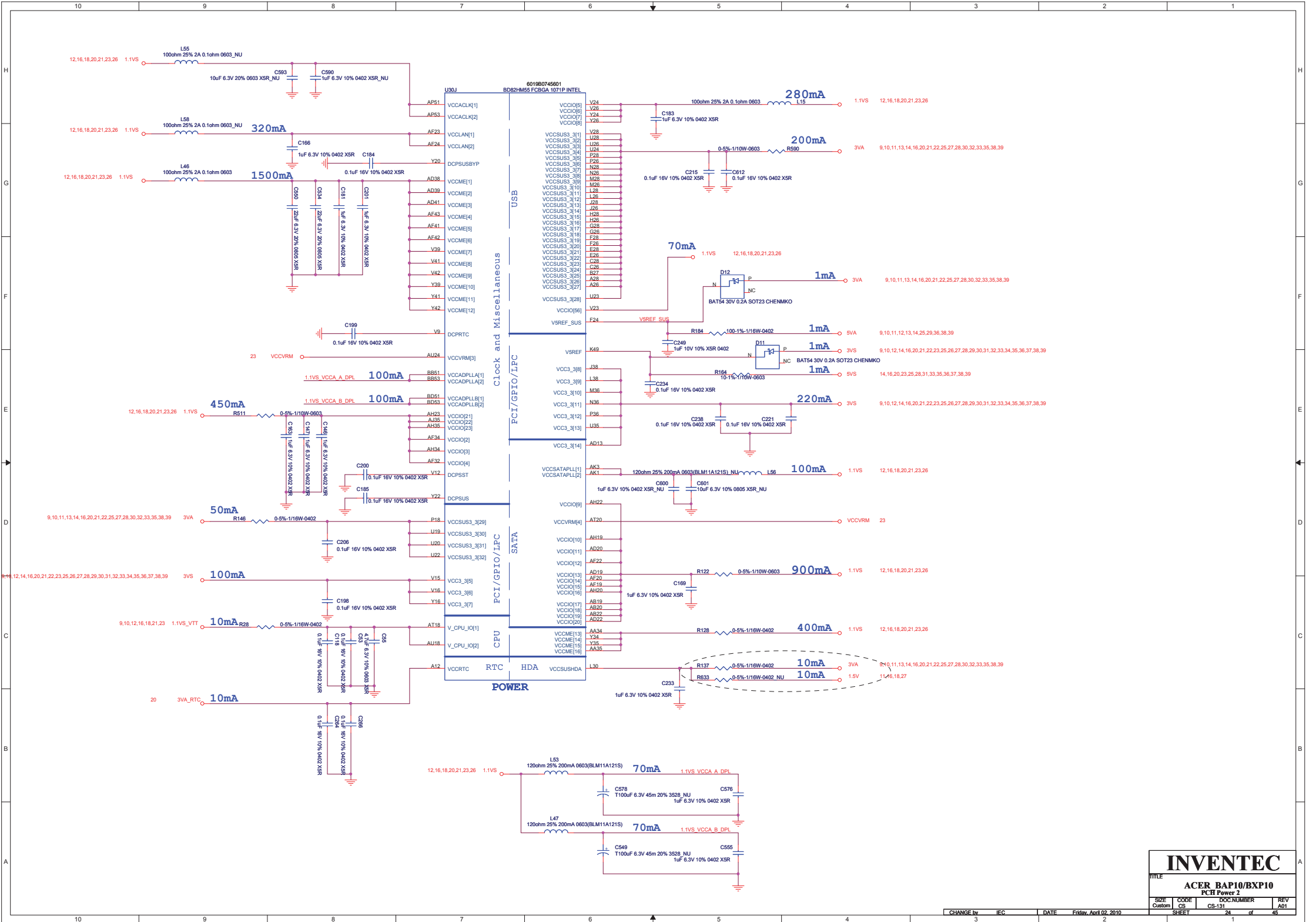
ACER BAP10/BXP10

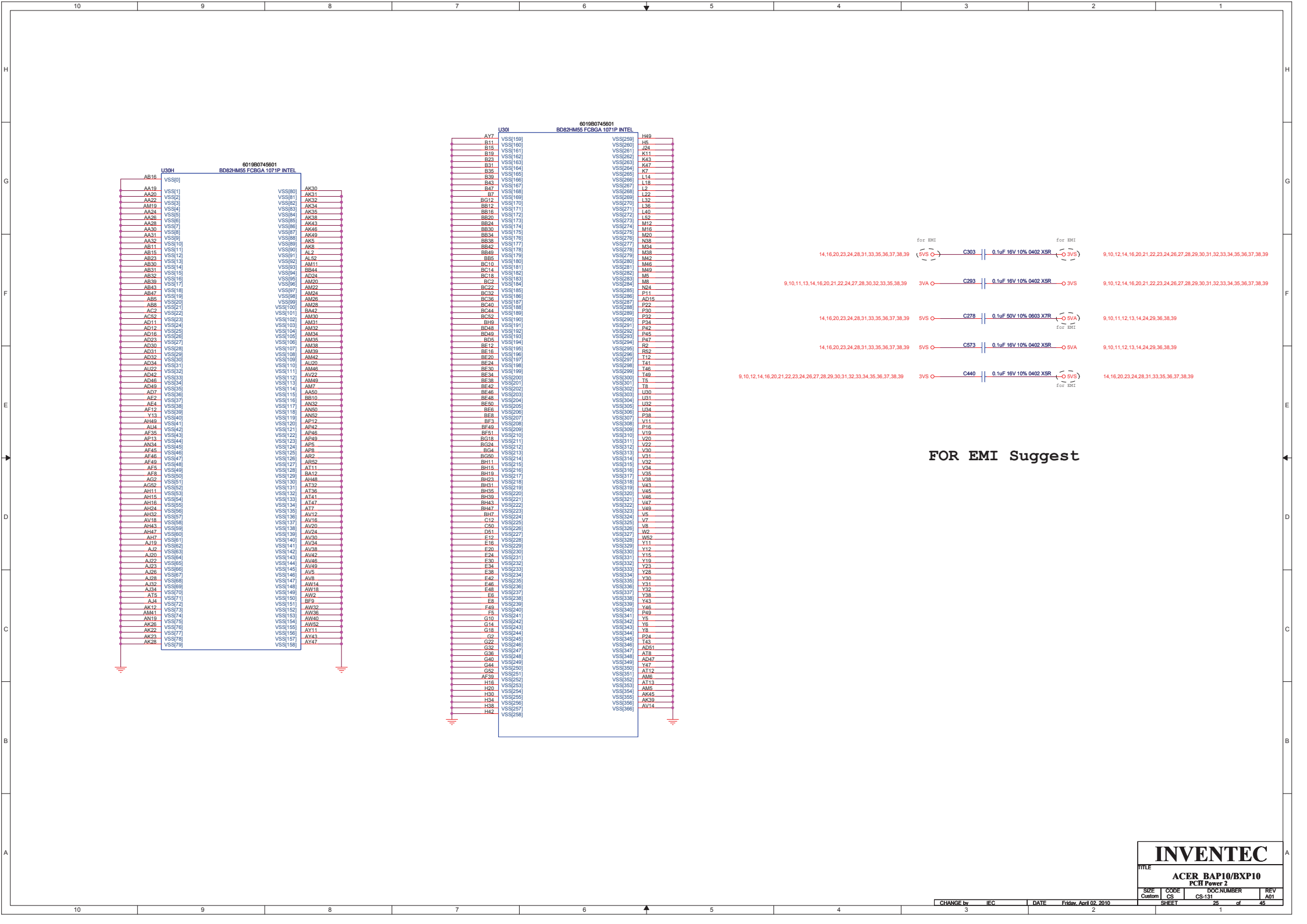
PCH(FDI,DMI,SPM)

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SHEET

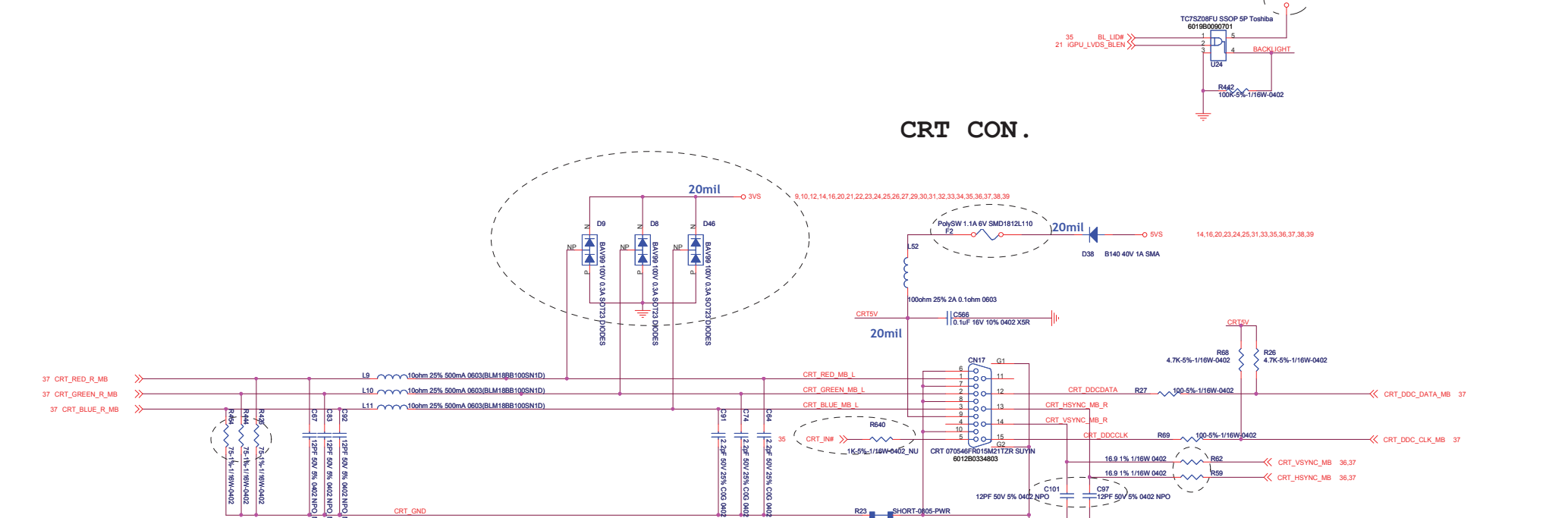
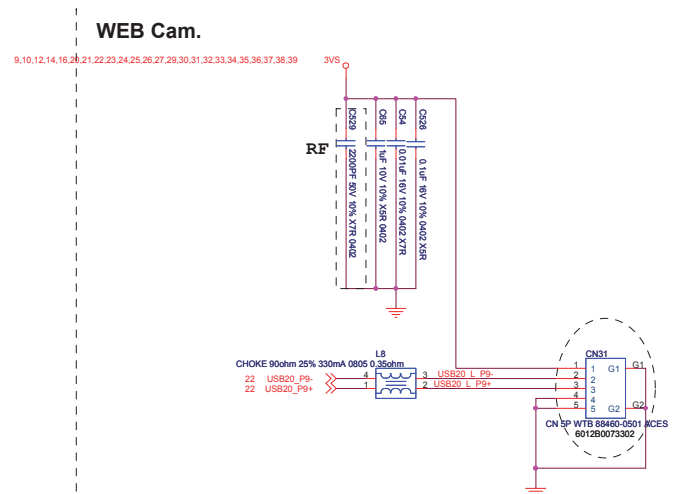
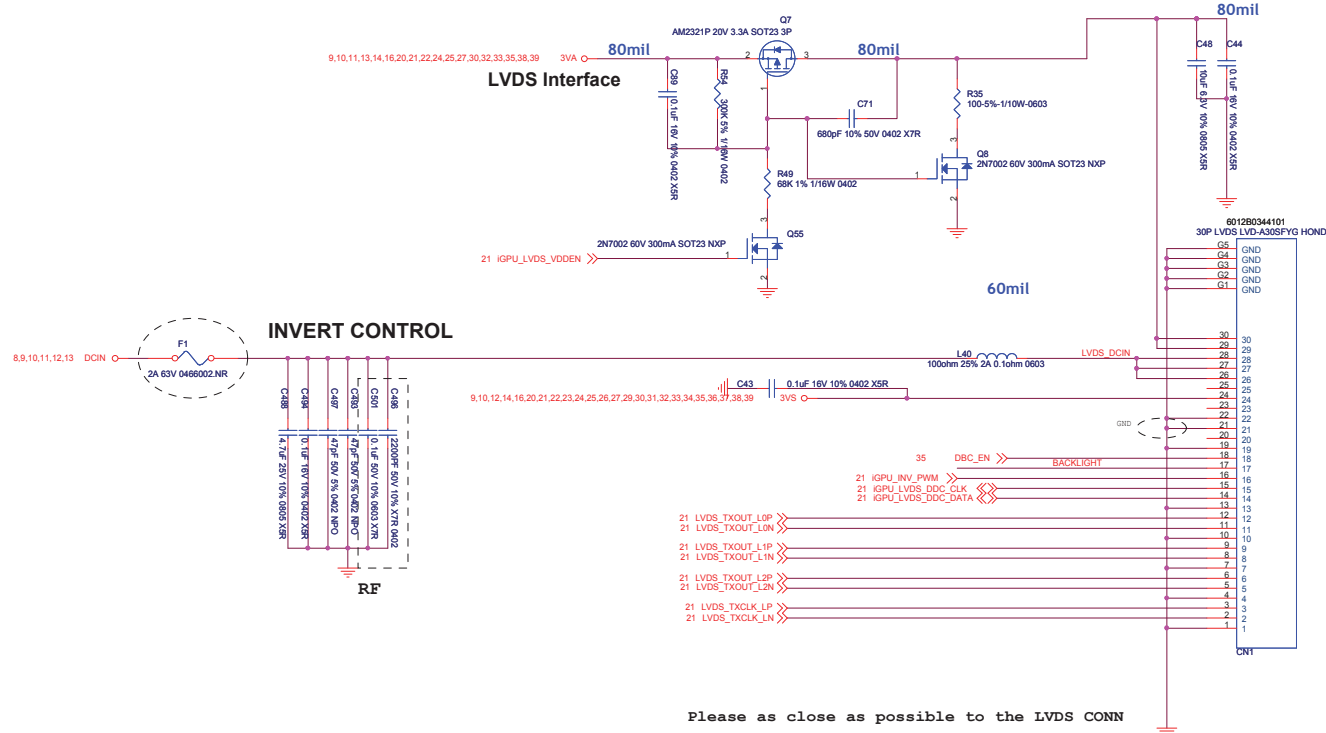
CHANGE by IEC DATE Friday, April 02, 2010







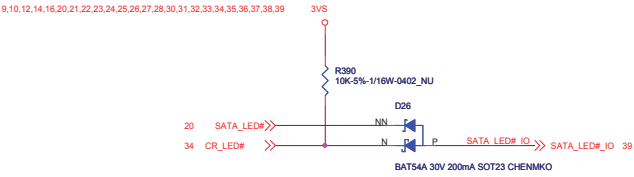
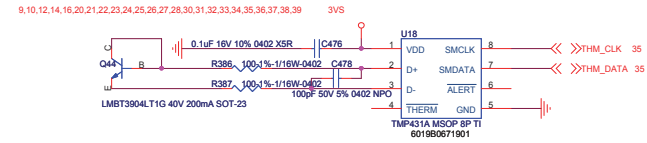
SO-DIMM 1



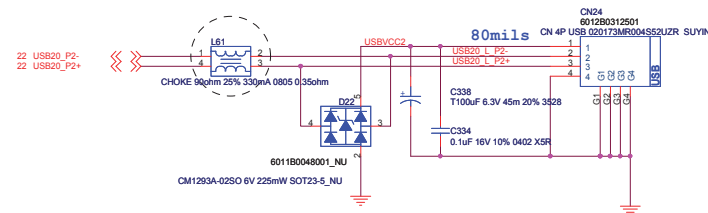
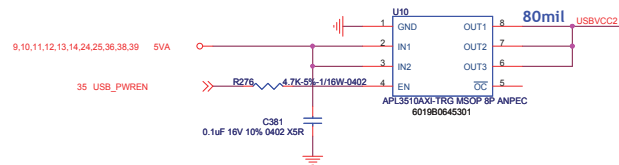
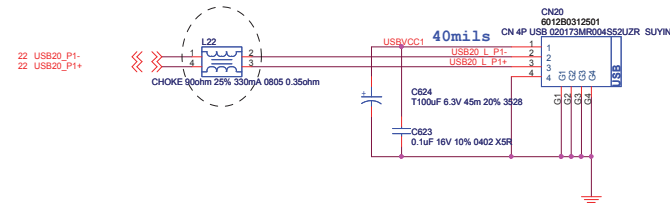
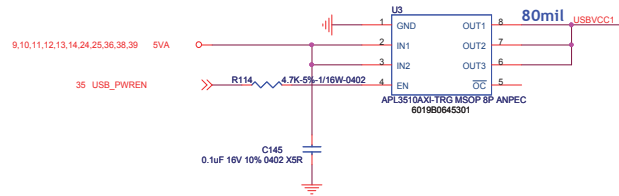
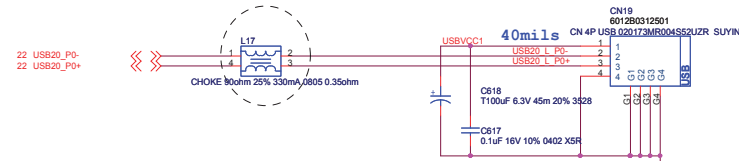
Thermal Sensor

REMOTE thermal sensor

Place near the hottest spot area under Palm-rest



USB



INVENTEC

TITLE
ACER BAP10/BXP10
USBSensor

SIZE
Custom

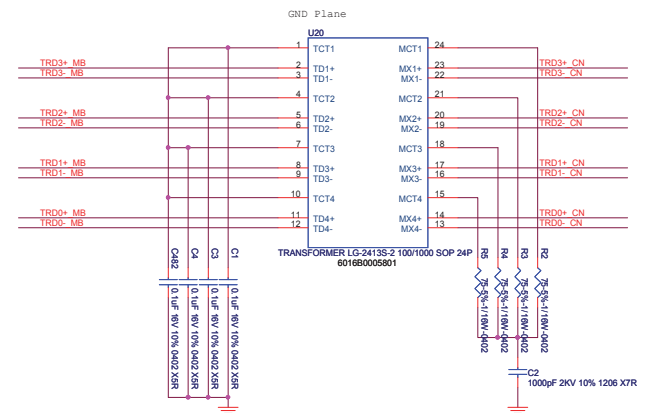
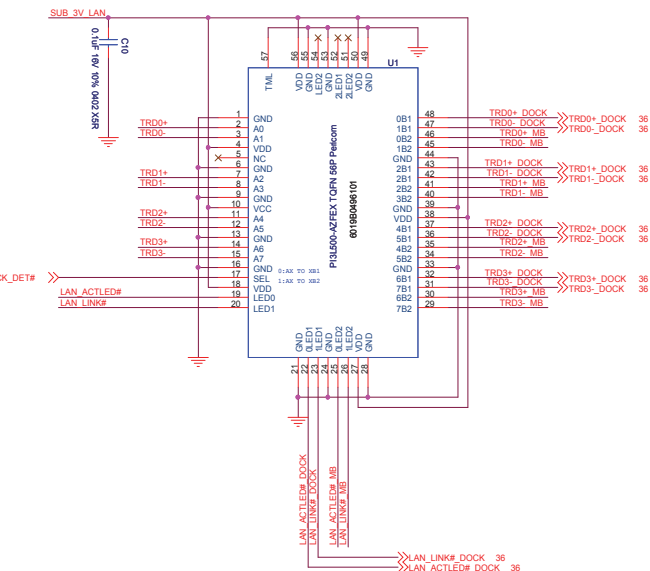
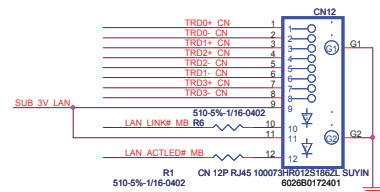
CODE
CS

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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)

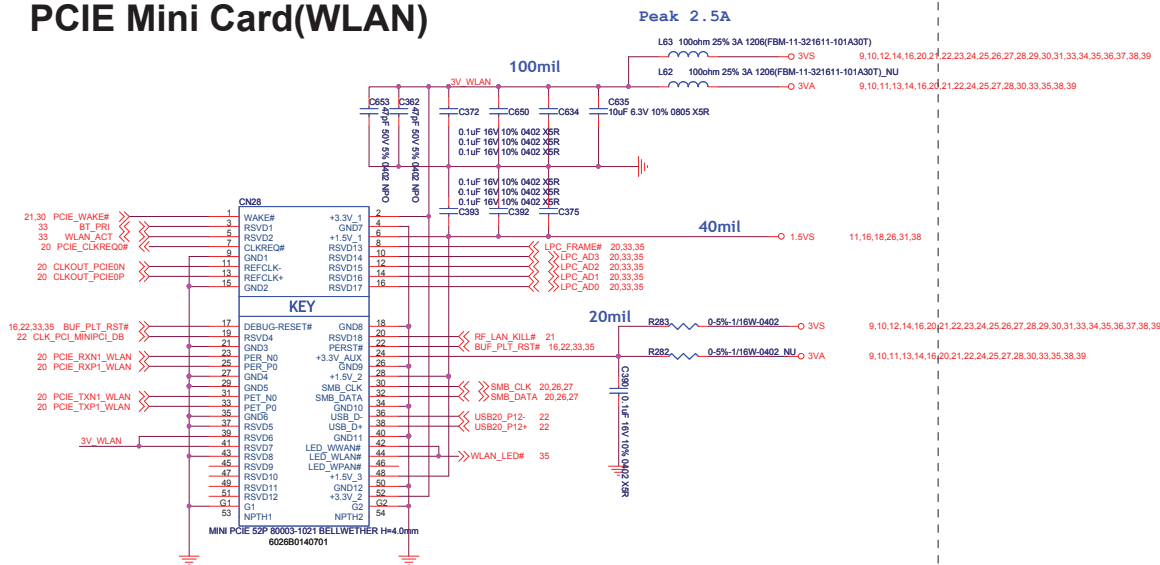
For EMC

INVENTEC

TITLE			
ACER BAP10/BXP10			
Audio Codec / AMP			
SIZE	CODE	DOC NUMBER	REV
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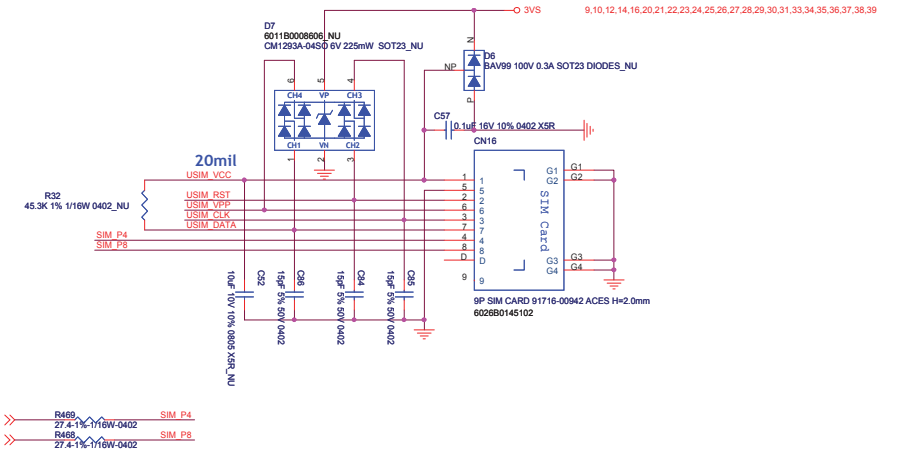
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PCIE Mini Card(WLAN)

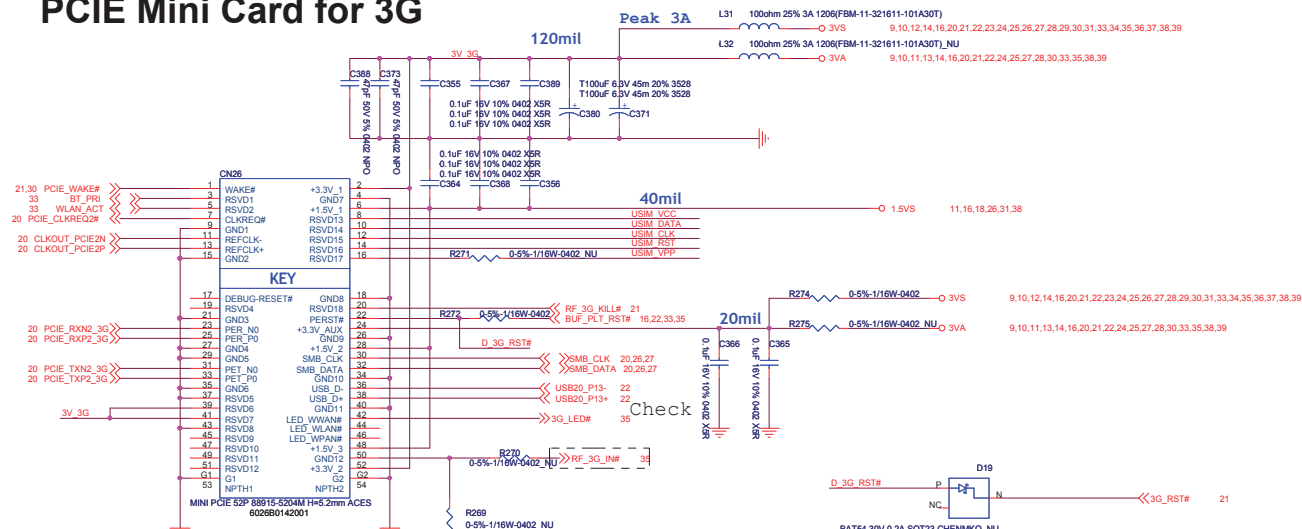


On Chip 5V to 3.3V regulator. No external regulator required
On-Chip power MOSFETs for supplying flash media card power.

SIM CARD slot

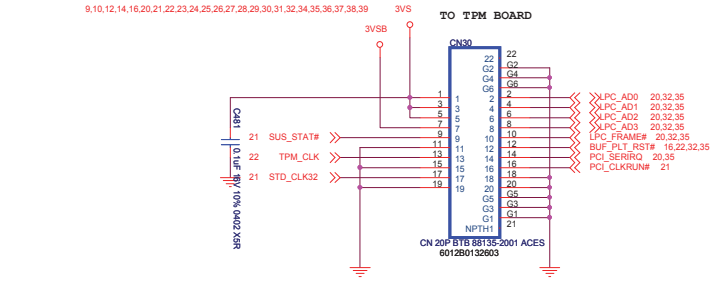


PCIE Mini Card for 3G



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

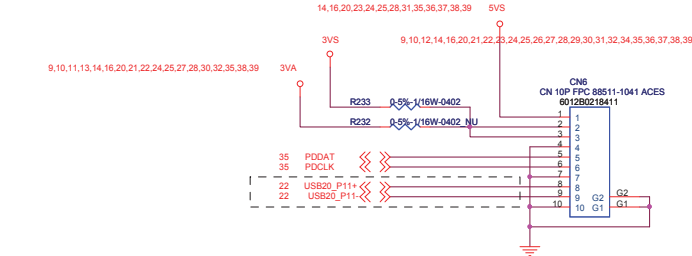
TO TPM CNN.



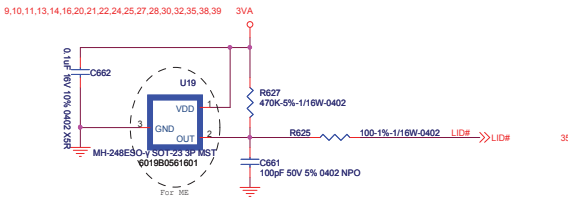
IN TPM SKU STUFF



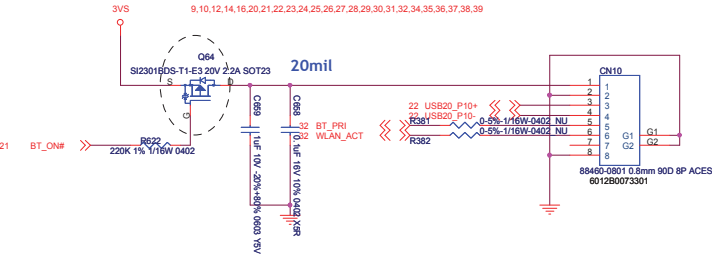
GP + FP CNN.



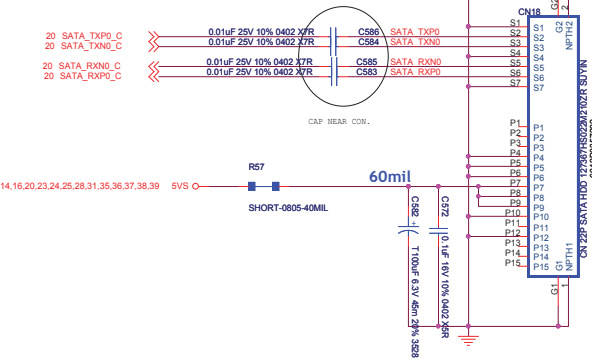
HALL Switch



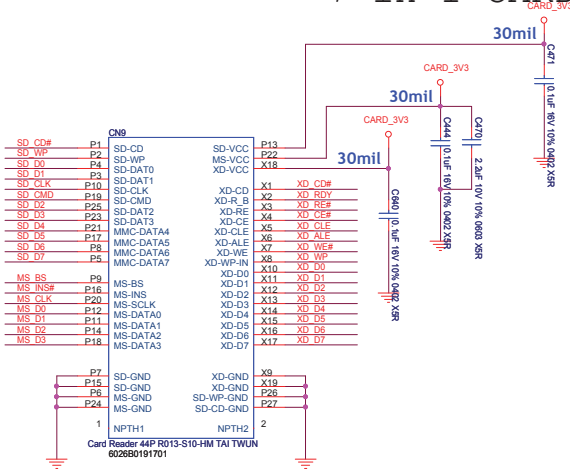
Bluetooth CNN.



HDD I/F

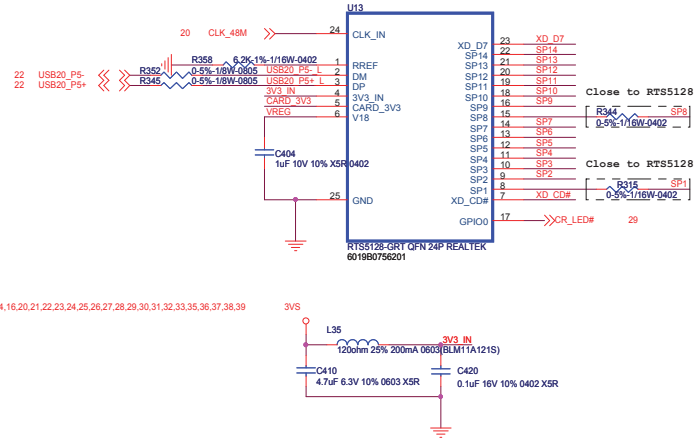


7 in 1 CARDREADER



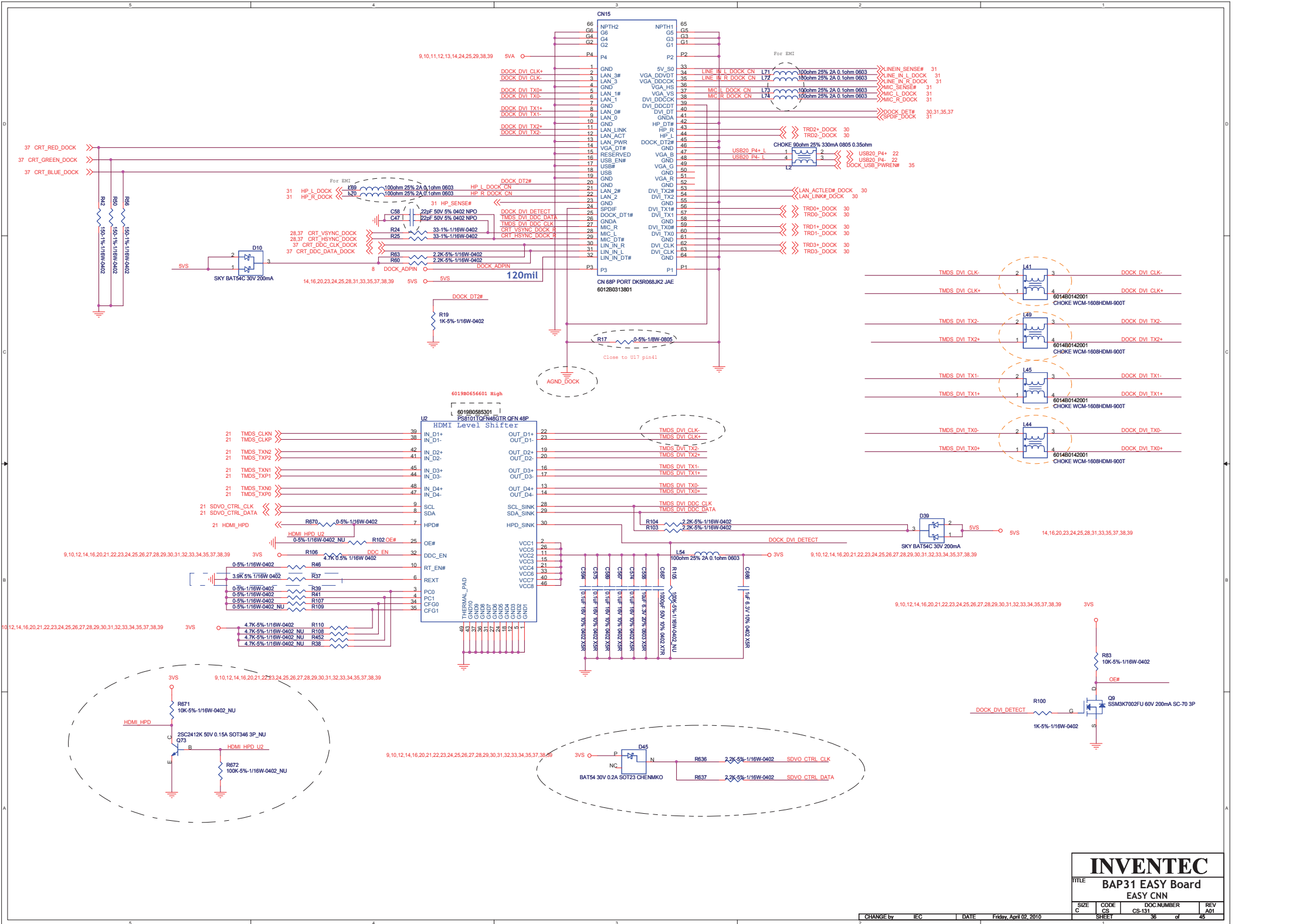
SP1	XD RDY	SD WP	MS CLK
SP2	XD RE#		MS IN#
SP3	XD CE#	SD D1	
SP4	XD CLE	SD D0	MS D7
SP5	XD ALE	SD D7	MS D3
SP6	XD WE#	SD CD#	
SP7	XD WP	SD D6	MS D6
SP8	XD D0	SD CLK	MS D2
SP9	XD D1	SD D5	MS D0
SP10	XD D2	SD CMD	
SP11	XD D3	SD D4	MS D4
SP12	XD D4	SD D3	MS D1
SP13	XD D5	SD D2	MS D5
SP14	XD D6		MS B5

Close to connector

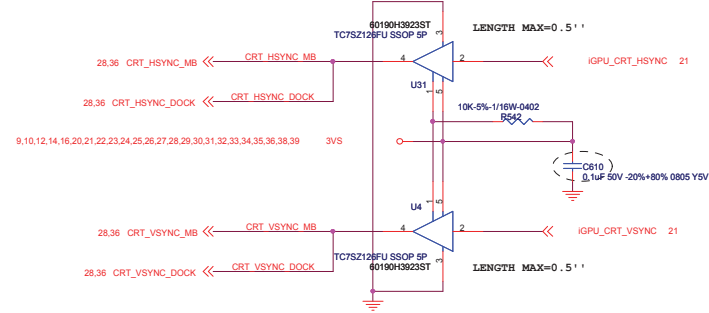
**INVENTEC**

TITLE	BAP10 EASY Board CARD READER
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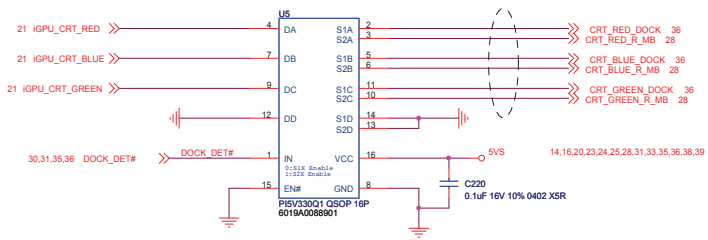
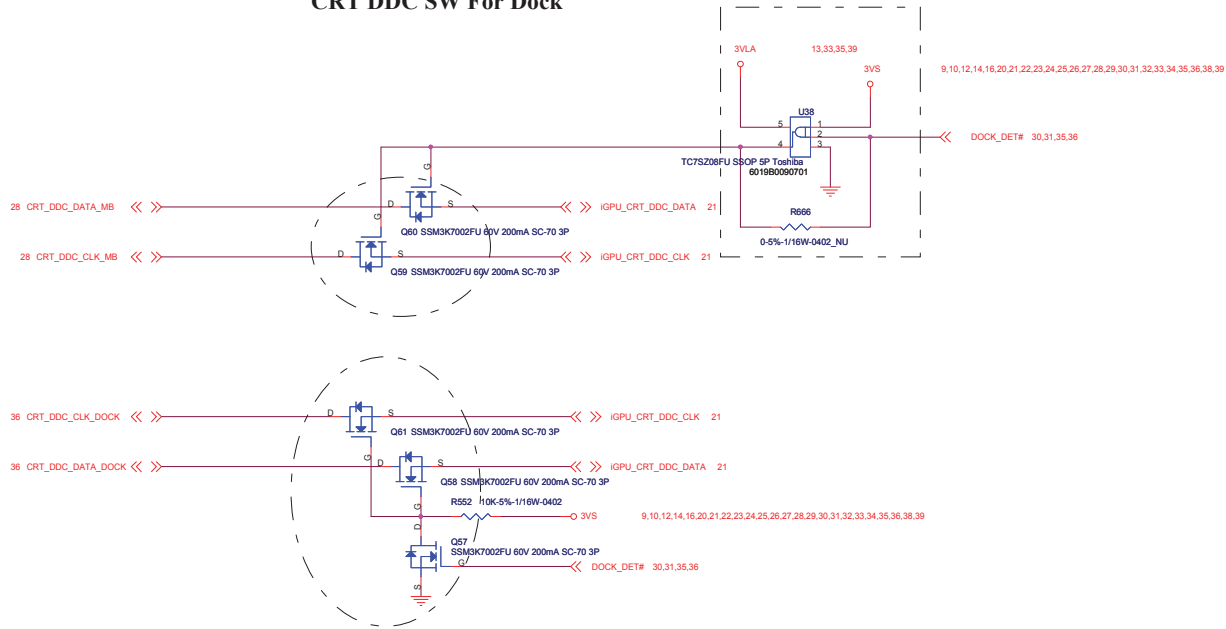
SIZE C	CODE A03	DOC. NUMBER	REV A01
SHEET		34	of 45

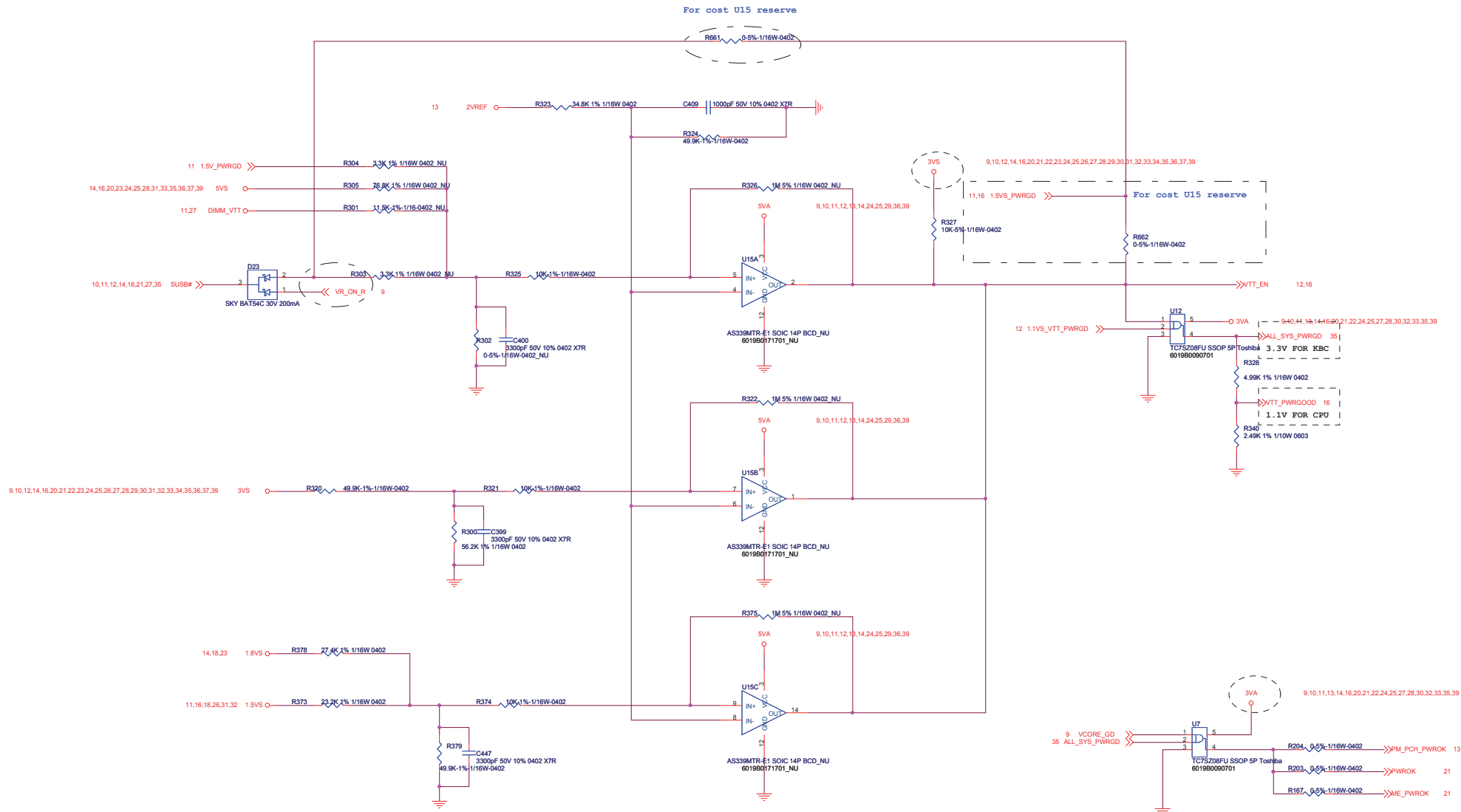


CRT HSYNC/VSYNC SW For Dock



CRT DDC SW For Dock

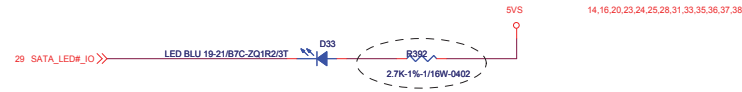
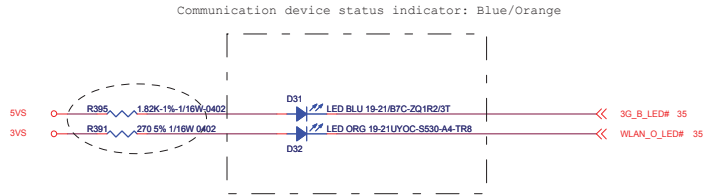
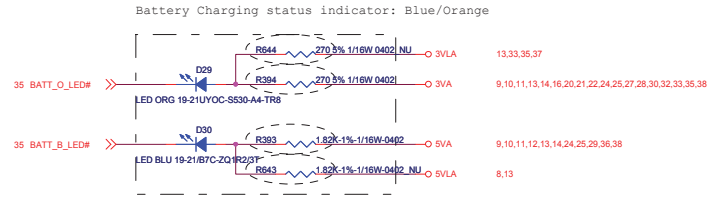
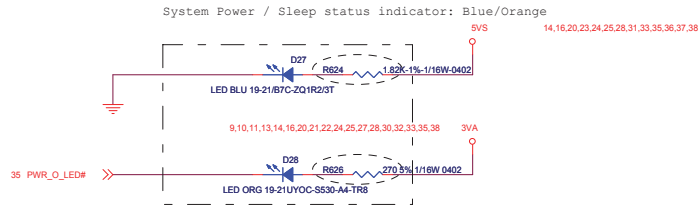
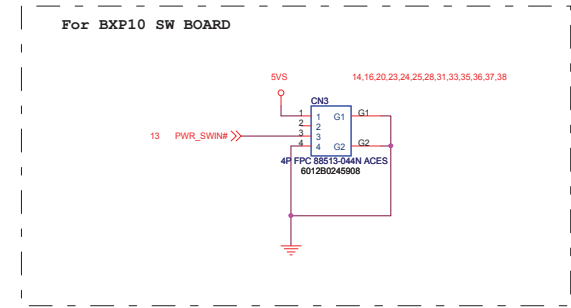
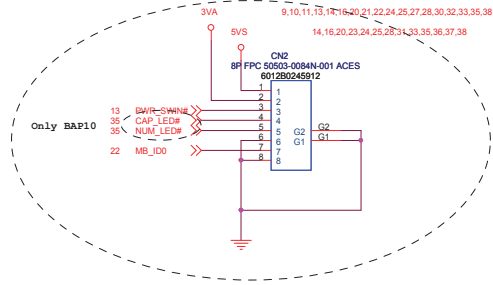




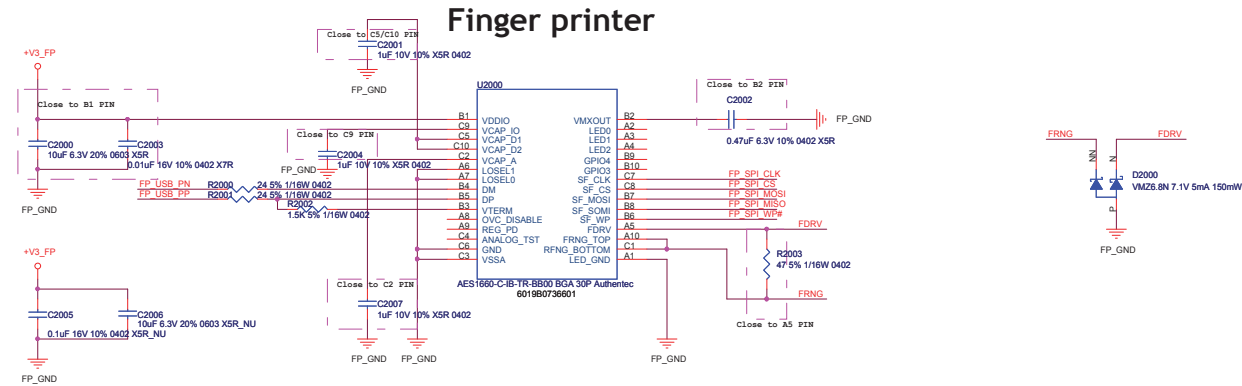
For BAP10 SW BOARD and BXP10 LED

Pin2 for BIOS ID setting

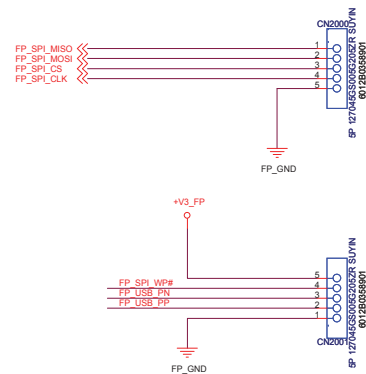
Project	MB_ID0
BAP10 (UMA)	1
BXP10 (UMA)	0



w/ Fingerprint: Stuff
w/o Fingerprint: OPEN



TO GP PIN HEADER

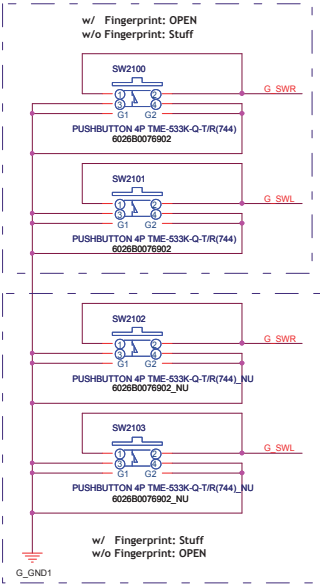
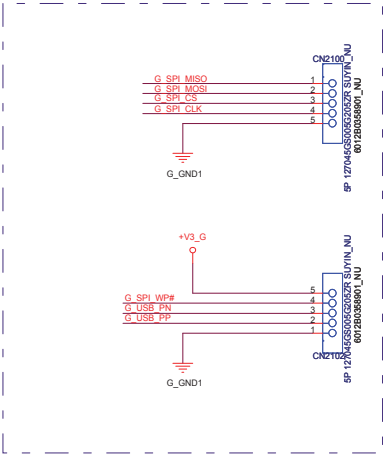


INVENTEC			
TITLE			
ACER BAP10/BXP10			
GP Button			
SIZE Custom	CODE CS	DOC. NUMBER CS-131	REV A01
SHEET		40	of 45

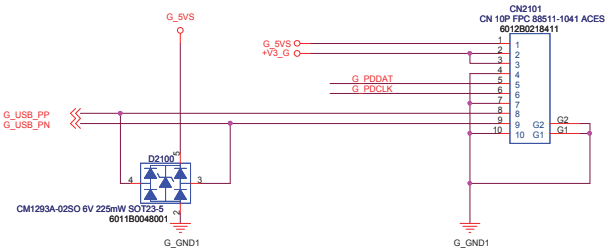
GP Board

GP Button

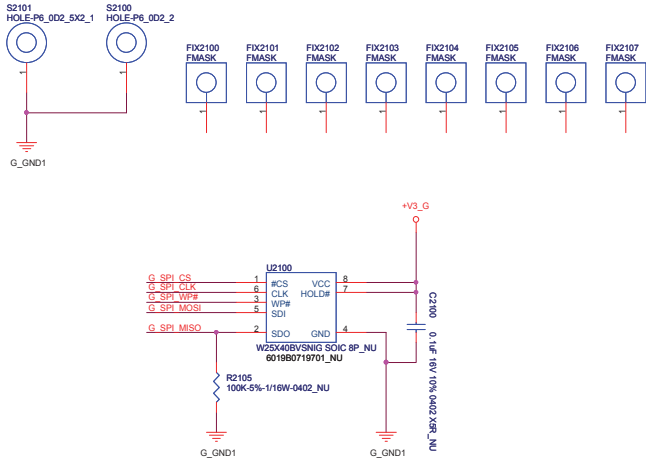
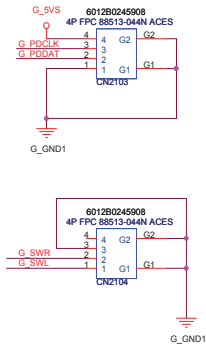
TO FP PIN HEADER



TO MB



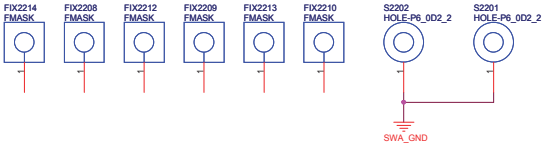
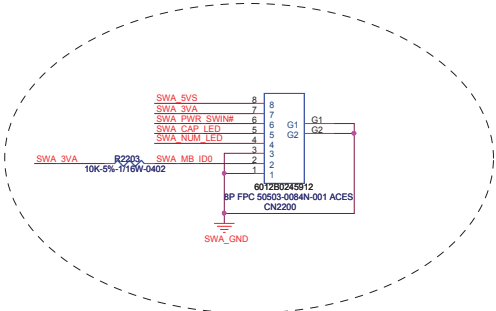
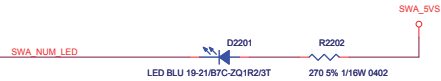
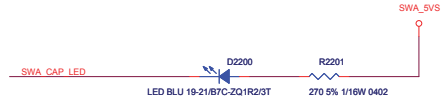
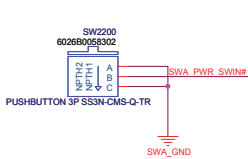
TO touch Pad



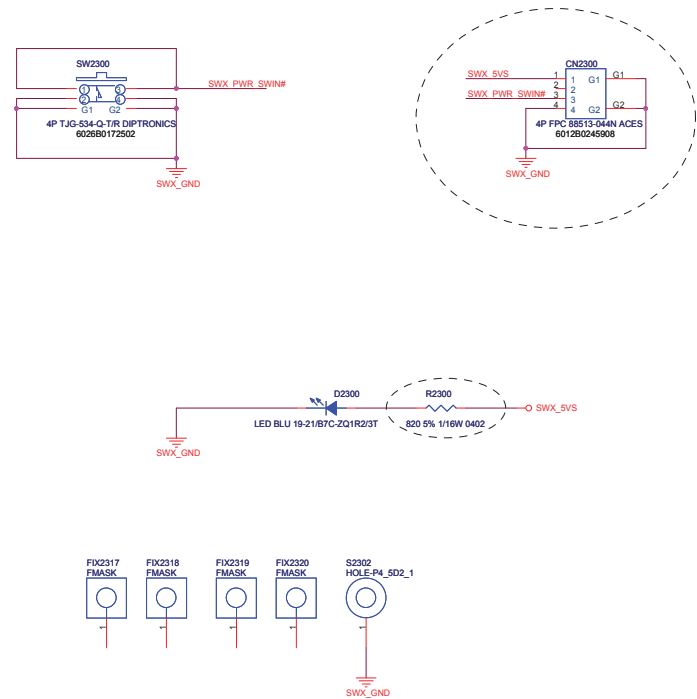
BAP10 1 SW+3 LED Board

Pin2 for BIOS ID setting

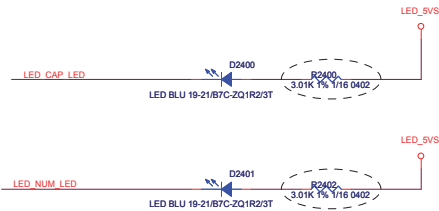
Project	MB_ID0
BAP10 (UMA)	1
BXP10 (UMA)	0



BXP10 1 SW+1 LED Board

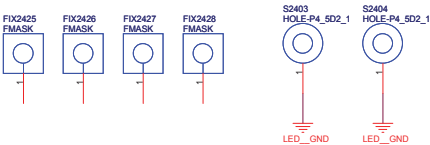
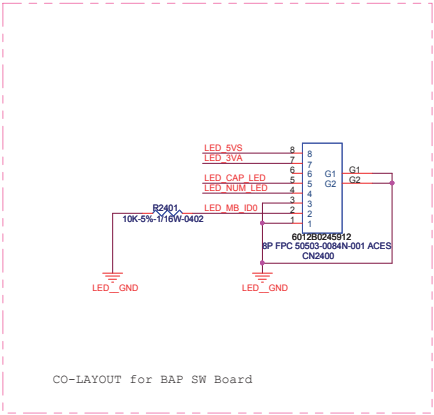


BXP10 2 LED Board

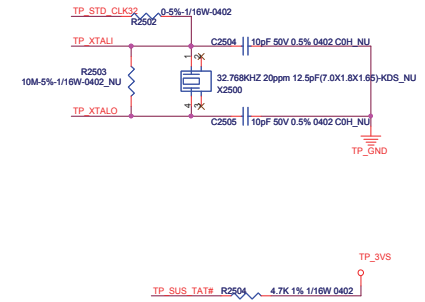
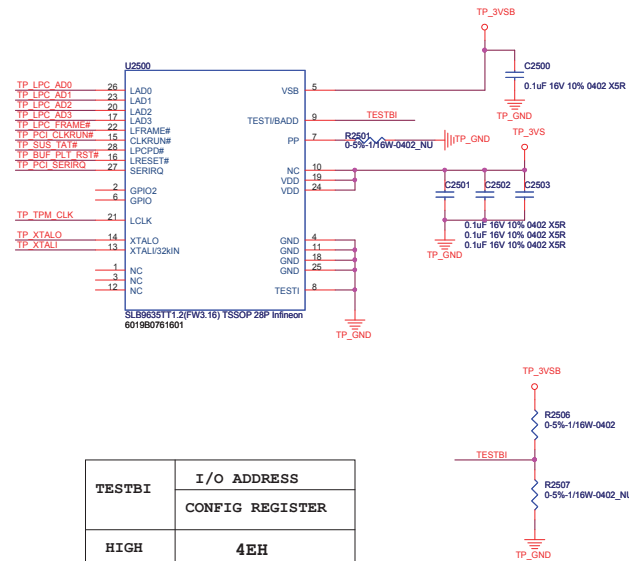
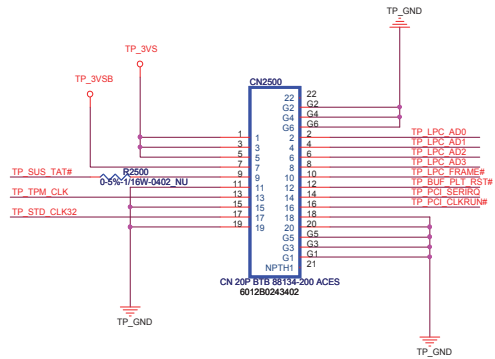


Pin2 for BIOS ID setting

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



TO MB BOARD



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

