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HSF Property:ROHS

SYNAPSE
www.aitech1.ru
2012.03.19

19/10/2012	2012-ECO-000589	A
DATE	CHANGE NO	REV

	EE	DATE	POWER	DATE	INVENTEC			
DRAWER					TITLE CHIEF RIVER, Synapse, MB			
DESIGN					COVER			
CHECK								
RESPONSIBLE								
DATE								
FILE NAME								
PR					SIZE C	UNIT CS	DOC NUMBER D-CS-1310A37032-0-ALG	REV A
					SHEET 1 of 52			

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2. INDEX
3. BLOCK DIAGRAM
4. POWER MAP
5. SMBUS
6. CHARGER & DC IN CNTR
7. BATTERY CN & RESET IC
8. 3V / 5V PWM
9. 1.5V PWM
10. 1.05V PWM
11. 1.8V REGULATOR
12. CPU SA POWER
13. CPU VCORE CONTROLLER
14. CPU SWITCHING MOS
15. P1V5S PG / ALL POWER OFF IN S5 W/ BATTERY ONLY
16. SEQUENCE / P5V0S / P3V3S / P1V5S
17. CPU-1
18. CPU-2
19. CPU-3
20. CPU-4
21. CPU-5
22. CPU-6
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31. PCH-6
32. PCH-7
33. PCH-8
34. PCH-9
35. EC
36. LVDS
37. HDMI
38. HDD
39. ISSD
40. CARD READER
41. CODEC
42. HP & MIC & SPEAKER
43. LEDS / WLAN/BT SW / LID
44. USB 3.0 CNTR
45. WLAN & BT
46. WWAN
47. ISSD POWER
48. CONNECTORS

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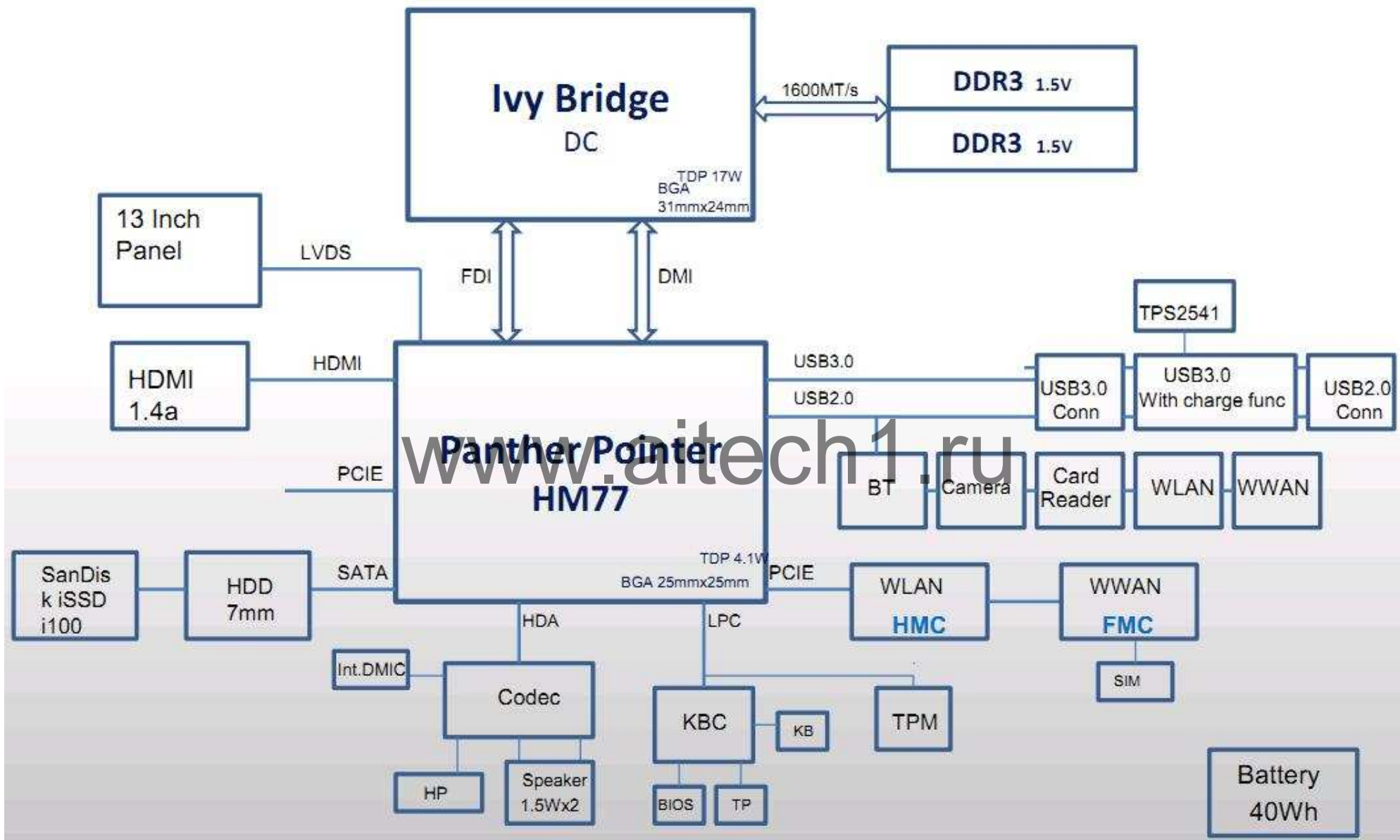
49. SCREWS & FIXED & EMI CAPS
50. POWER & RESET BUTTON
51. USB 2.0 CNTR
52. TPM BOARD

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INVENTEC

TITLE			
CHIEF_RIVER,Synapse,MB			
CATALOG			
SIZE	CODE	DOC NUMBER	REV
A3	CS	D-CS-1310A25032-0-ALG	A
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CHANGE by xxx DATE 19-Mar-2012



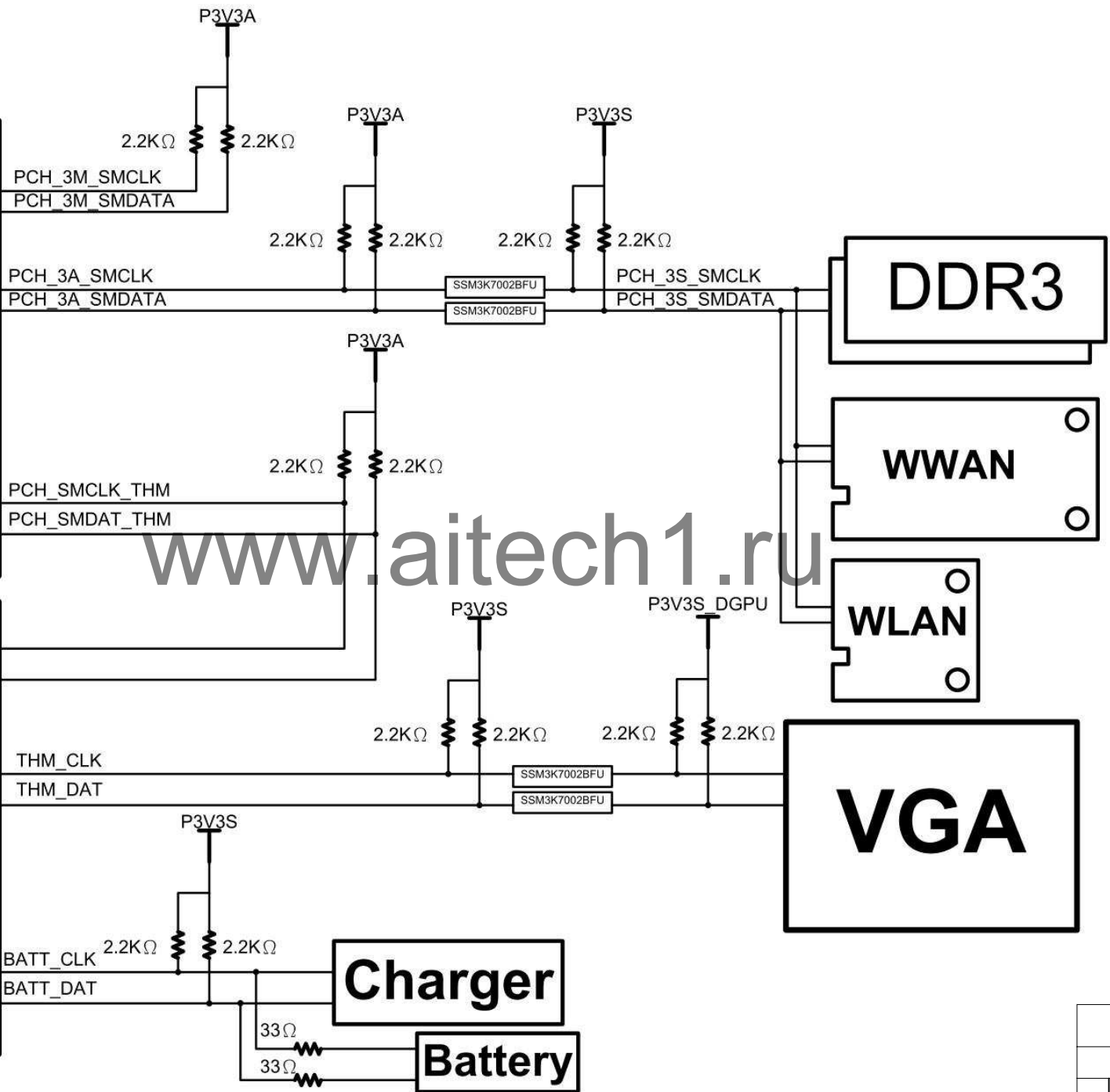
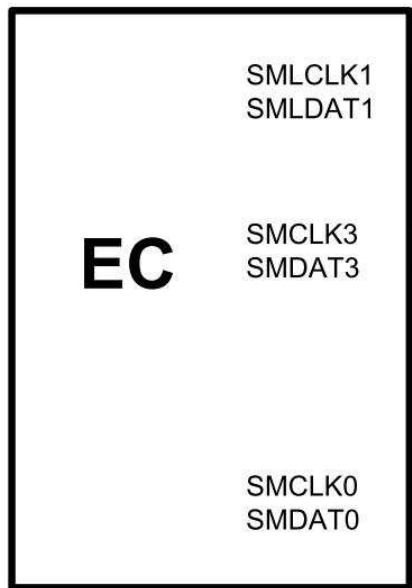
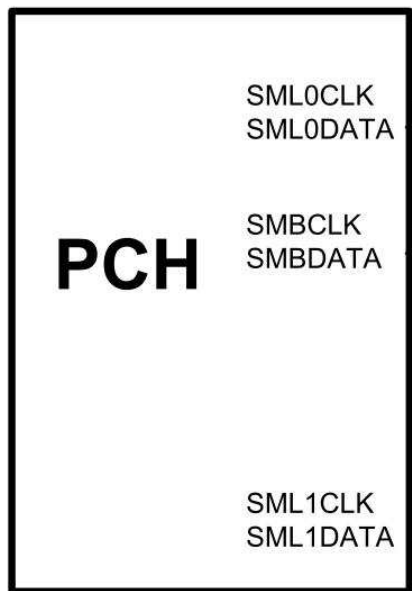
INVENTEC

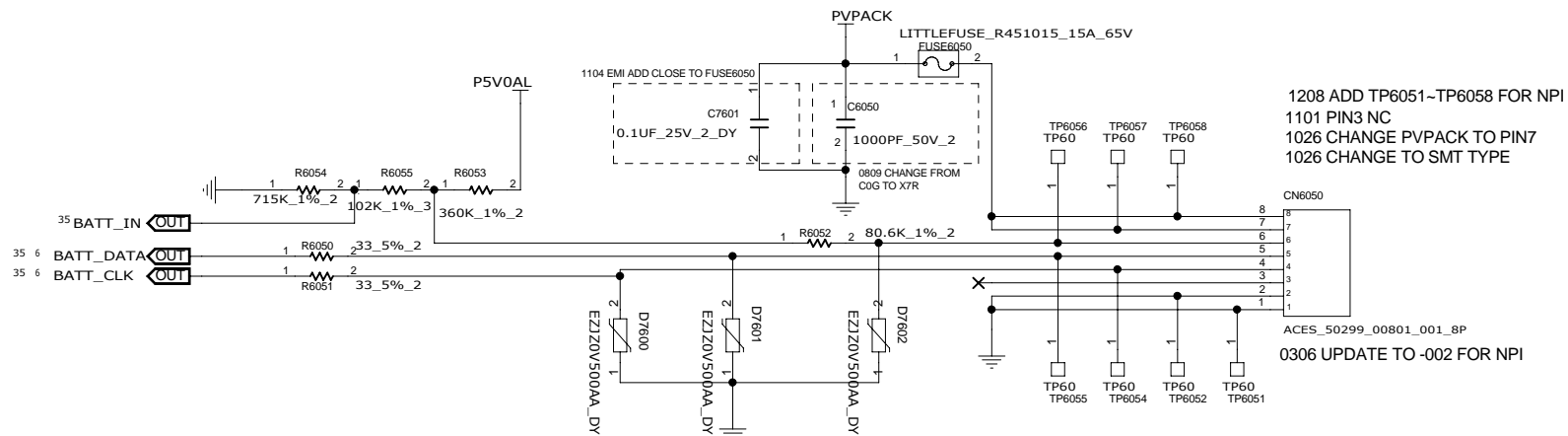
TITLE
CHIEF RIVER, Synapse, MB

SIZE A3 CODE CS DOC NUMBER D-CS-1310A25032-0-ALG REV A

CHANGE by XXX DATE 19-Mar-2012

SHEET 3 of 52



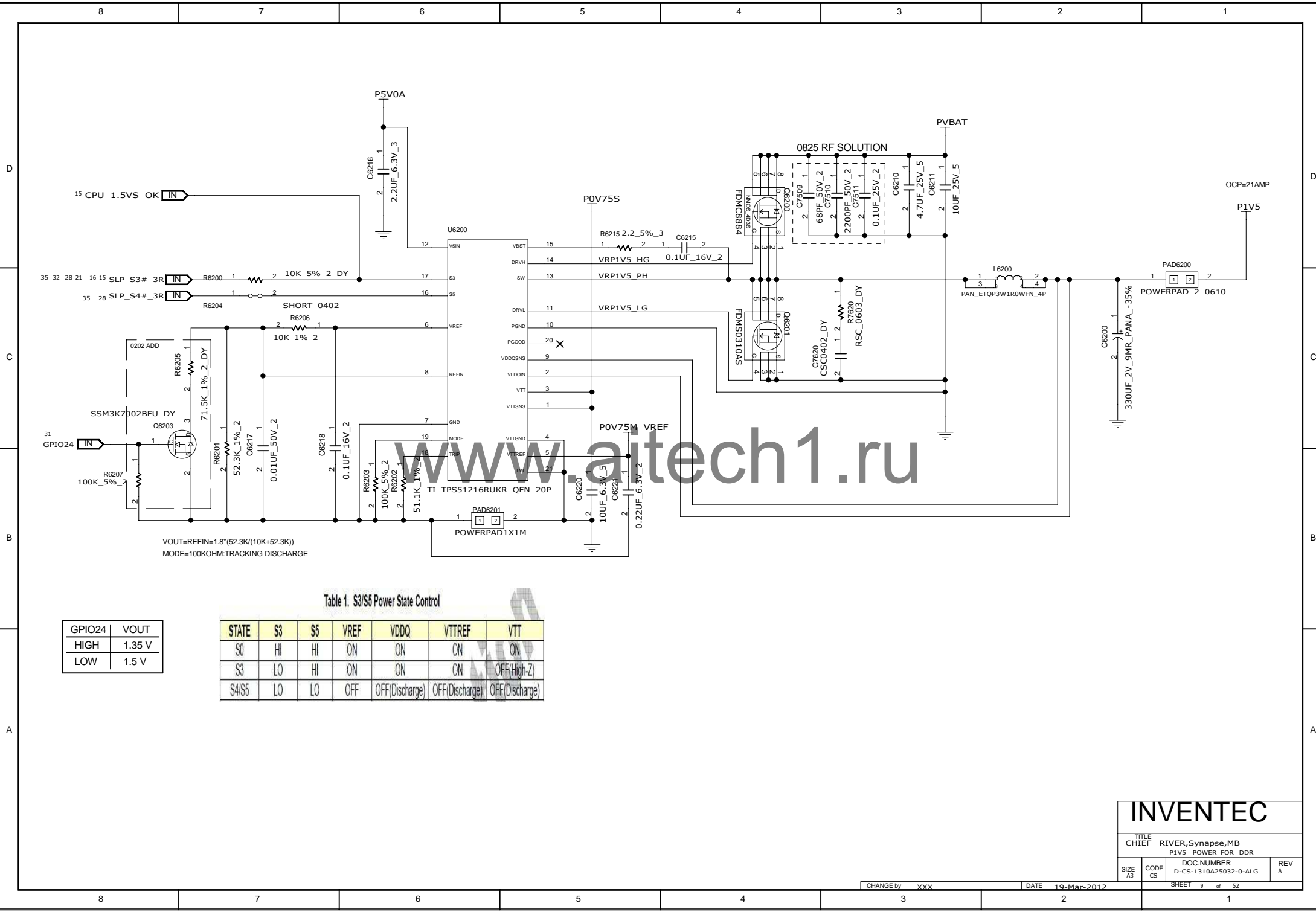


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INVENTEC			
TITLE RIVER, Synapse, MB			
CHIEF BATTERY CONNECTOR & RESET IC			
SIZE A3	CODE CS	DOC NUMBER D-CS-1310A25032-0-ALG	REV A

CHANGE by XXX DATE 19-Mar-2012

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VOUT=REFIN=1.8*(52.3K/(10K+52.3K))
MODE=100KOHM:TRACKING DISCHARGE

Table 1. S3/S5 Power State Control

STATE	S3	S5	VREF	VDDQ	VTTREF	VTT
S0	HI	HI	ON	ON	ON	ON
S3	LO	HI	ON	ON	ON	OFF(High-Z)
S4/S5	LO	LO	OFF	OFF(Discharge)	OFF(Discharge)	OFF(Discharge)

GPIO24	VOUT
HIGH	1.35 V
LOW	1.5 V

INVENTEC

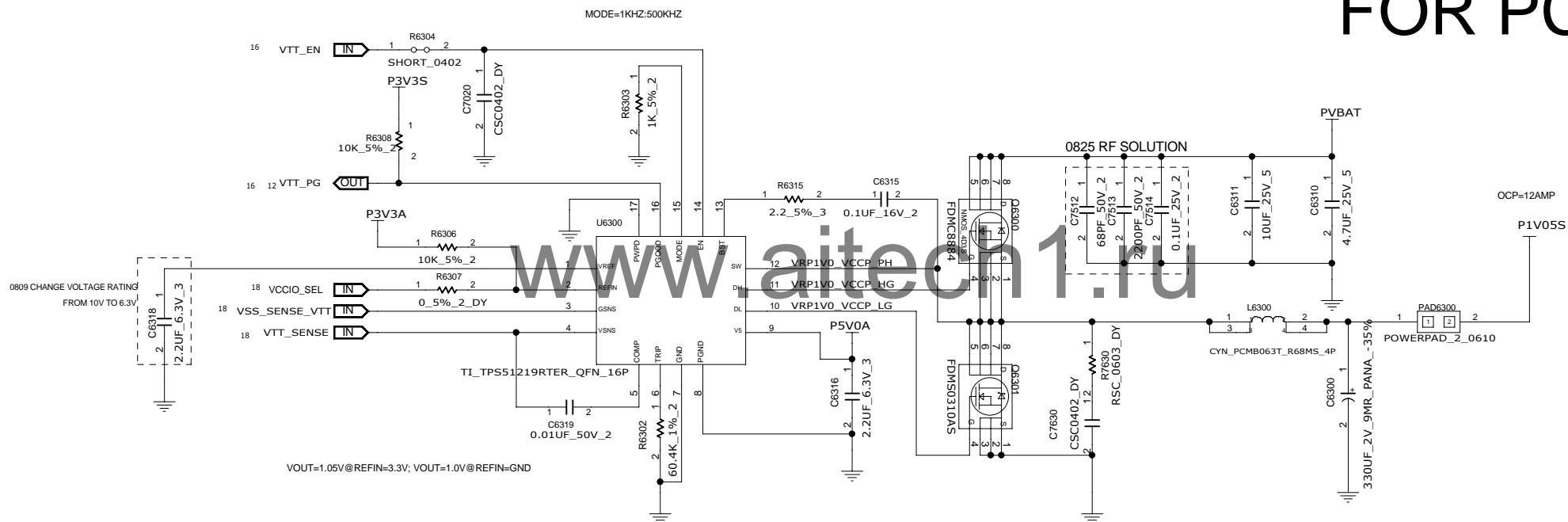
TITLE RIVER,Synapse,MB
CHIEF P1V5 POWER FOR DDR

SIZE A3 CODE CS DOC.NUMBER D-CS-1310A25032-0-ALG REV A

CHANGE by XXX DATE 19-Mar-2012

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FOR PCH



INVENTEC

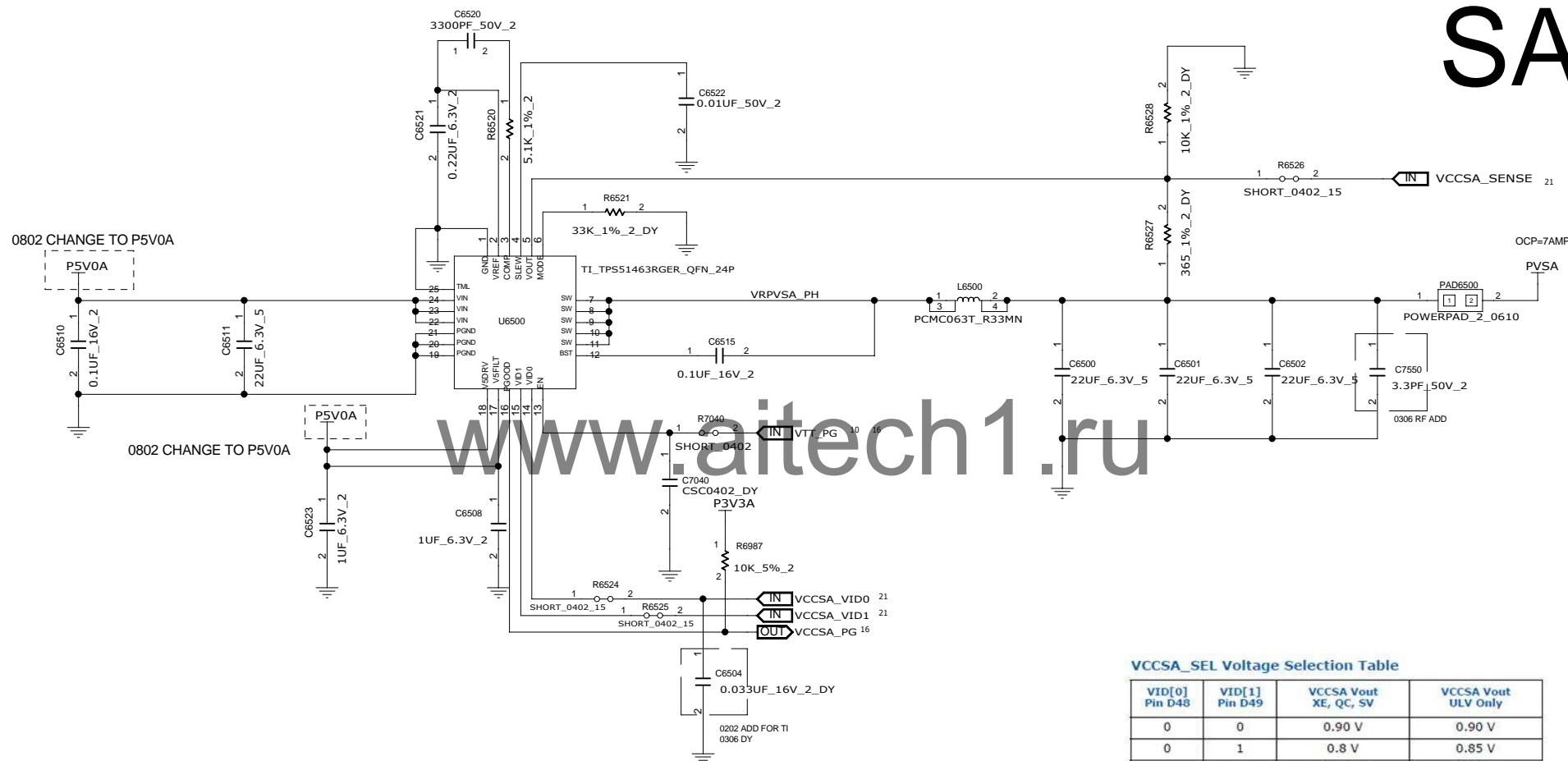
TITLE	RIVER,Synapse,MB
CHIEF	P1V05S POWER FOR PCH

SIZE A3	CODE CS	DOC.NUMBER D-CS-1310A25032-0-ALG
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CHANGE by	XXX	DATE	19-Mar-2012
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SA



VCCSA_SEL Voltage Selection Table

VID[0] Pin D48	VID[1] Pin D49	VCCSA Vout XE, QC, SV	VCCSA Vout ULV Only
0	0	0.90 V	0.90 V
0	1	0.8 V	0.85 V
1	0	0.725 V	0.775 V
1	1	0.675 V	0.750 V

INVENTEC

TITLE CHIEF RIVER,Synapse,MB

CPU SA POWER

DOCNUMBER
D-CS-1310A25032-0-ALG

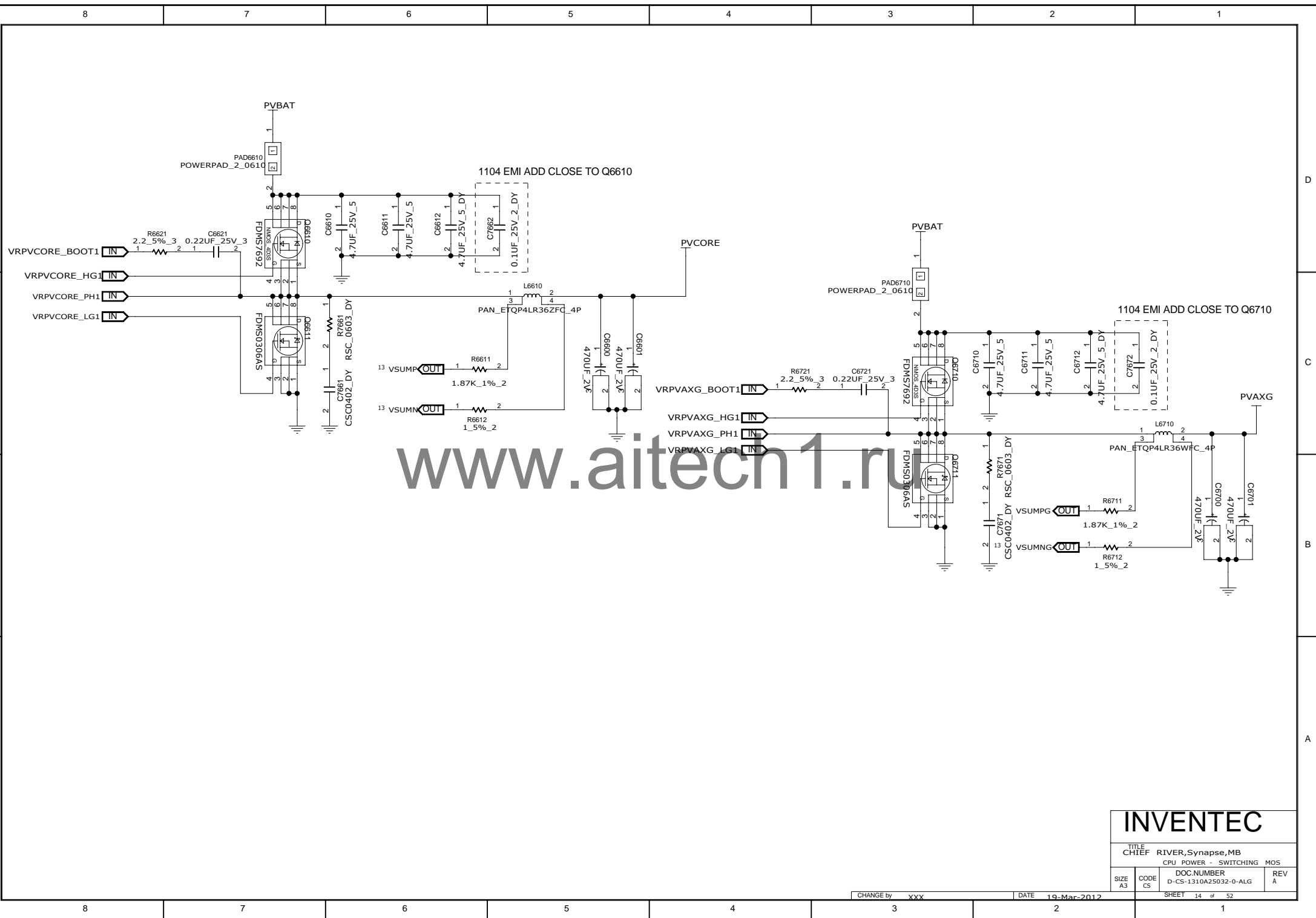
SIZE
A3

CODE
CS

REV
A

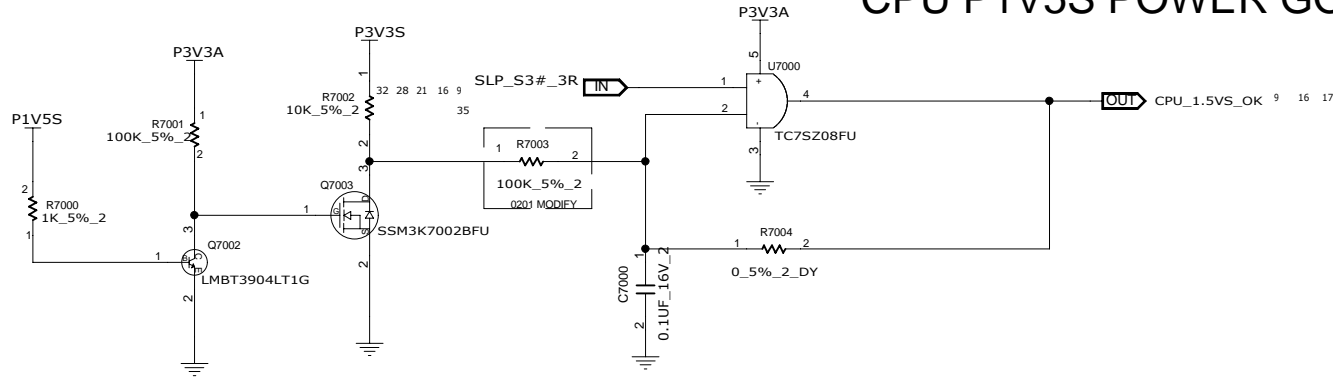
CHANGE by XXX DATE 19-Mar-2012

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INVENTEC				
TITLE CHIEF RIVER, Synapse, MB				
CPU POWER - SWITCHING MOS				
DOC. NUMBER				
SIZE A3	CODE CS	D-CS-1310A25032-0-ALG		REV A
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CPU P1V5S POWER GOOD



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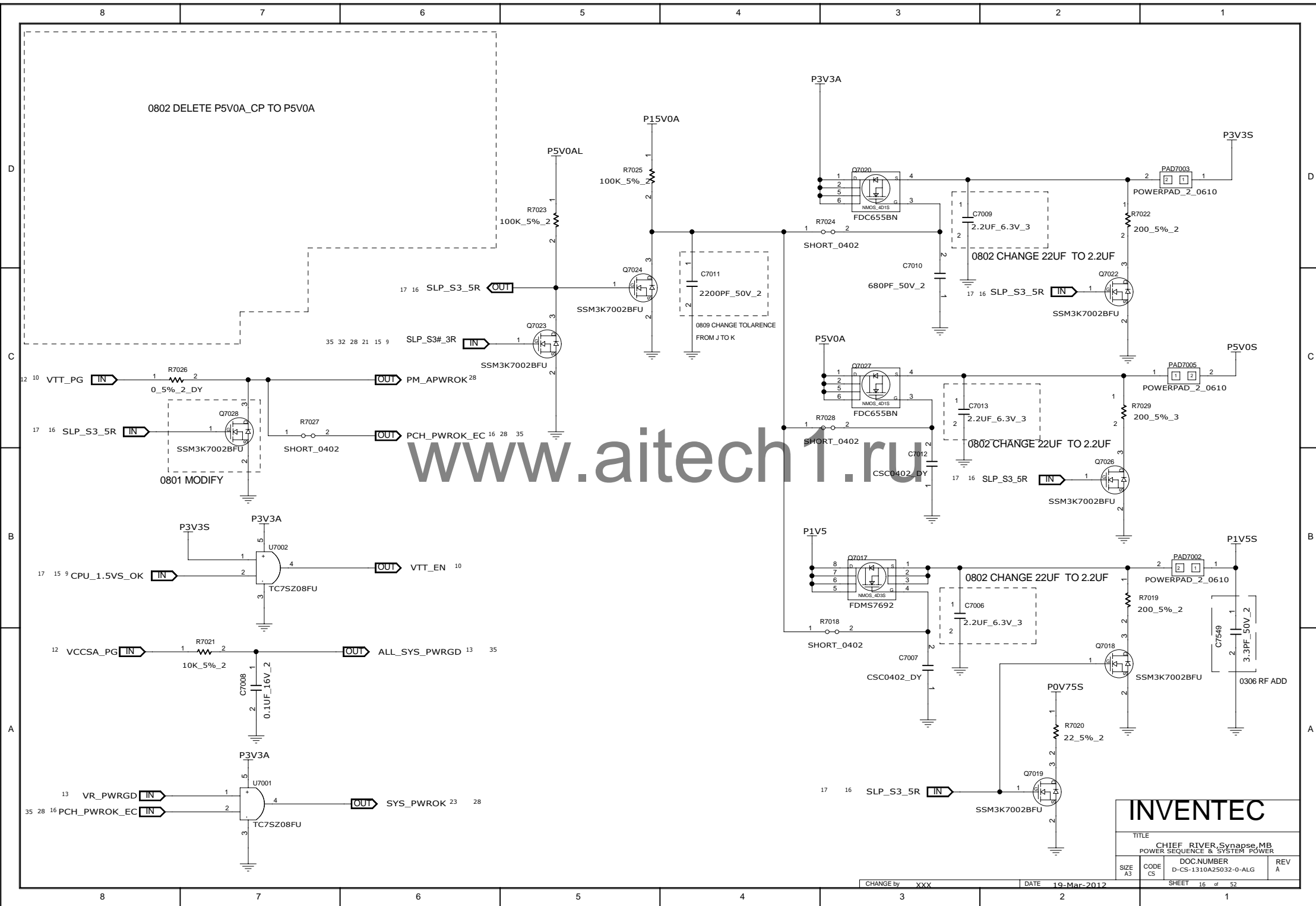
0804 DELETE ALL POWER TURN OFF WHEN BATTERY MODE

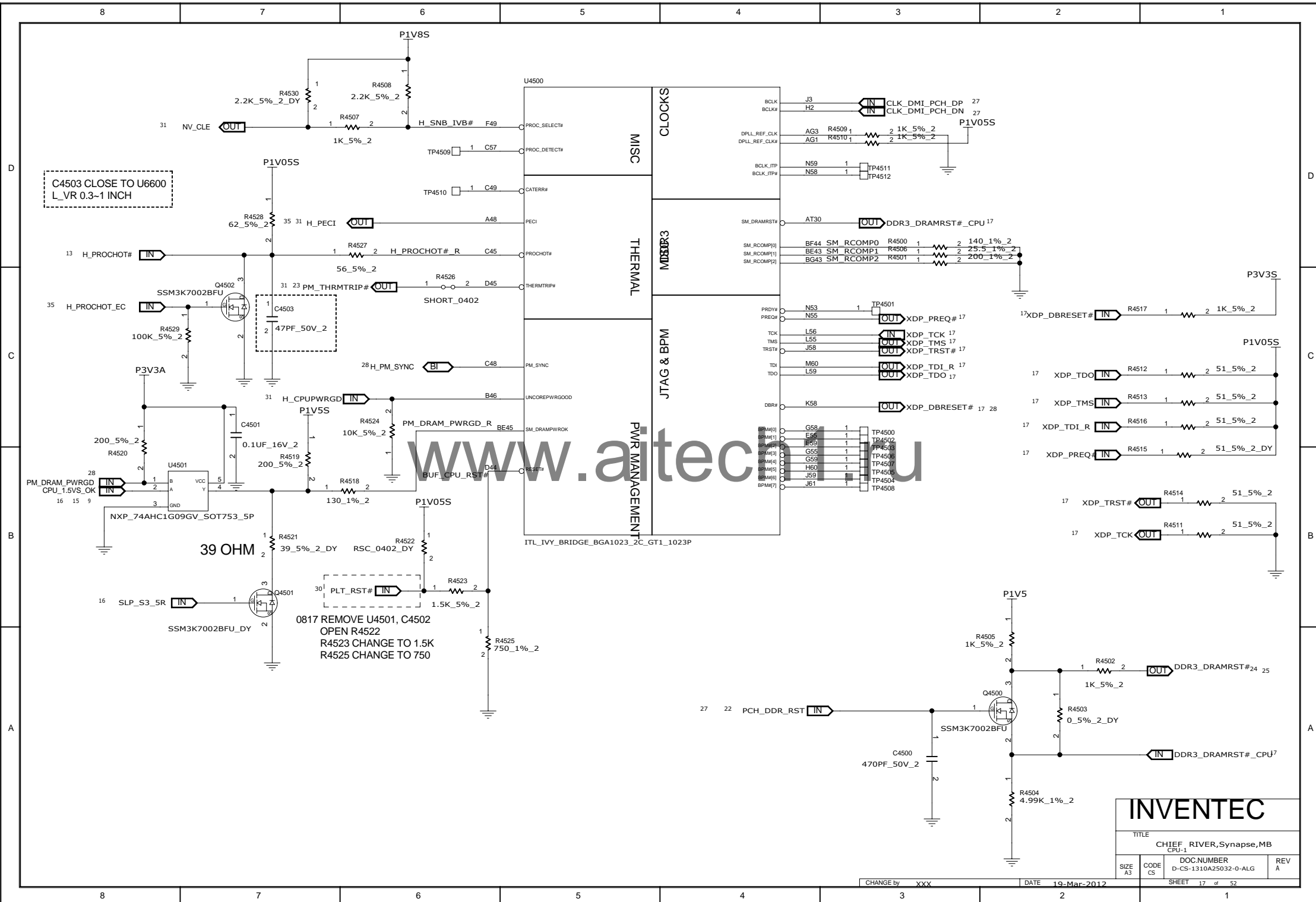
INVENTEC

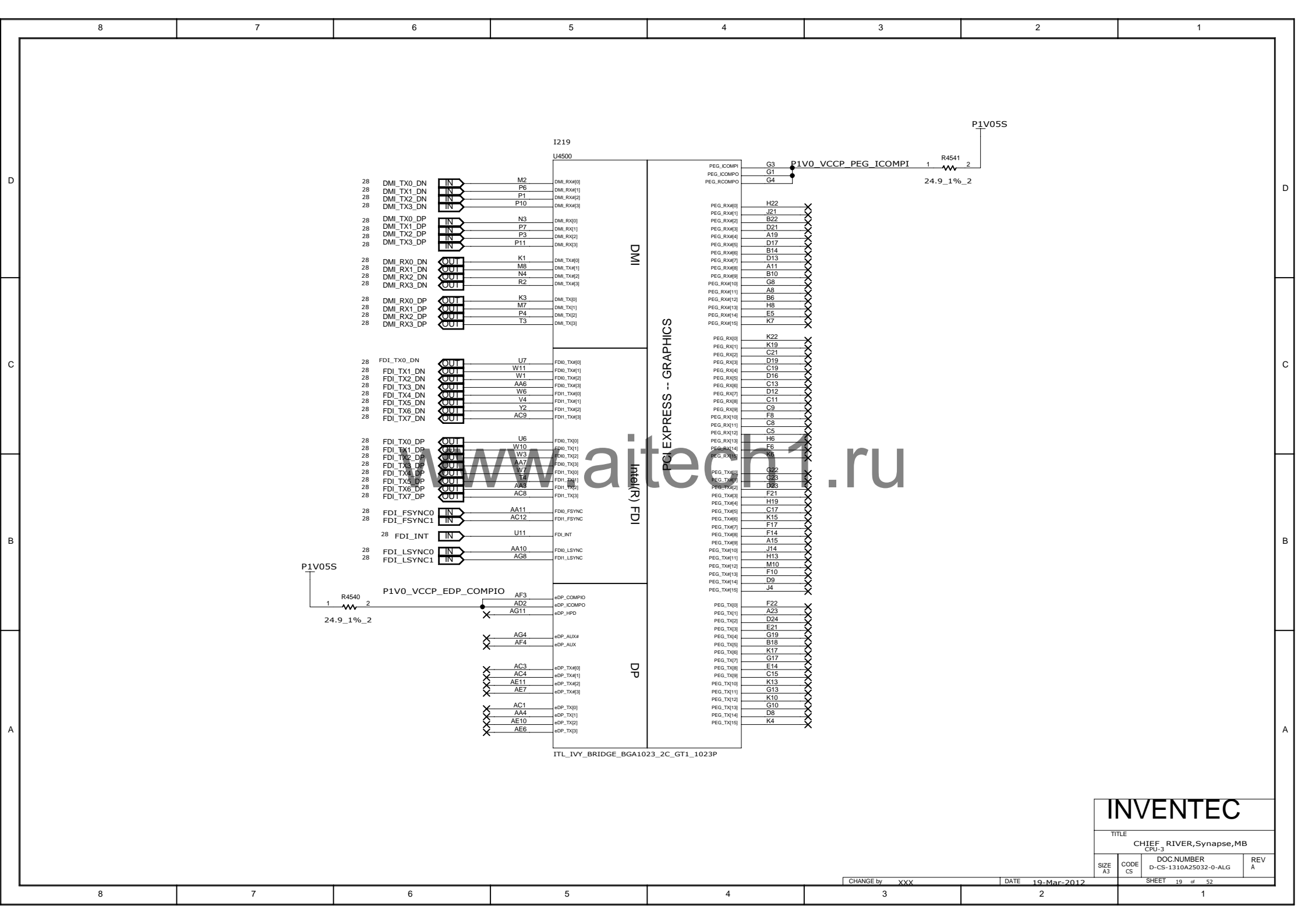
TITLE RIVER, Synapse, MB			
ALL POWER OFF IN BATTERY MODE/ CPU 1.5V POWER OK			
SIZE A3	CODE CS	DOC NUMBER D-CS-1310A25032-0-ALG	REV A

CHANGE by XXX DATE 19-Mar-2012

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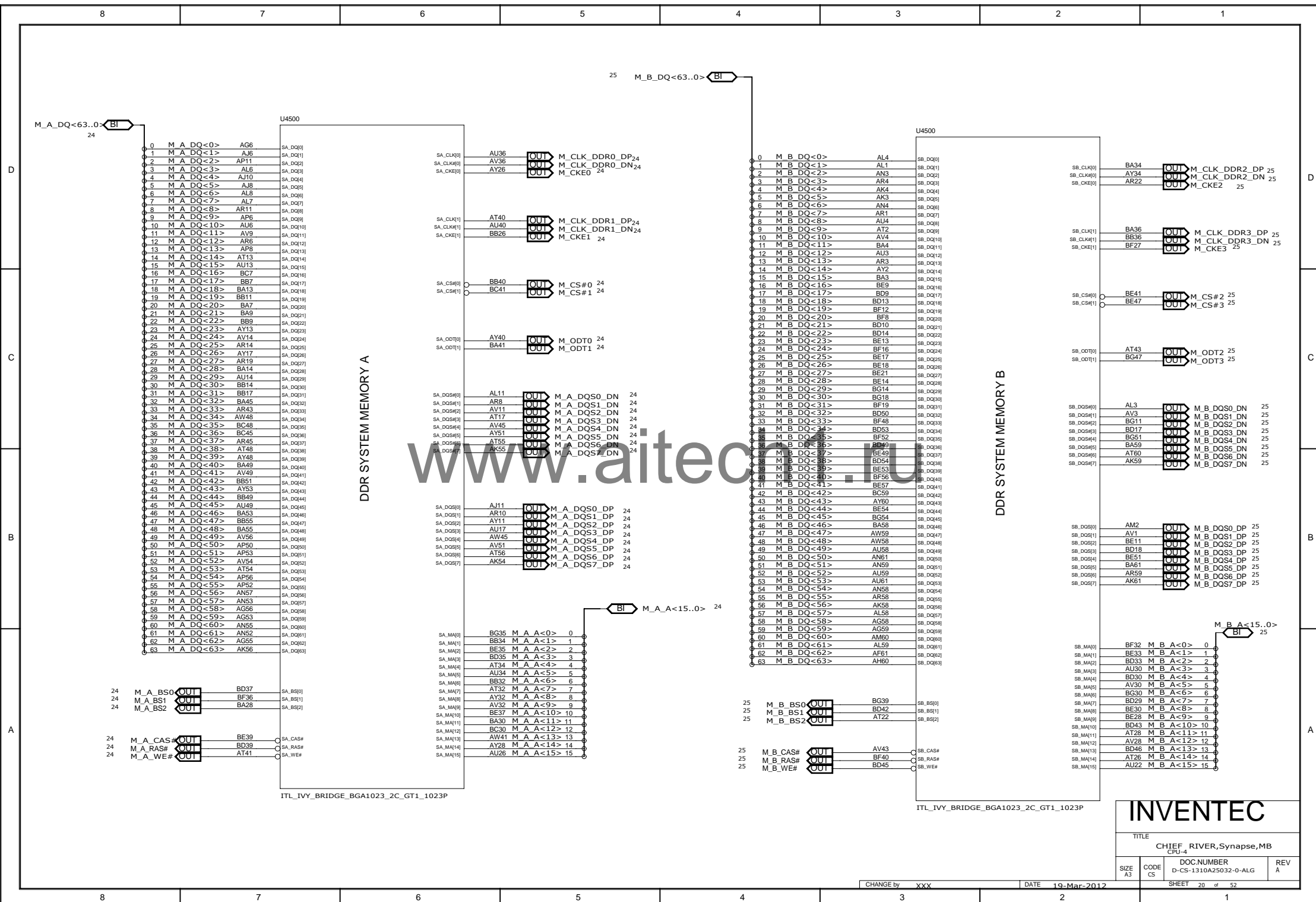
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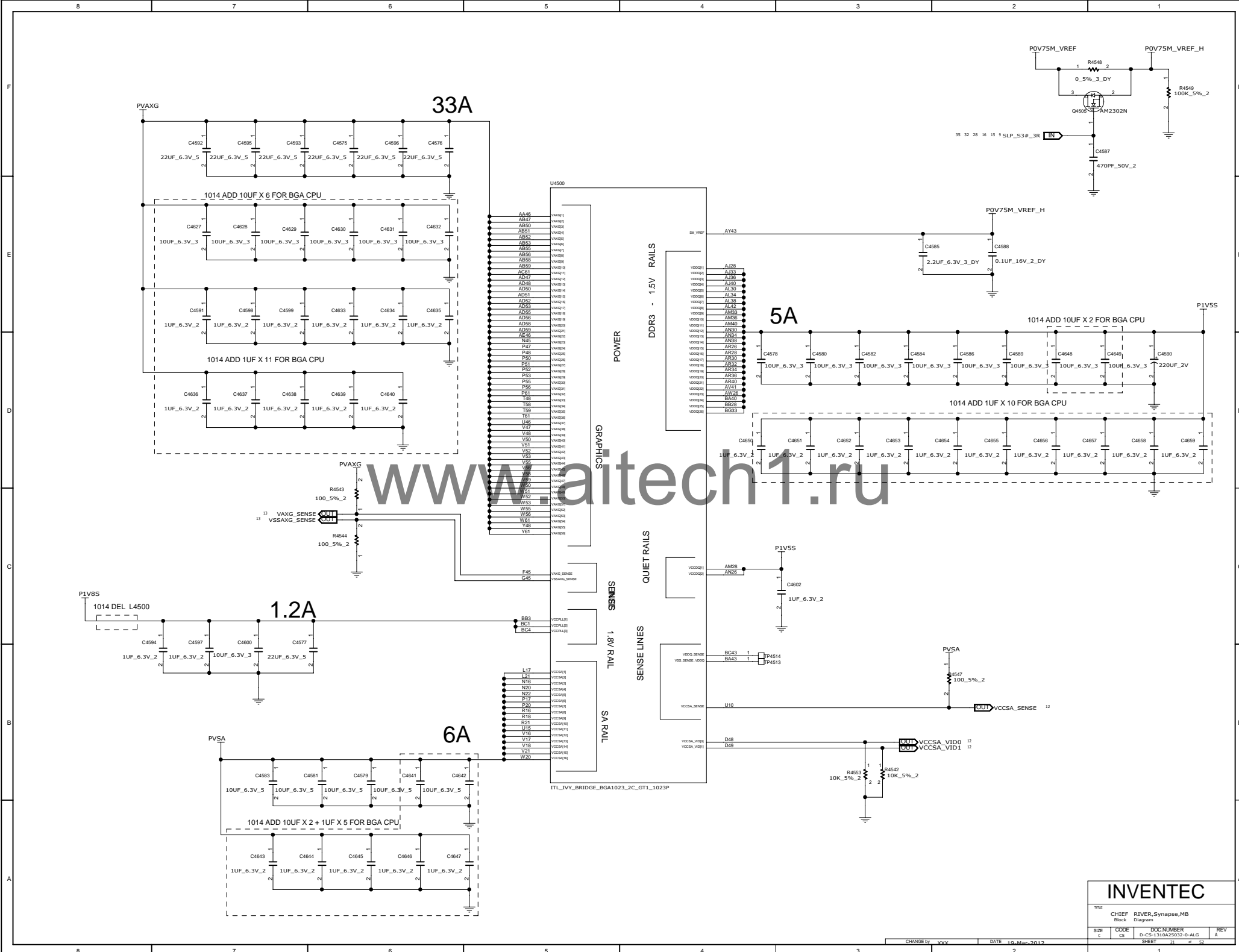
TITLE
CHIEF RIVER, Synapse, MB

SIZE A3 CODE CS DOC NUMBER D-CS-1310A25032-0-ALG REV A

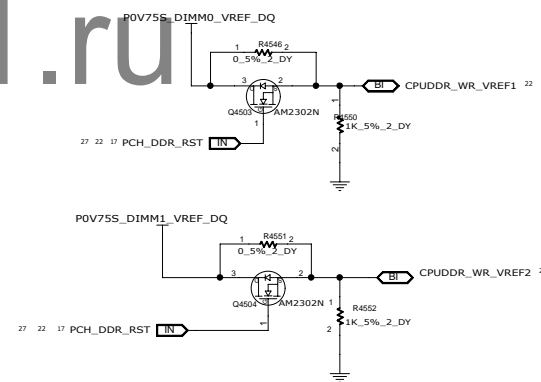
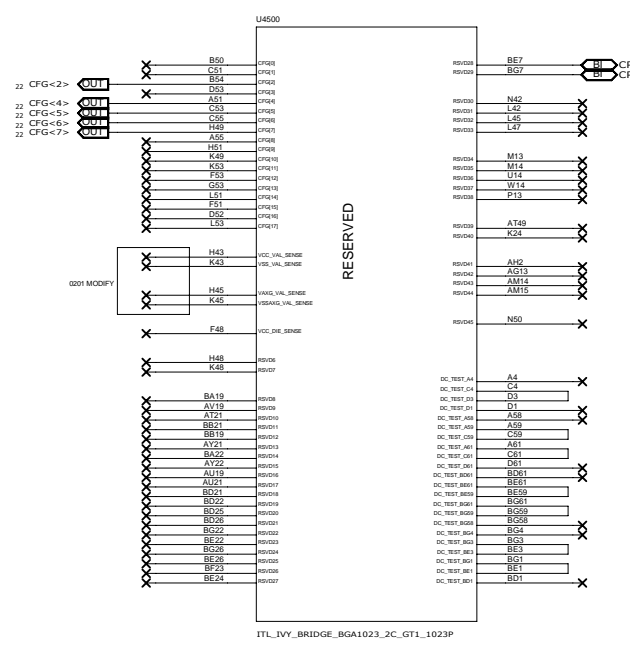
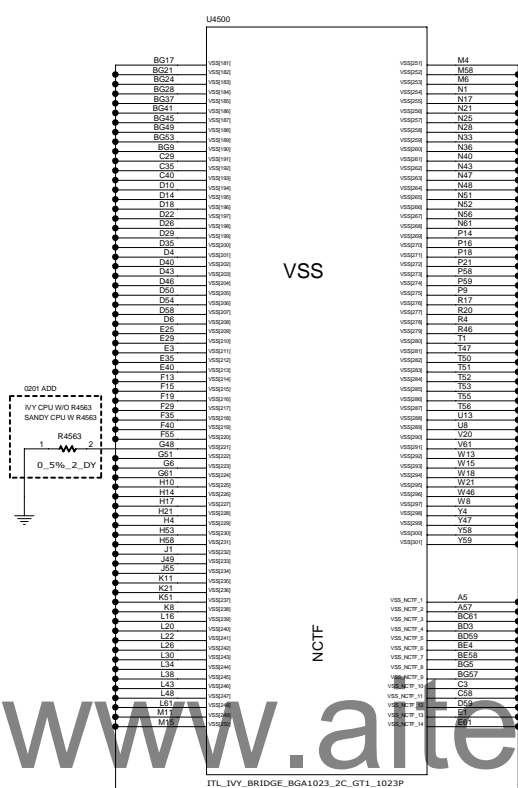
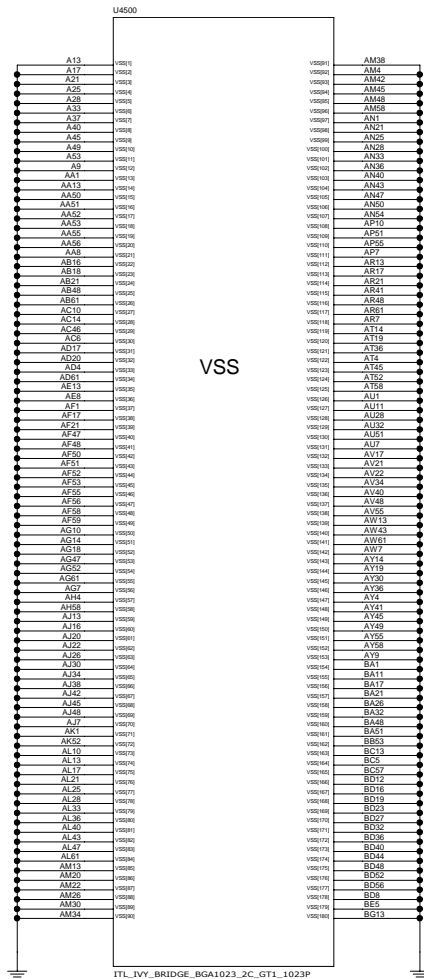
CHANGE by XXX DATE 19-Mar-2012

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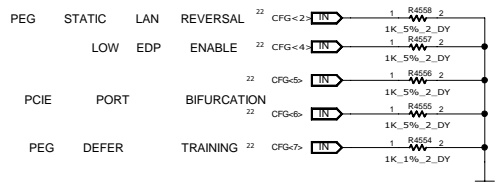




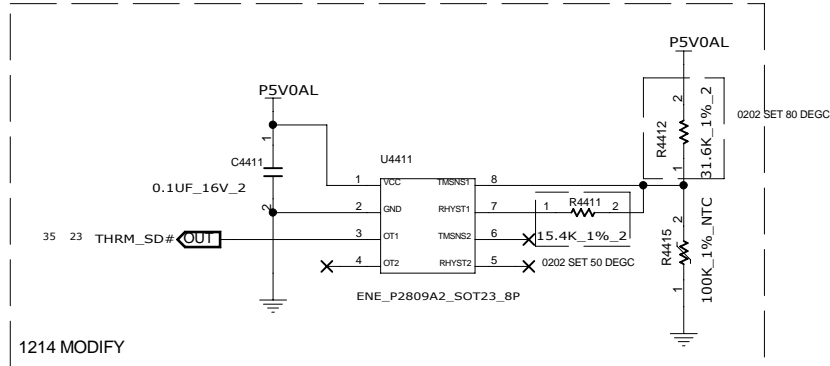
INVENTEC			
CHIEF RIVER_Synapse_MB			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
C	CS	D-CS-1310A250332-0-ALG	A
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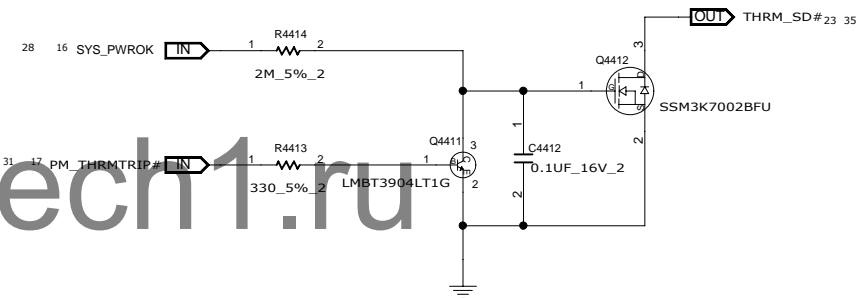
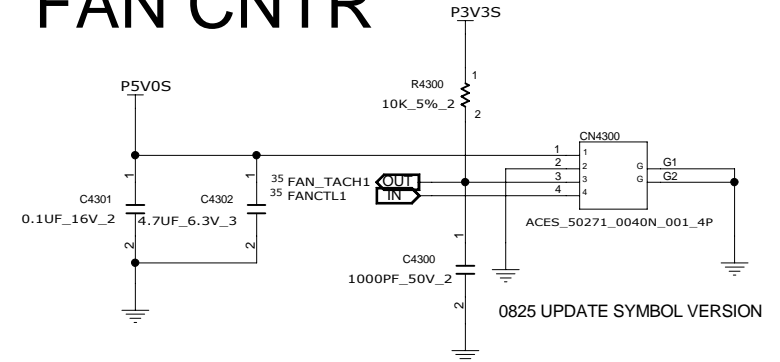
	PEG	STATIC	LANE	REVERSAL
CFG(2)	1:	(DEFAULT)	NORMAL	OPERATION
	0:	LANE	REVERSED	
CFG(4)	1:	(DEFAULT)	EDP	DISABLED
	0:	EDP	ENABLED	
CFG(6:5)	11:	(DEFAULT)	X16 - DEVICE 1 FUNCTION 1 AND 2 DISABLED	
	10:	X8, X8 -	DEVICE 1 FUNCTION 1 ENABLED ; FUNCTION 2 DISABLED	
	01:	RESERVED -	(DEVICE 1 FUNCTION 1 DISABLED ; FUNCTION 2 ENABLED	
	00:	X8, X4, X4 -	DEVICE 1 FUNCTION 1 AND 2 ENABLED	



HW THERMAL PROTECTION ACTIVE @ CPU TEMP : 105 C~ 110C



FAN CNTR



INVENTEC

TITLE
CHIEF RIVER Synapse MB
THERMAL SENSOR & FAN

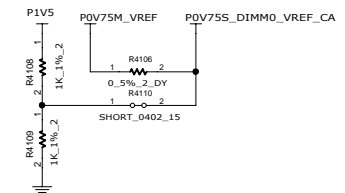
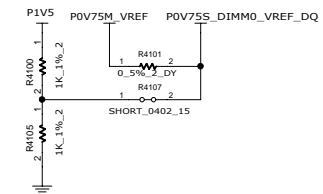
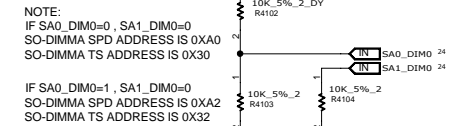
DOC NUMBER
D-CS-1310A25032-0-ALG

REV
A

CHANGE by XXX DATE 19-Mar-2012

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SODIMM 0

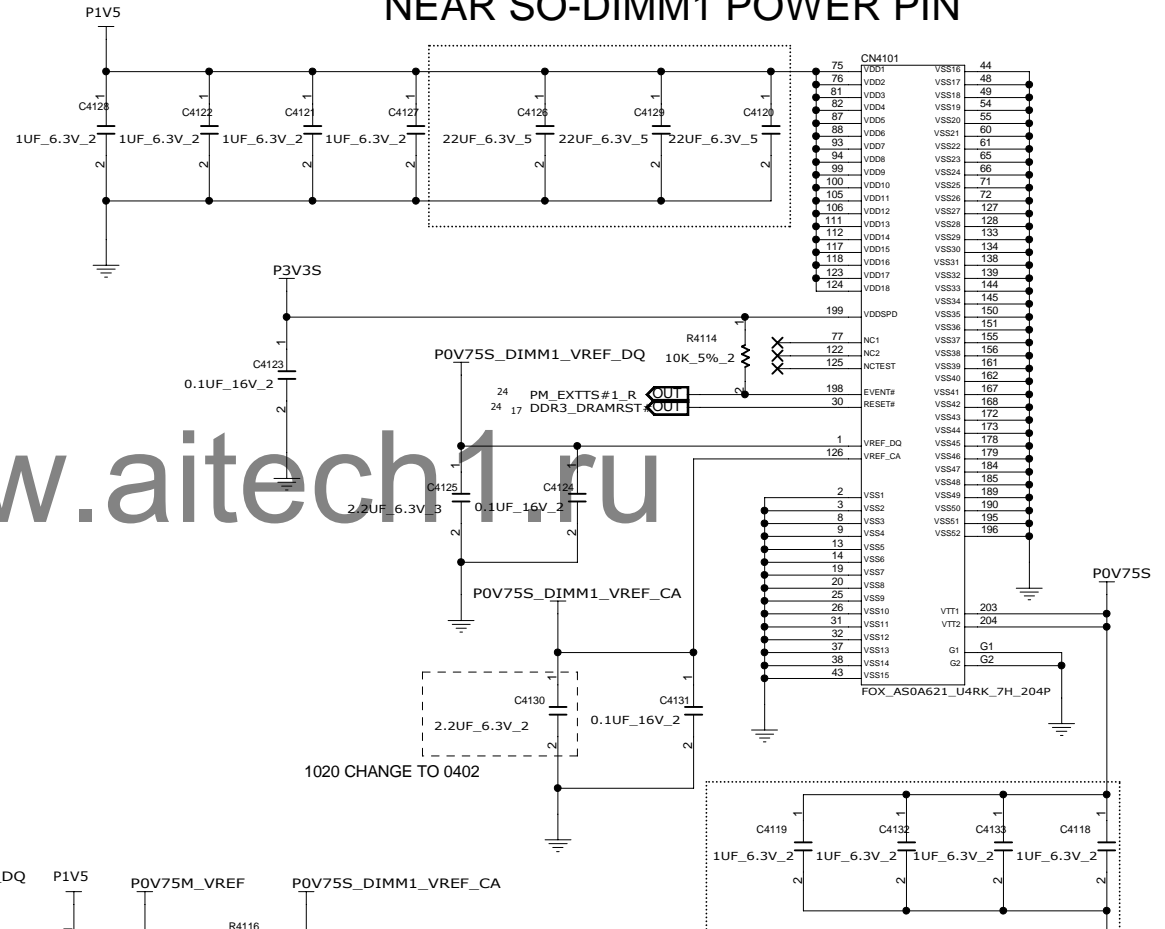


TITLE			
CHIEF RIVER, Synapse, MB SODIMM 0			
SIZE C	CODE CS	DOC NUMBER D-CS-1310A25032-0-ALG	REV A
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1028 UPDATE SYMBOL FOR LAYOUT

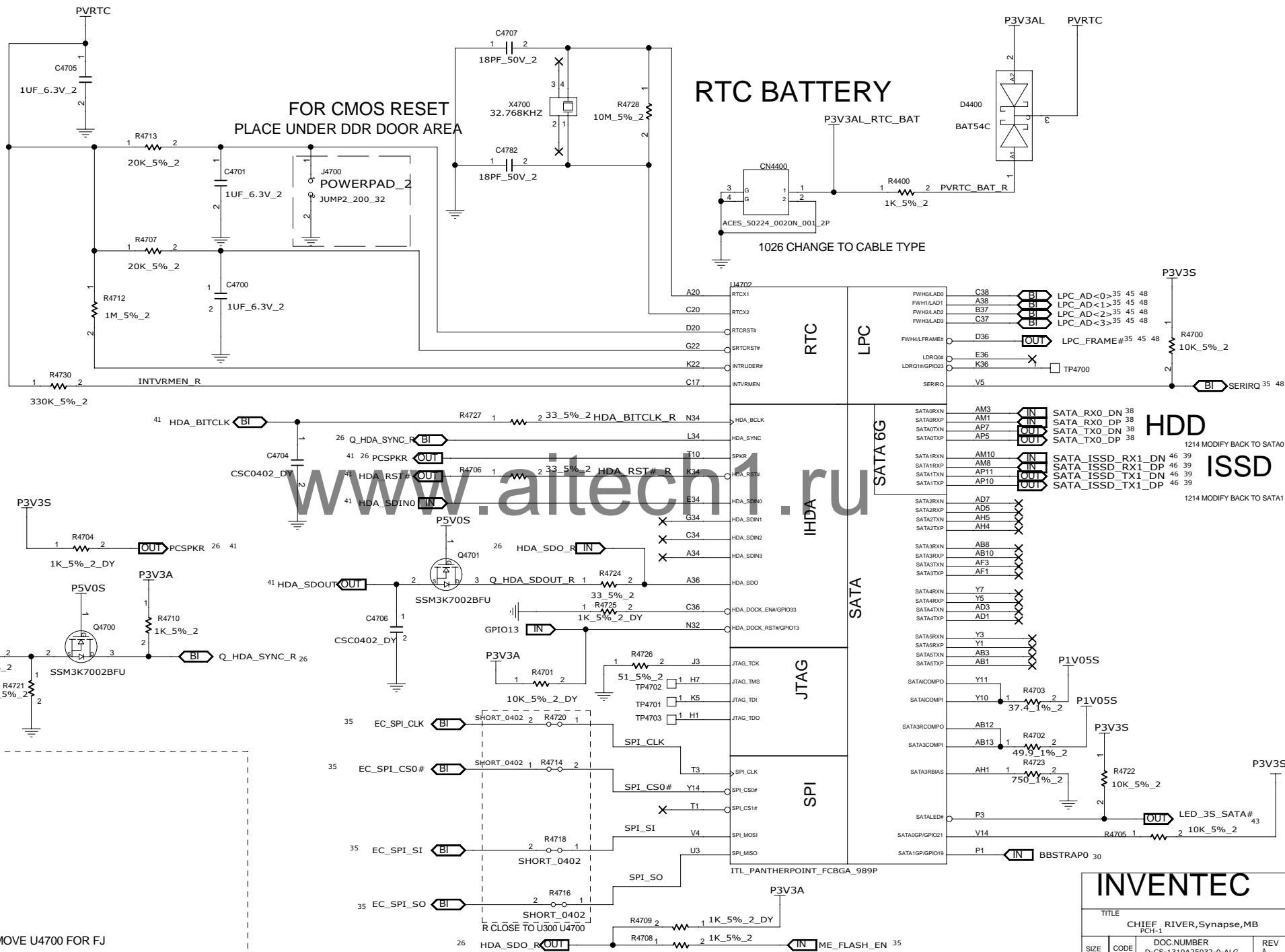
1102 SWAP PIN FOR LAYOUT
1108 SWAP PIN FOR LAYOUT

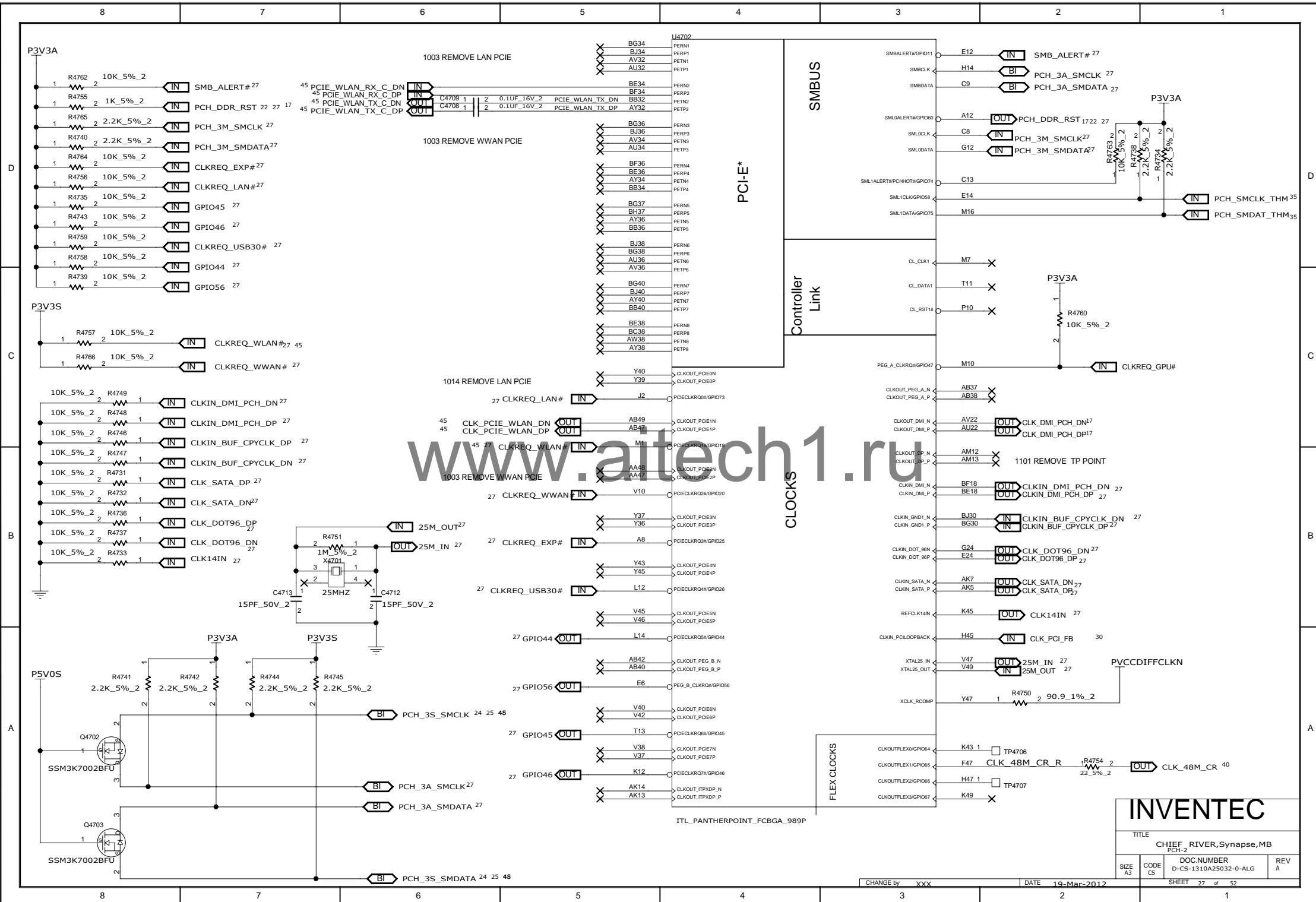
LAYOUT NOTE: PLACE THESE CAPS
NEAR SO-DIMM1 POWER PIN

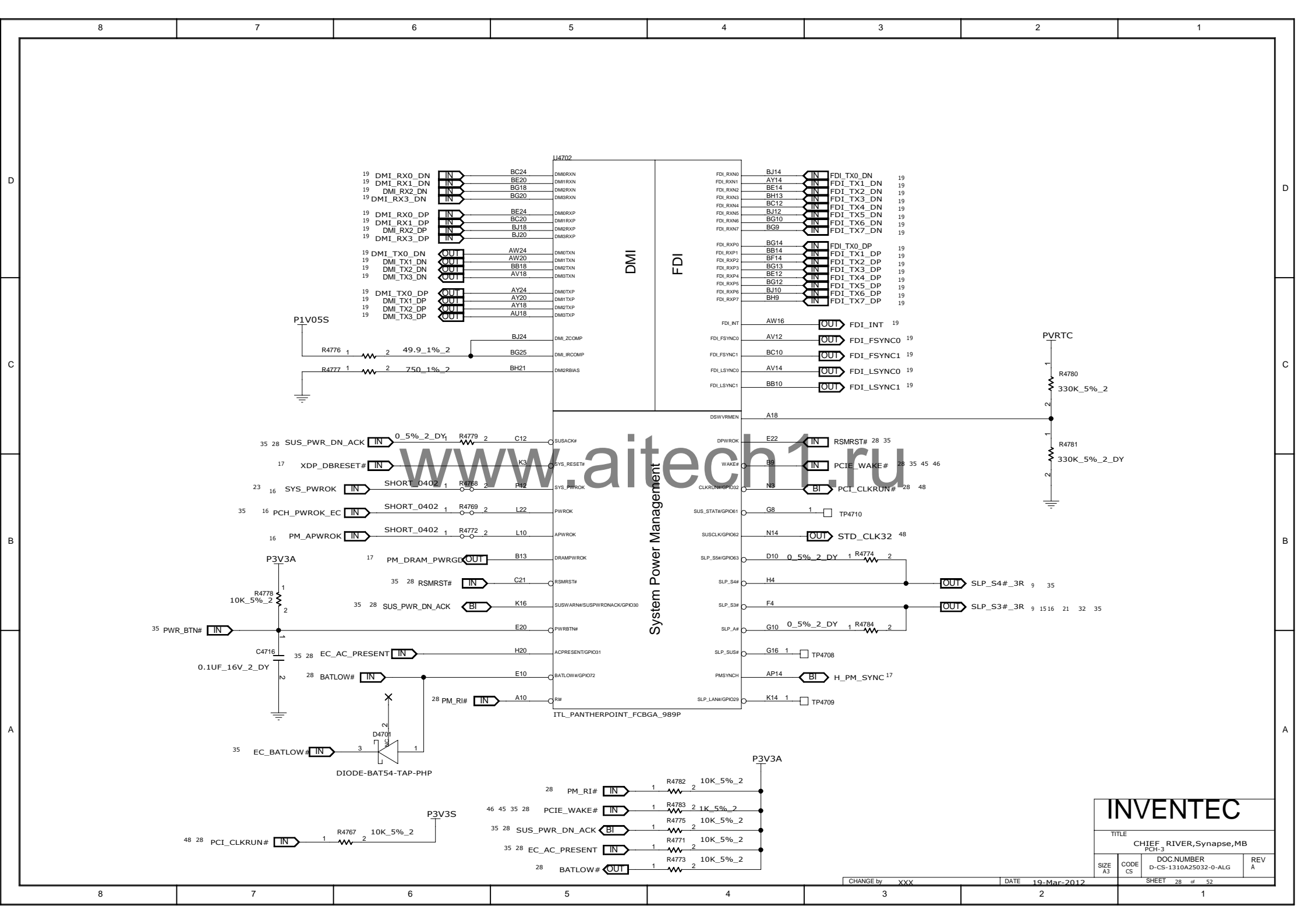


PLACE THESE CAPS CLOSE TO VTT1 AND VTT2

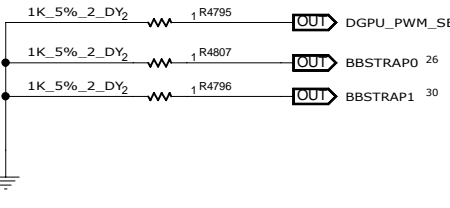
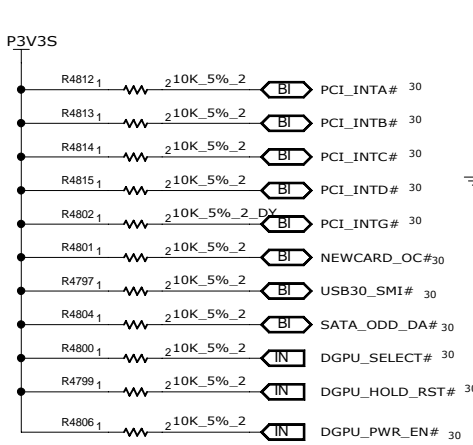
TITLE			
CHIEF RIVER, Synapse, MB SODIMM 1			
SIZE A3	CODE CS	DOC. NUMBER D-CS-1310A25032-0-ALG	REV A
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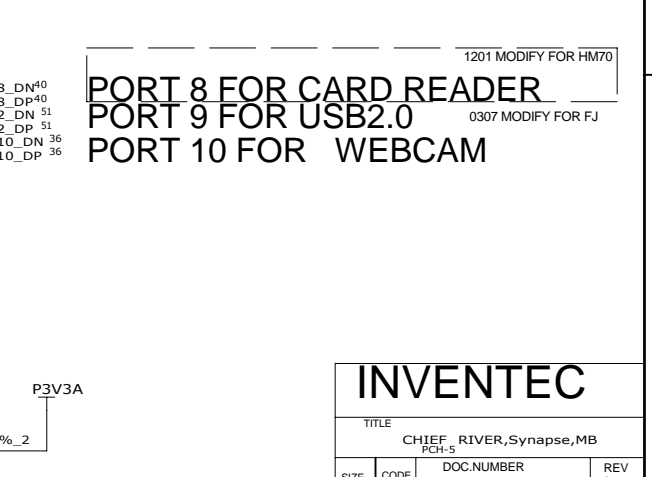
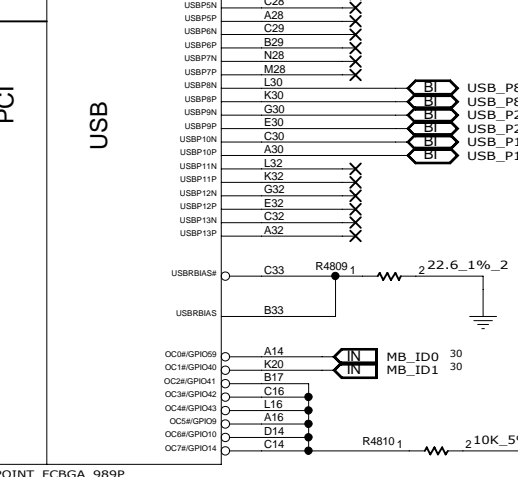
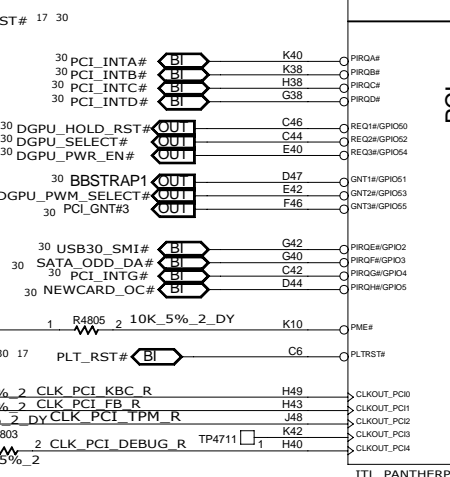
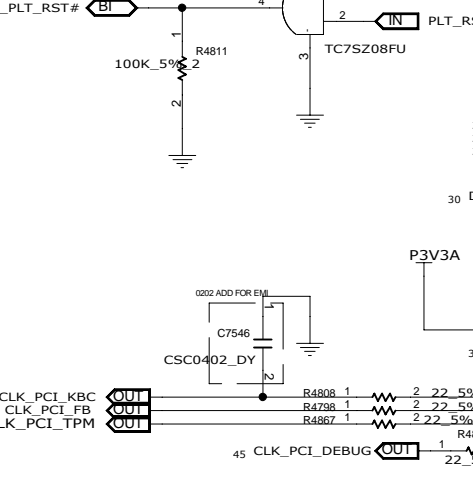
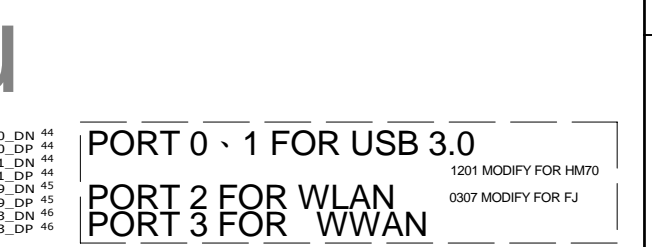
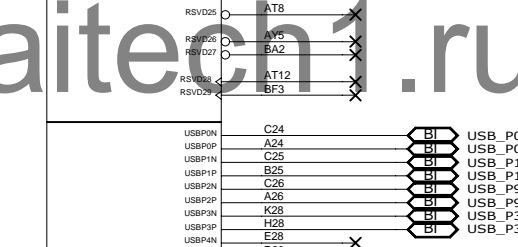
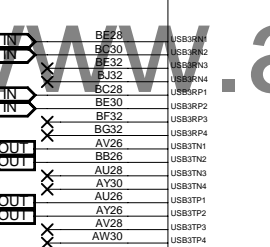
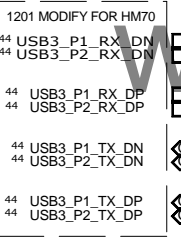
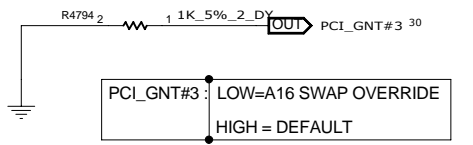
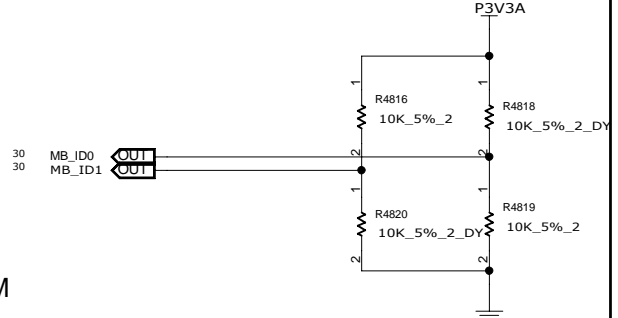


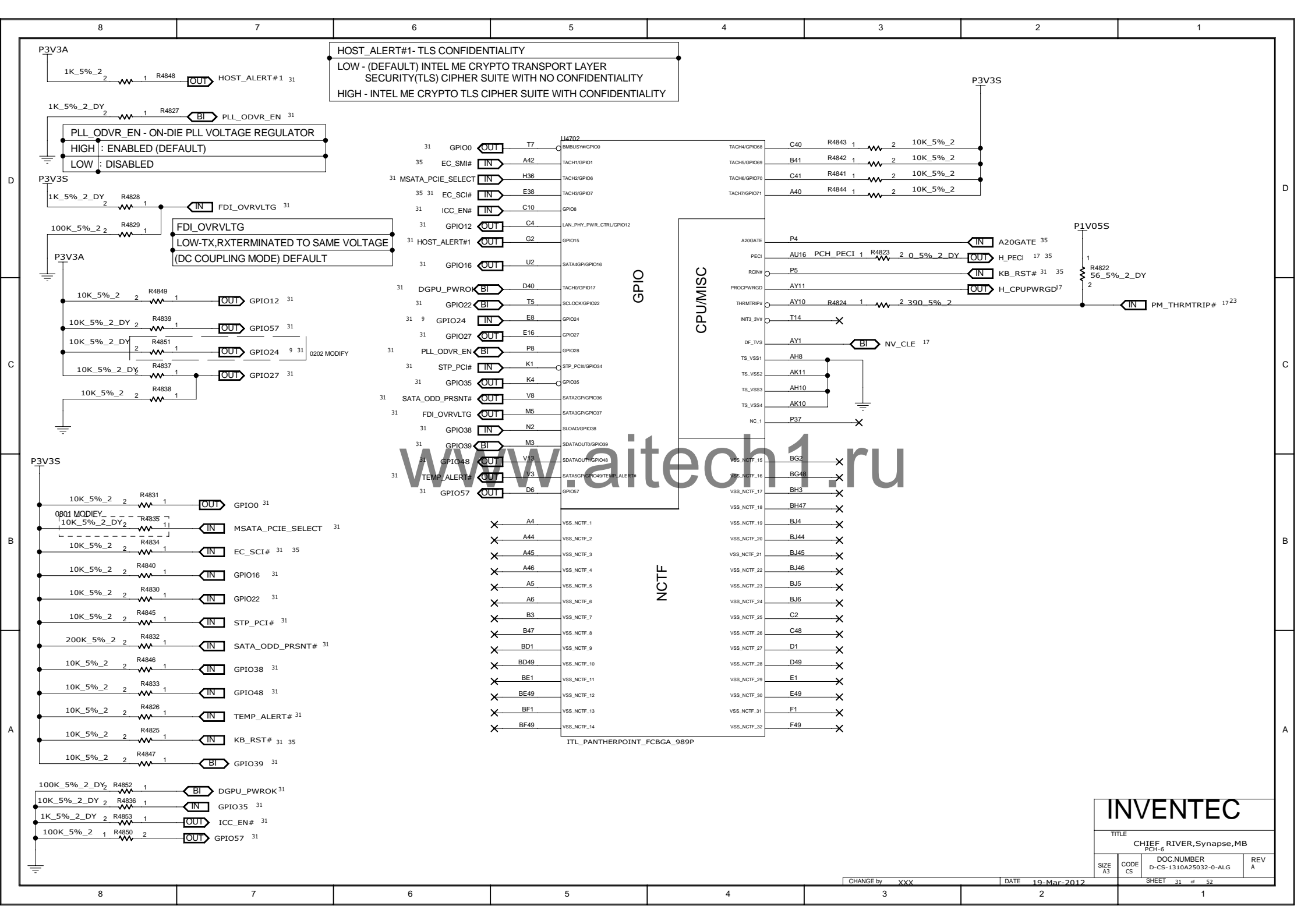


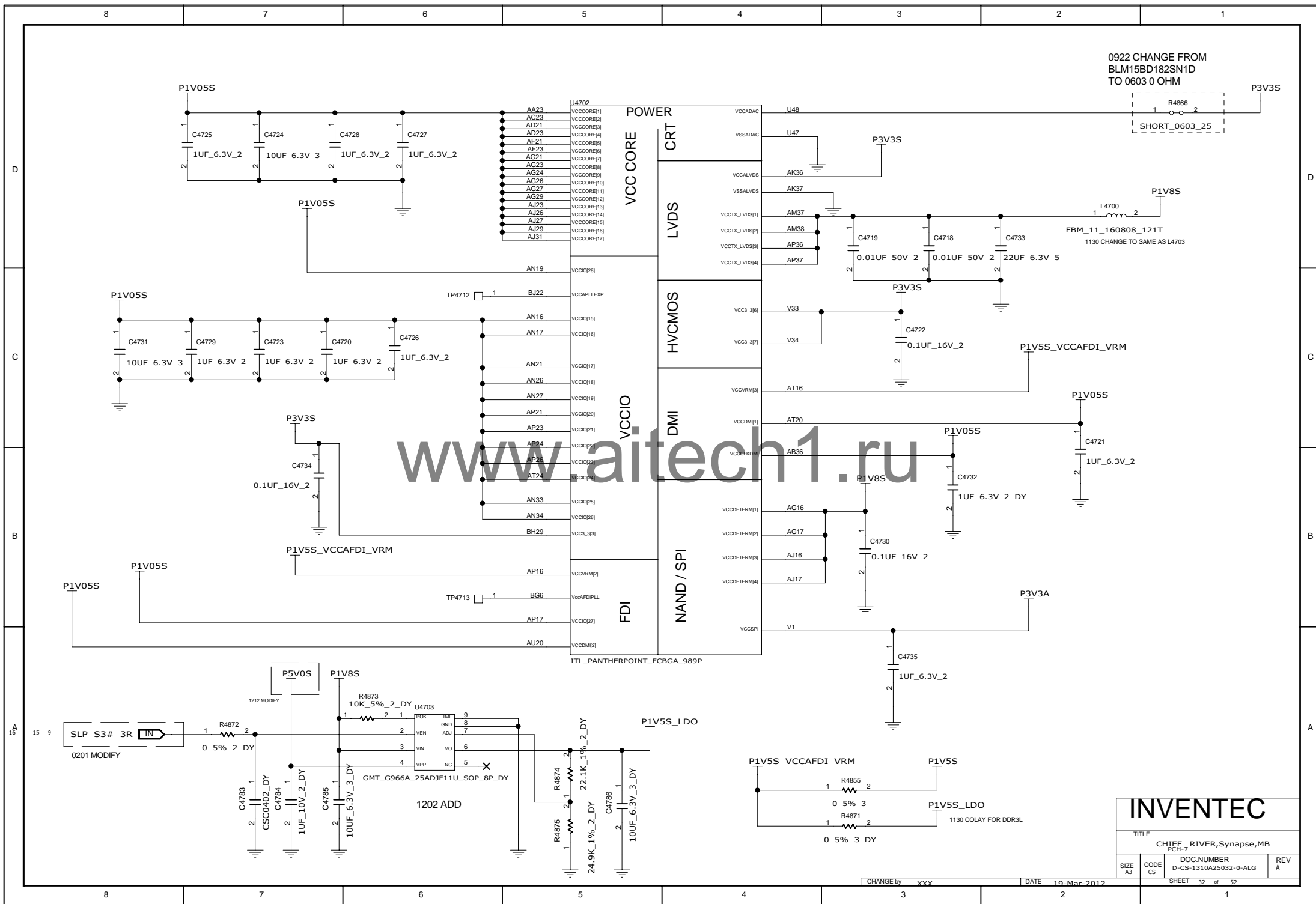
INVENTEC			
TITLE CHIEF RIVER, Synapse, MB			
SIZE A3	CODE CS	DOC NUMBER D-CS-1310A25032-0-ALG	REV A
CHANGE by XXX		DATE 19-Mar-2012	SHEET 28 of 52



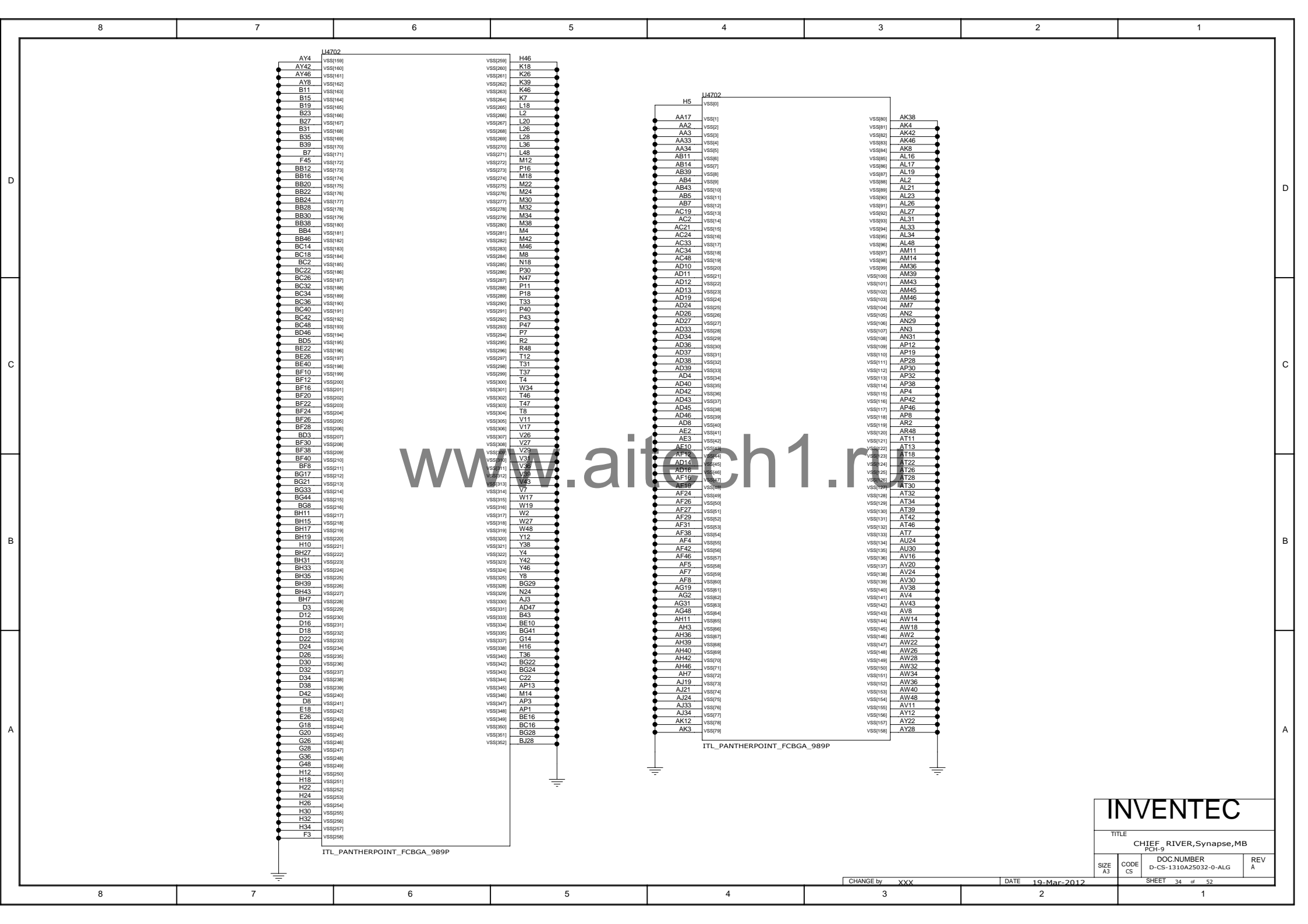
BBSTRAP1	BBSTRAP0	BOOT BIOS	LOCATION
0	0	LPC	
0	1	RESERVED (NAND)	
1	0	PCI	
1	1	SPI	







INVENTEC			
TITLE CHIEF RIVER, Synapse, MB			
SIZE A3	CODE CS	DOC. NUMBER D-CS-1310A25032-0-ALG	REV A
CHANGE by XXX		DATE 19-Mar-2012	
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INVENTEC

TITLE
CHIEF RIVER, Synapse, MB

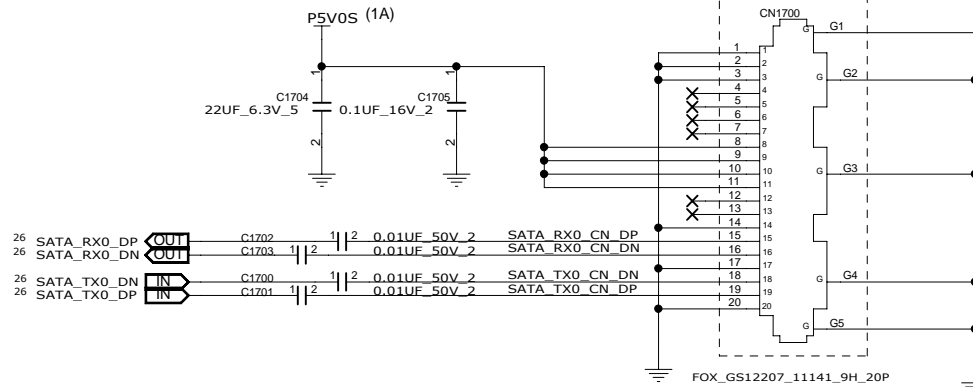
SIZE CODE DOC NUMBER REV
A3 CS D-CS-1310A25032-0-ALG A

CHANGE by XXX DATE 19-Mar-2012 SHEET 34 of 52



INTERNAL HDD0

1021 MODIFY PWR PIN
0810 CHANGE TO SMD TYPE



INTERNAL ODD

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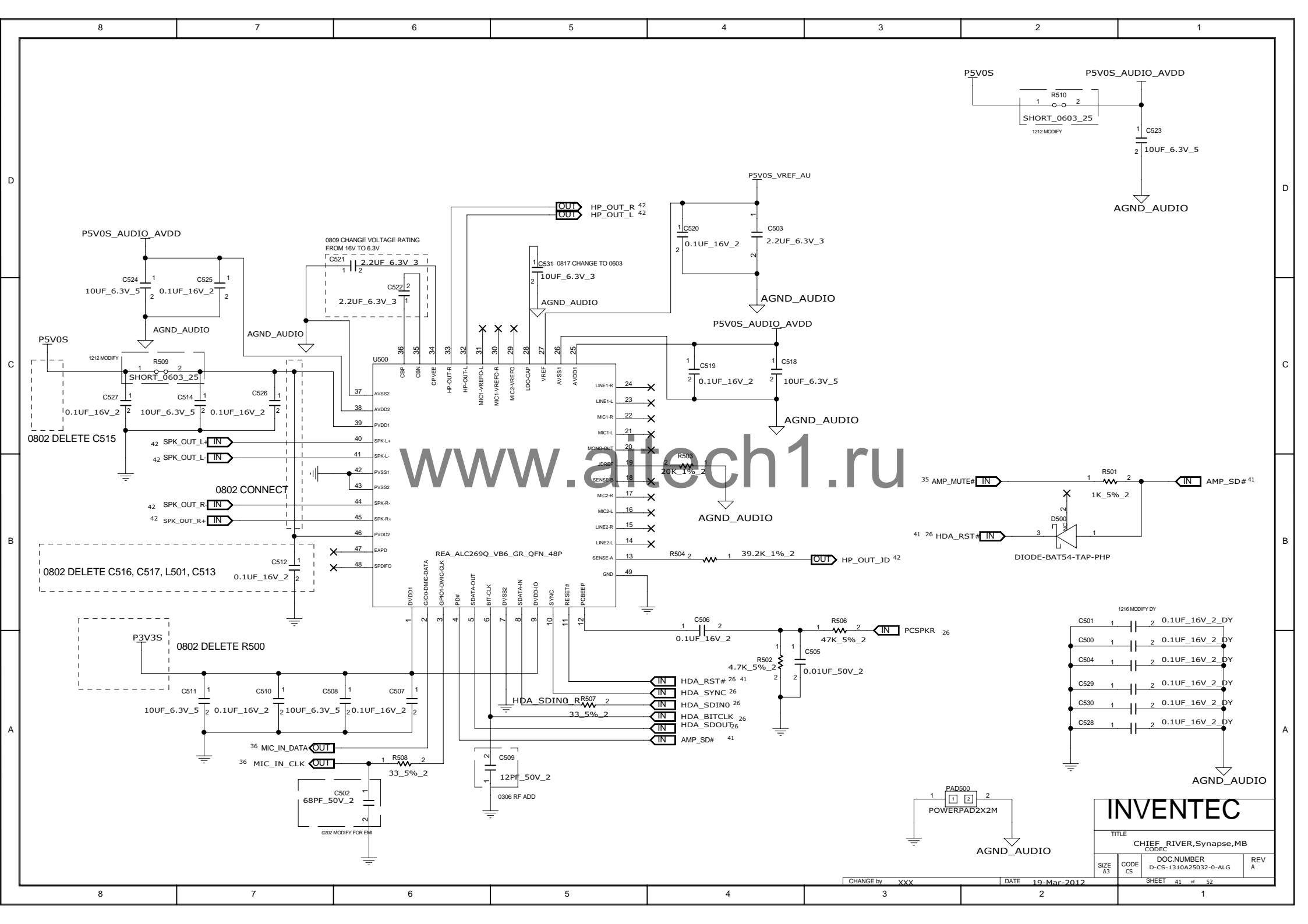
INVENTEC

TITLE CHIEF RIVER, Synapse, MB
HDD & ODD

SIZE A3 CODE CS DOC NUMBER D-CS-1310A25032-0-ALG REV A

CHANGE by XXX DATE 19-Mar-2012

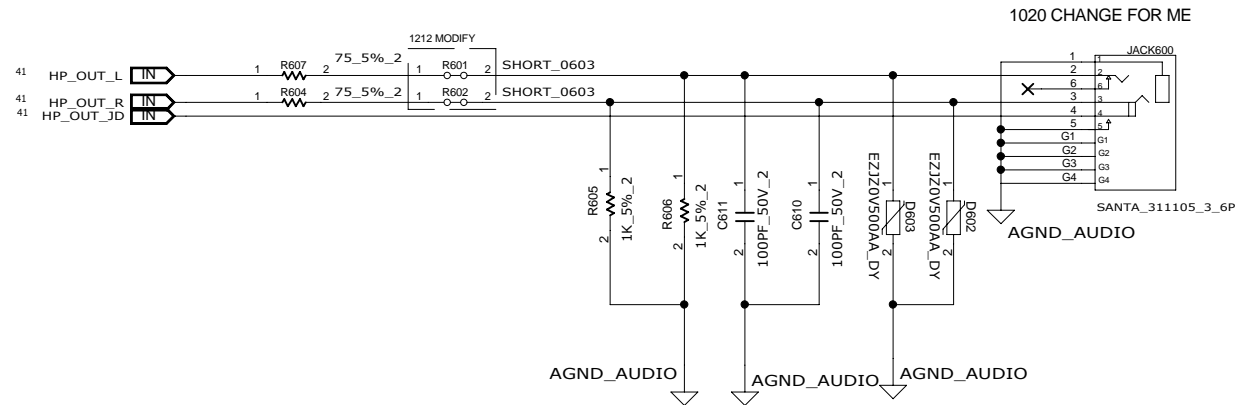
SHEET 38 of 52



INVENTEC

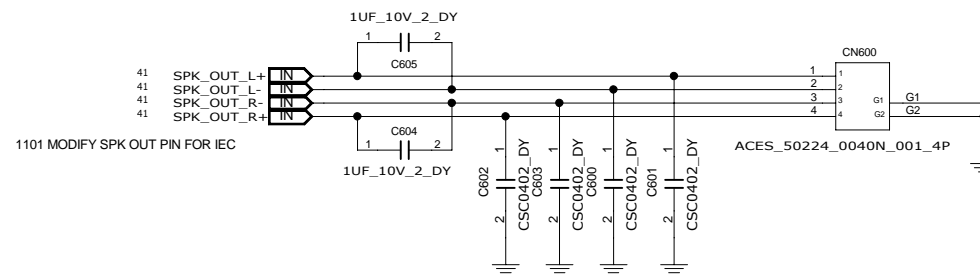
TITLE CHIEF RIVER, Synapse, MB			
CODEC			
DOC NUMBER D-CS-1310A25032-0-ALG			
SIZE A3	CODE CS	REV A	

HEADPHONE



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SPEAKER



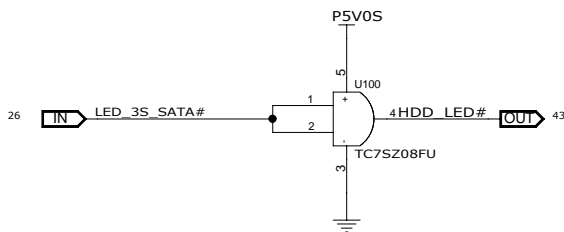
INVENTEC

TITLE
CHIEF RIVER, Synapse, MB
HP & SPEAKER

SIZE A3 CODE CS DOC NUMBER D-CS-1310A25032-0-ALG REV A

CHANGE by XXX DATE 19-Mar-2012

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IF USE 3V LED U100 COULD REMOVE

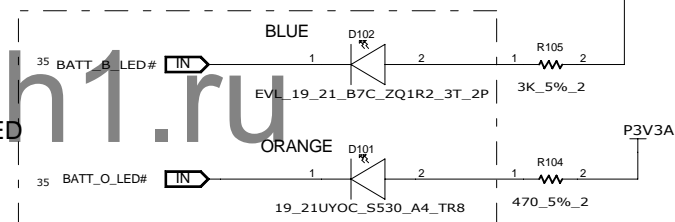
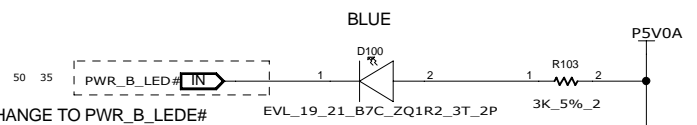
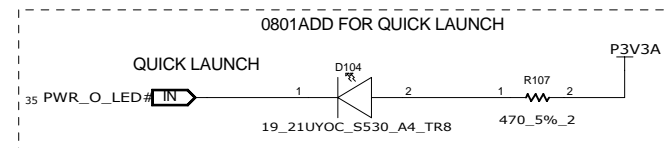
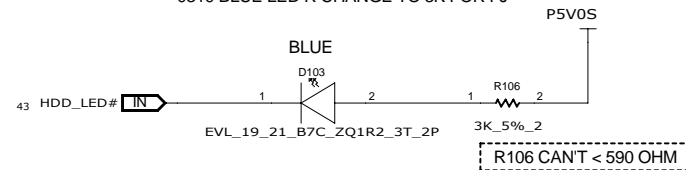
HDD/ODD ACTIVE LED

QUICK LAUNCH LED

SYSTEM STATUS LED

0810 CHANGE TO PWR_B_LEDE#

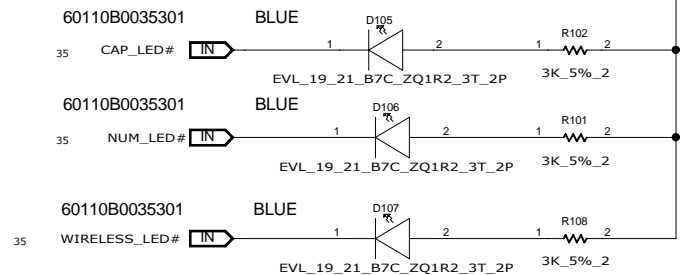
0209 BLUE LED R CHANGE BACK TO 1.5K FOR FJ
0319 BLUE LED R CHANGE TO 3K FOR FJ



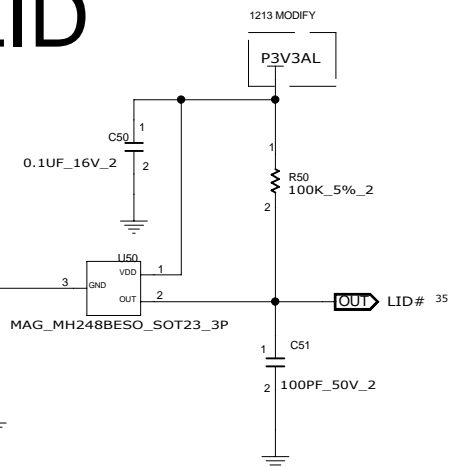
CAPS LOCK LED

NUM LOCK LED

WIRELESS LED



LID



BATTERY CHARGE & DC-IN STATUS LED

INVENTEC

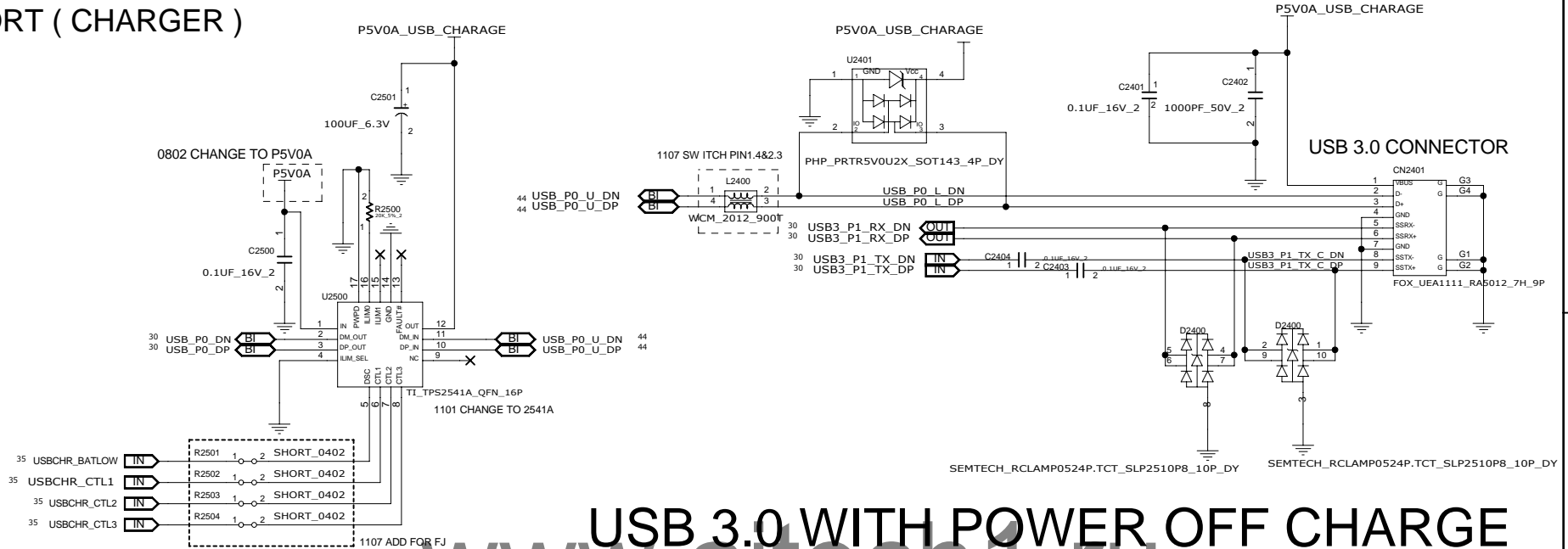
TITLE CHIEF RIVER, Synapse, MB
LED & HALL SENSOR

DOC NUMBER D-CS-1310A25032-0-ALG
REV A

SIZE A3 CODE CS SHEET 43 of 52

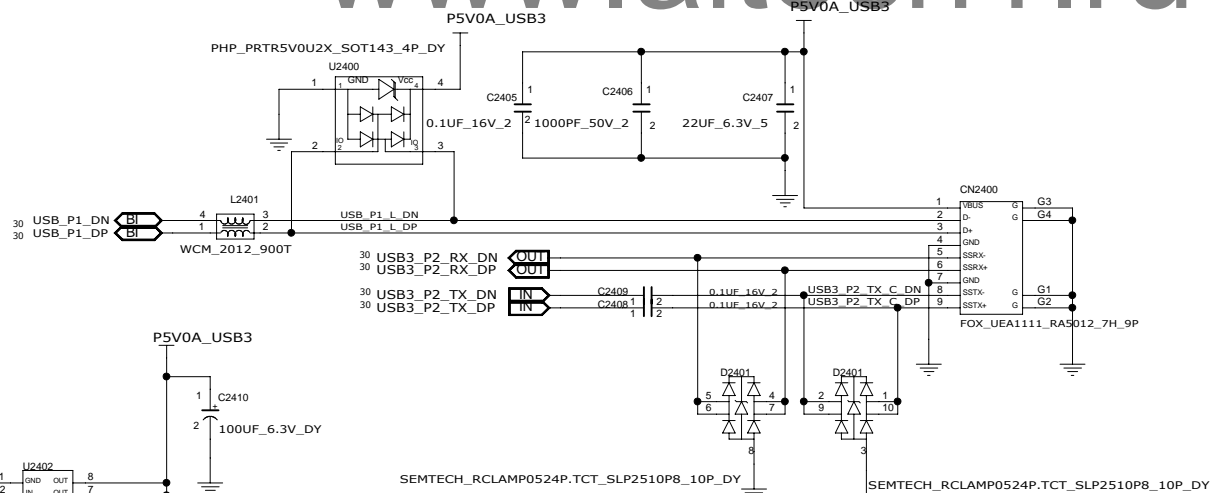
CHANGE by XXX DATE 19-Mar-2012

USB PORT (CHARGER)



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USB 3.0 WITH POWER OFF CHARGE



USB 3.0 CONNECTOR

INVENTEC

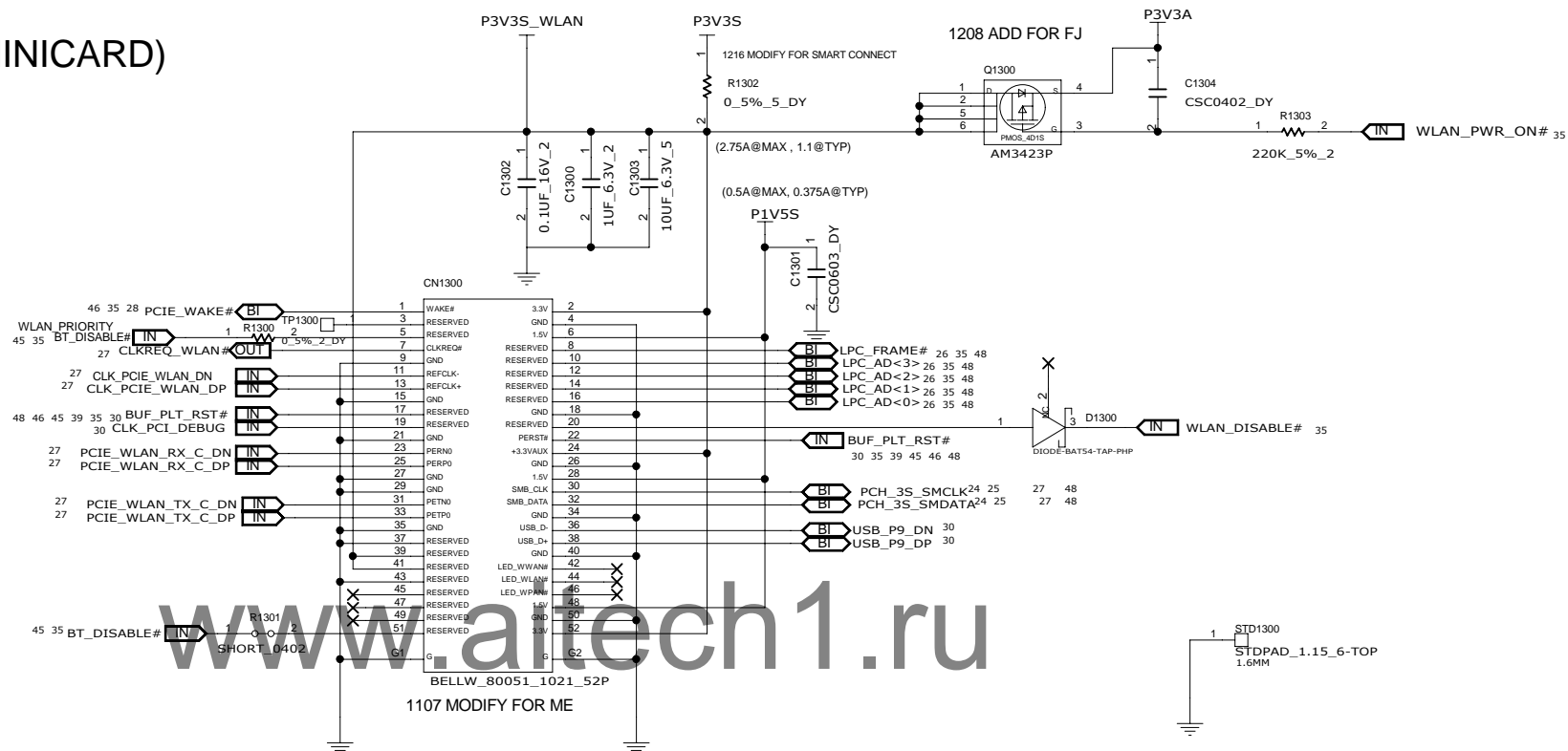
TITLE
CHIEF RIVER, Synapse, MB
USB 3.0

SIZE A3 CODE CS DOCNUMBER D-CS-1310A25032-0-ALG REV A

CHANGE by XXX DATE 19-Mar-2012

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WLAN CONN (MINICARD)



HALF MINI CARD 1

INVENTEC

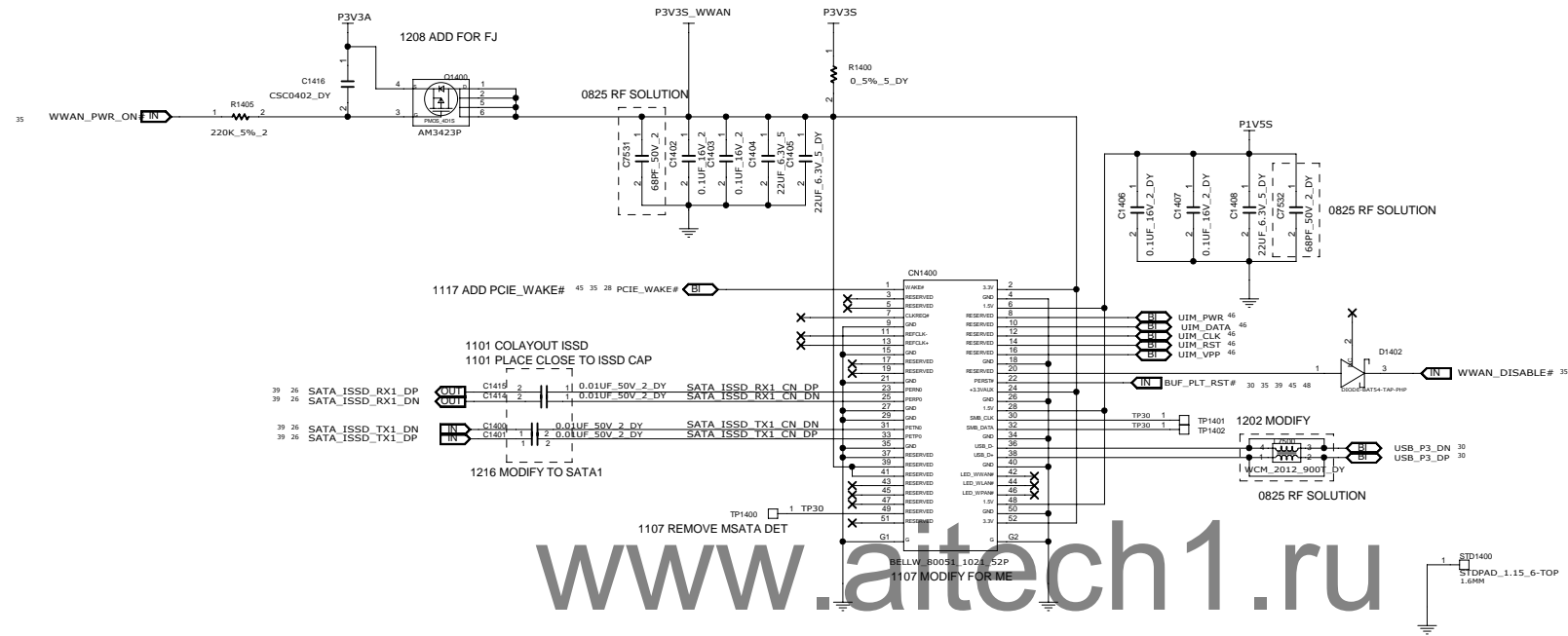
TITLE
CHIEF RIVER, Synapse, MB

SIZE A3 CODE CS DOC NUMBER D-CS-1310A25032-0-ALG REV A

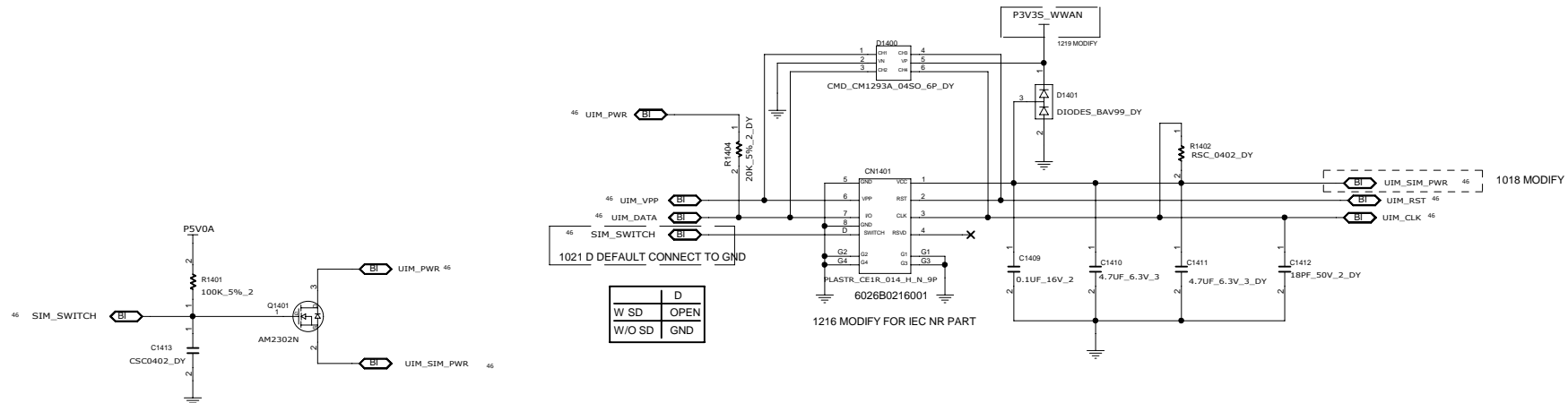
CHANGE by XXX DATE 19-Mar-2012

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WWAN (MINI-CARD)



SIM CARD CONN



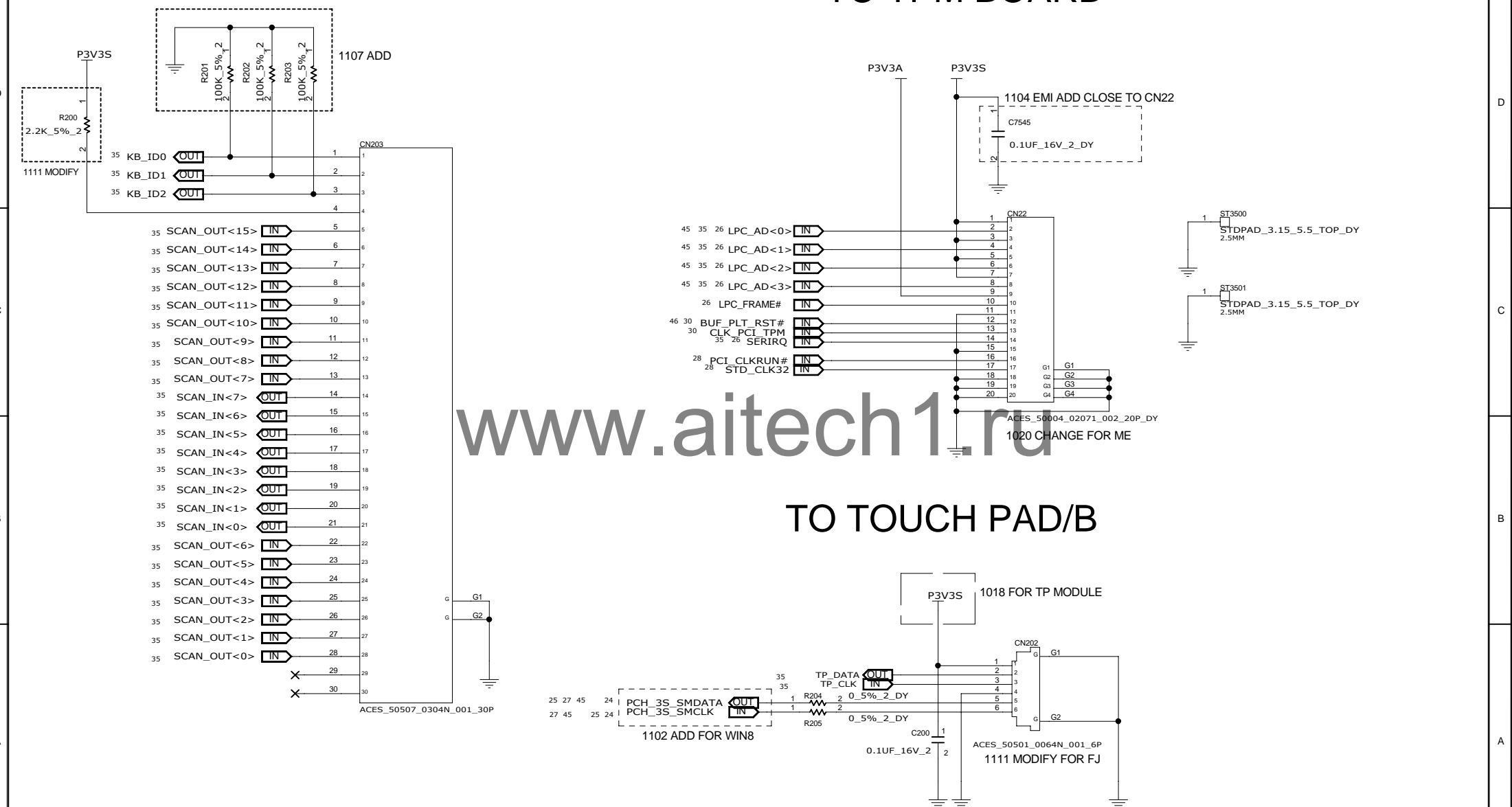
INVENTEC

TITLE			
CHIEF RIVER,Synapse,MB			
WWAN			
SIZE	CODE	DOC NUMBER	REV
E	CS	D-CS-1310A25032-0-ALG	A
SHEET		46	52

CHANGE by: yxy DATE: 19-Mar-2012

KEYBOARD

TO TPM BOARD

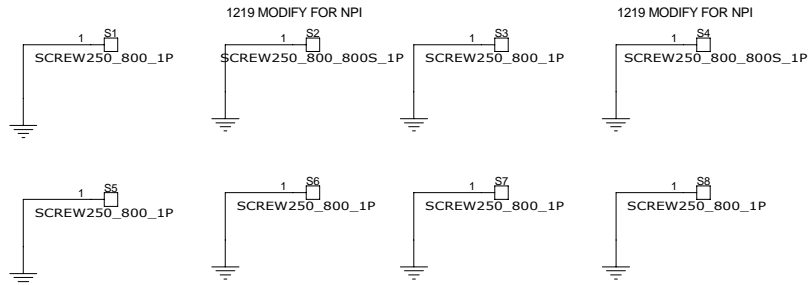


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TO TOUCH PAD/B

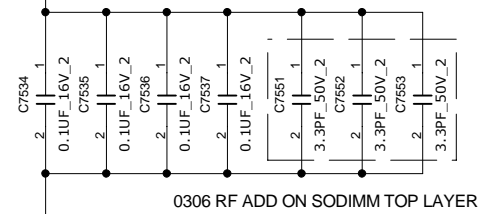
INVENTEC			
TITLE CHIEF RIVER, Synapse, MB			
CONNECTORS & TOUCH PAD BUTTON			
SIZE A3	CODE CS	DOC NUMBER D-CS-1310A25032-0-ALG	REV A
CHANGE by XXX		DATE 19-Mar-2012	SHEET 48 of 52

1020 CHANGE SCREW APERTURE



P1V5

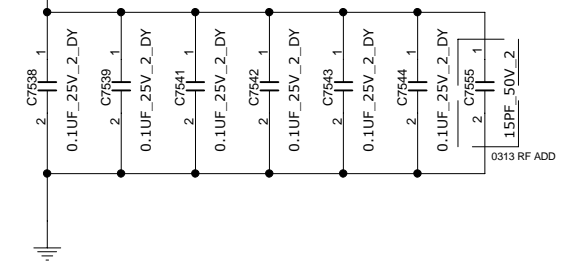
1104 EMI ADD ON SODIMM TOP LAYER



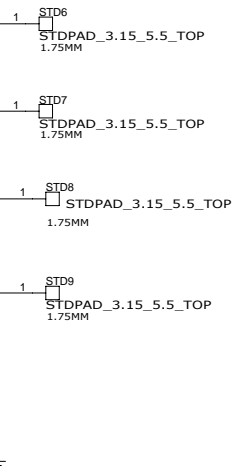
0306 RF ADD ON SODIMM TOP LAYER

PVBAT

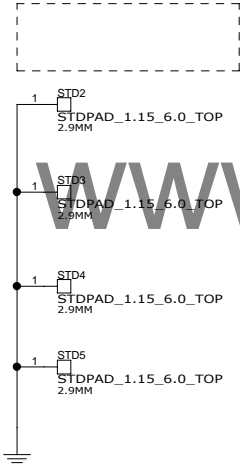
1104 EMI ADD ON PVBAT TOP LAYER



0313 RF ADD



CPU THERMAL



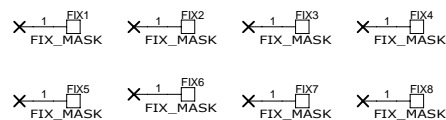
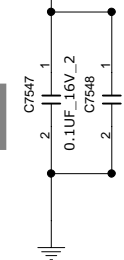
CASE LOCK

1130 DEL STD1 FOR ME

1130 MODIFY FOR ME

P3V3S

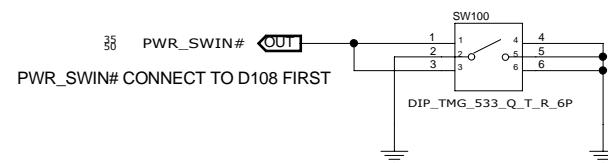
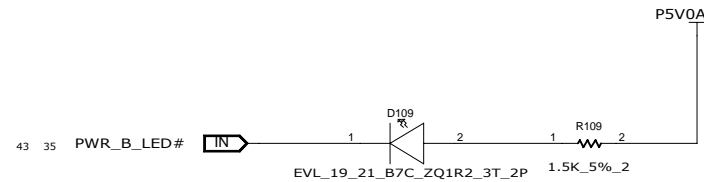
0202 EMI ADD CLOSE TO HDMI CONNECTOR CN3150



INVENTEC

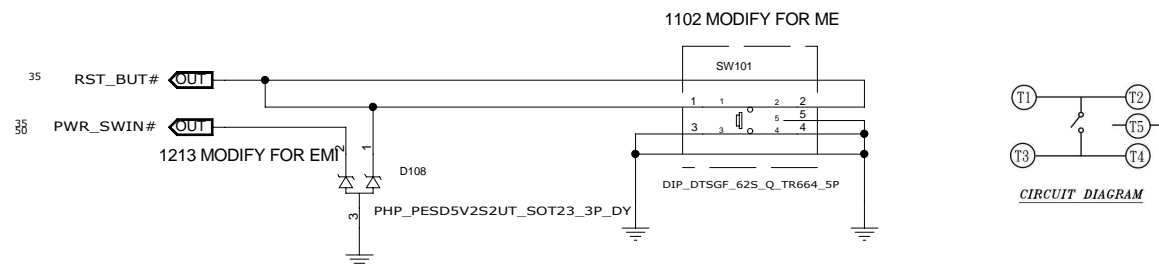
TITLE			
CHIEF RIVER Synapse, MB			
SCREWS & FIXED & STITCHING CAPS			
DOC NUMBER			
D-CS-1310A25032-0-ALG			
REV			
A			

POWER BUTTON



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RESET BUTTON



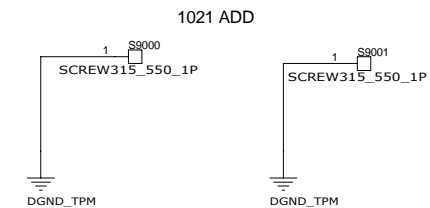
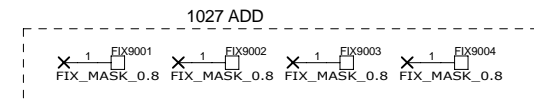
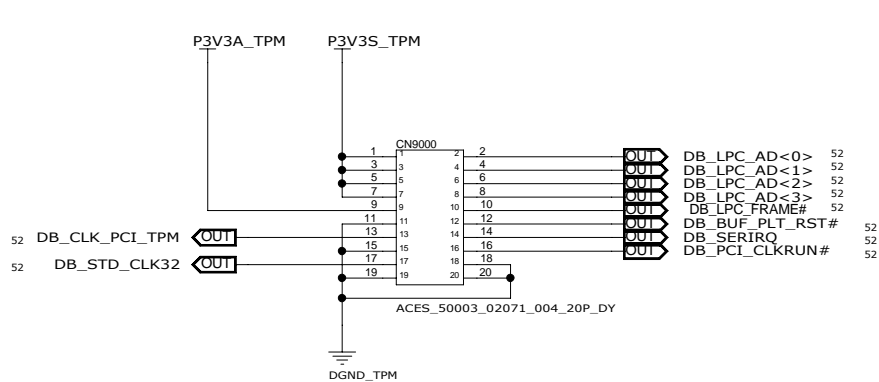
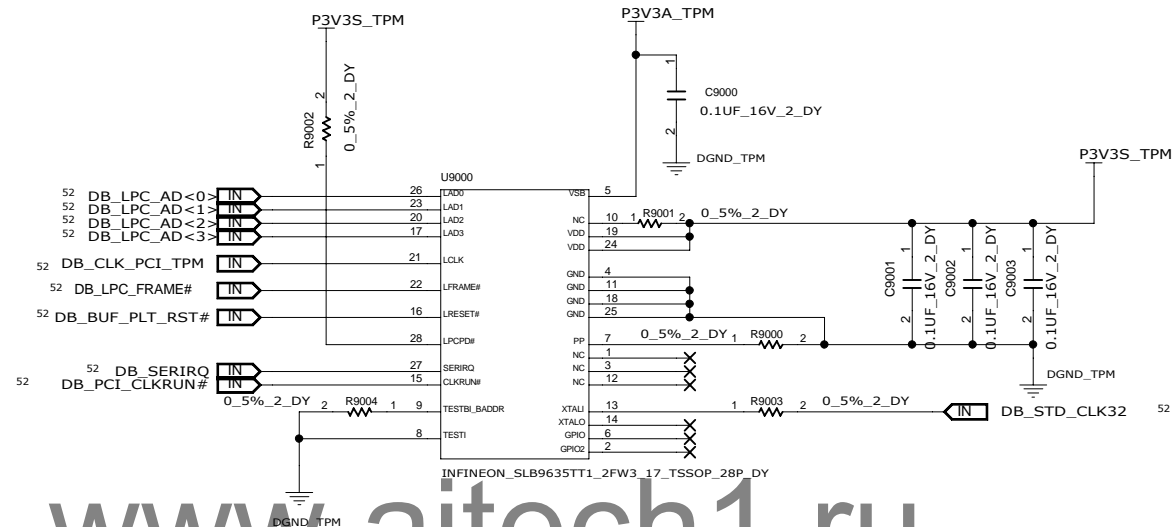
INVENTEC

TITLE		RIVER, Synapse, MB	
CHIEF		POWER & RESET BUTTON	
DOC NUMBER		D-CS-1310A25032-0-ALG	
SIZE	CODE	REV	
A3	CS	A	

CHANGE by XXX DATE 19-Mar-2012

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TPM BOARD



INVENTEC

TITLE
CHIEF RIVER, Synapse, MB
TPM BOARD

DOC NUMBER
D-CS-1310A25032-0-ALG

REV
A

CHANGE by XXX DATE 19-Mar-2012

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