

1	2	3	4	5	6	7	8	
A								A
B								B
C								C
D								D
E								E
F								F

ASPEN

DISCRETE PV(Final)

11/09/2004

DRAWER	EE	DATE	POWER	DATE	INVENTEC <small>TITLE ASPEN</small>			
DESIGN								
CHECK								
RESPONSIBLE								
SIZE = 3		VER :			SIZE A3	CODE CS	DOC. NUMBER Model No	REV A01
FILE NAME : XXXX-XXXXXX-XX								
P/N	XXXXXXXXXXXX							
DATE		CHANGE NO.		REV				
1	2	3	4	5	6	7	8	

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6- SELECT & BATTERY CONN	30- ATI-M22-P-2	52- MULTIBAY CONN
7- SYSTEM POWER(3V/5V/12V)	31- ATI-M22-P-3	53- USB&IR CONN (USB DAUGHTER BOARD)
8- SYSTEM POWER(V1.2L/V2.5S)	32- VIDEO RAM DAMPING	54- CARDBUS CONTROLL
9- SYSTEM POWER(VGAVCC/V1.5A) (V1.5A B/B DAUGHTER BOARD)	33- BLANK	55- PC CARD SLOT
10- D/B SYSTEM POWER(V1.8/VCCP)	34- VIDEO RAM-2	56- SD CARD CONN
11- CPU POWER(VCC_CORE)	35- CRT& SVEDIO CONN	57- CONN (B/B DAUGHTER BOARD)
12- SYSTEM POWER (V0.9)	36- LCD CONN	58- MINIPCI CONN
13- POWER(SLEEP)	37- ICH6-1	59- LAN INTERFACE-1
14- POWER(SEQUENCE)	38- ICH6-2	60- LAN RJ45 CONN
15- CLOCK_GENERATOR	39- ICH6-3	61- DOCKING CONN
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19- DOTHAN-4	43- FWH (B/B DAUGHTER BOARD)	65- BLUETOOTH
20- THERMAL&FAN CONTROLLER	44- INT.KBC/POINT DEVICES	66- LED / LID_SWITCH
21- ALVISO-1	45- SUPER I/O	67- LED BOARD / CNN (LED DAUGHTER BOARD)
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27- DDR2-DIMM1		
28- DDR2-DAMPING		

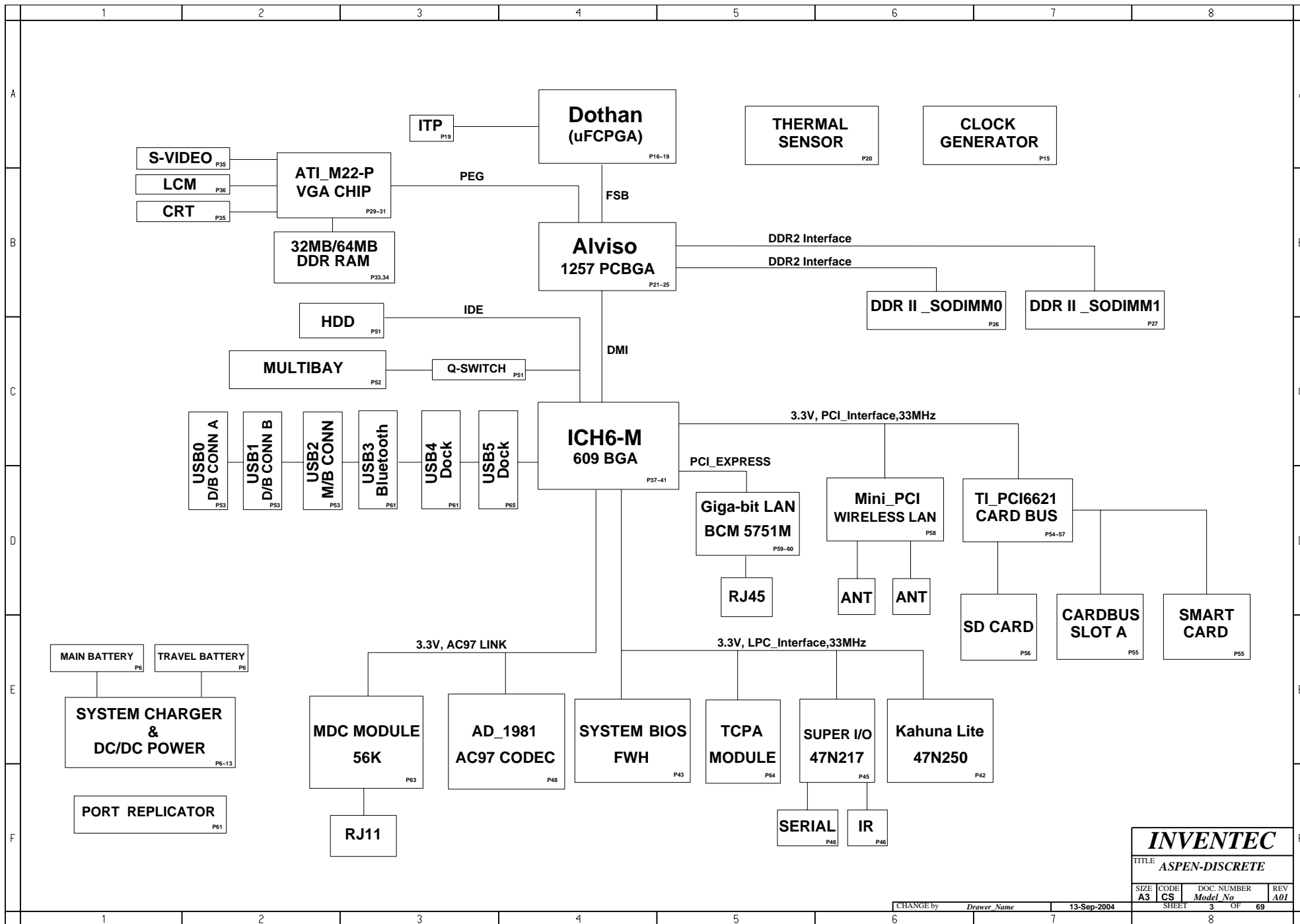
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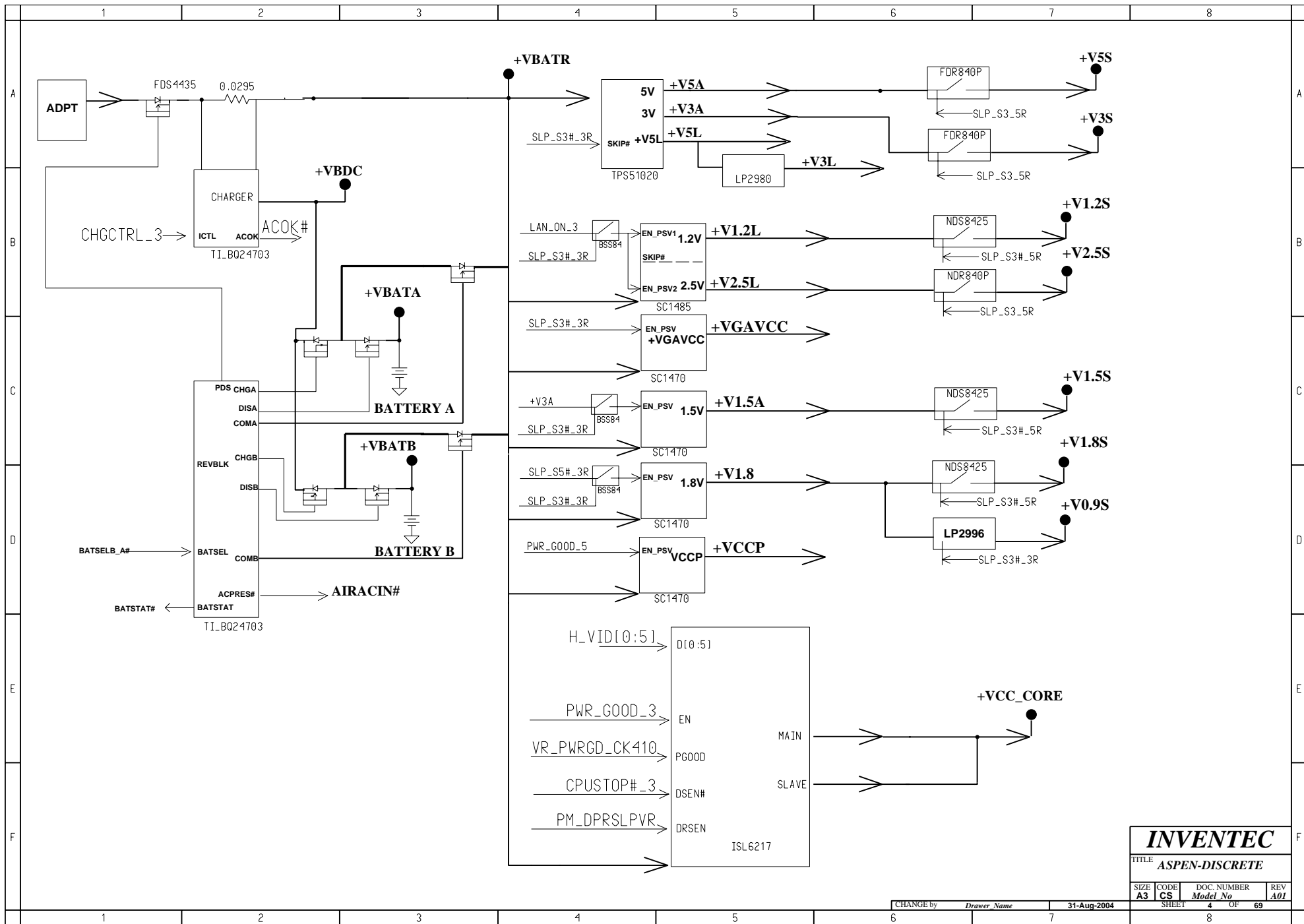
TITLE
ASPEN-DISCRETE

SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV A01
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CHANGE by *Drawer Name* 31-Aug-2004

SHEET 2 OF 69





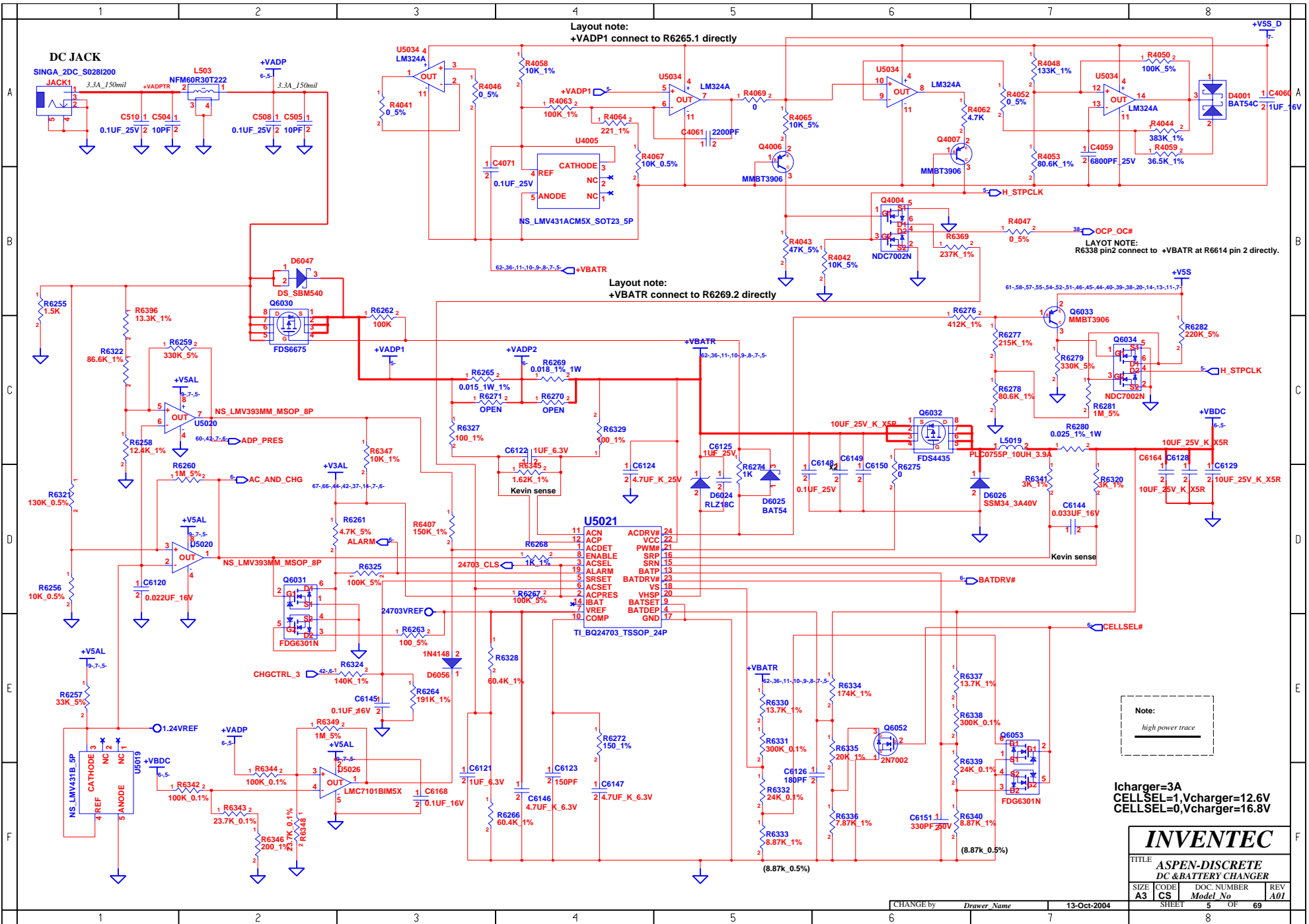
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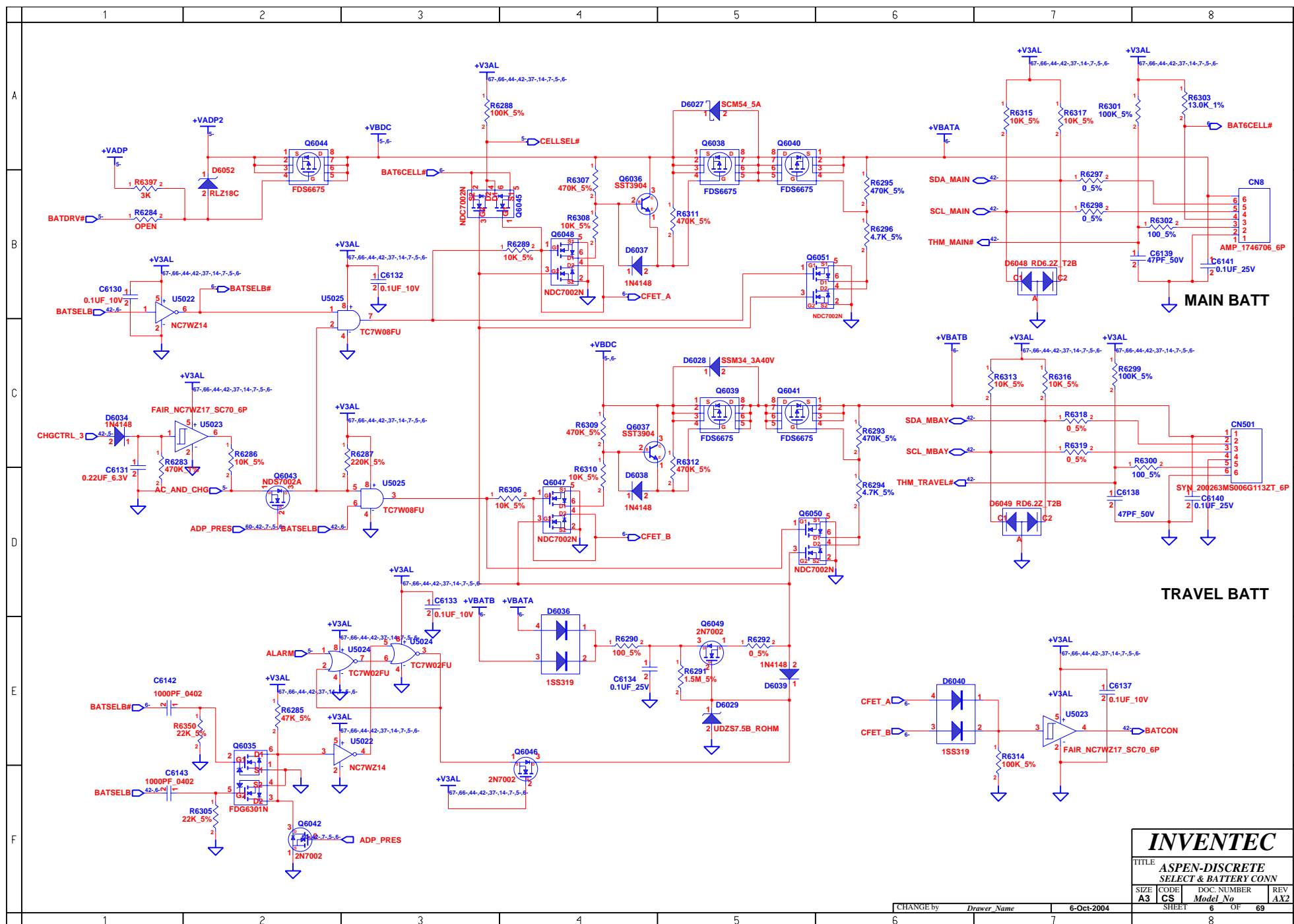
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ASPEN-DISCRETE

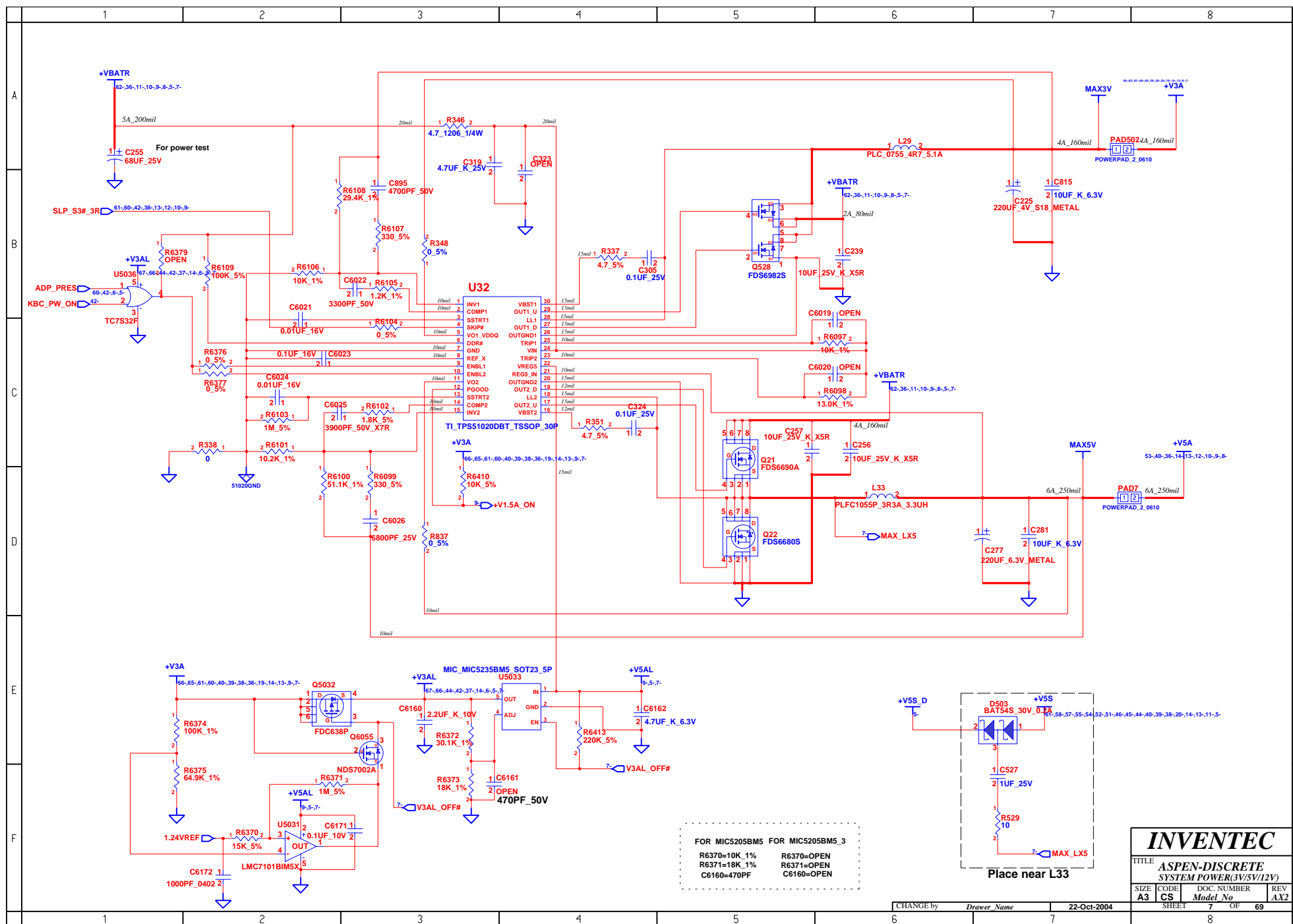
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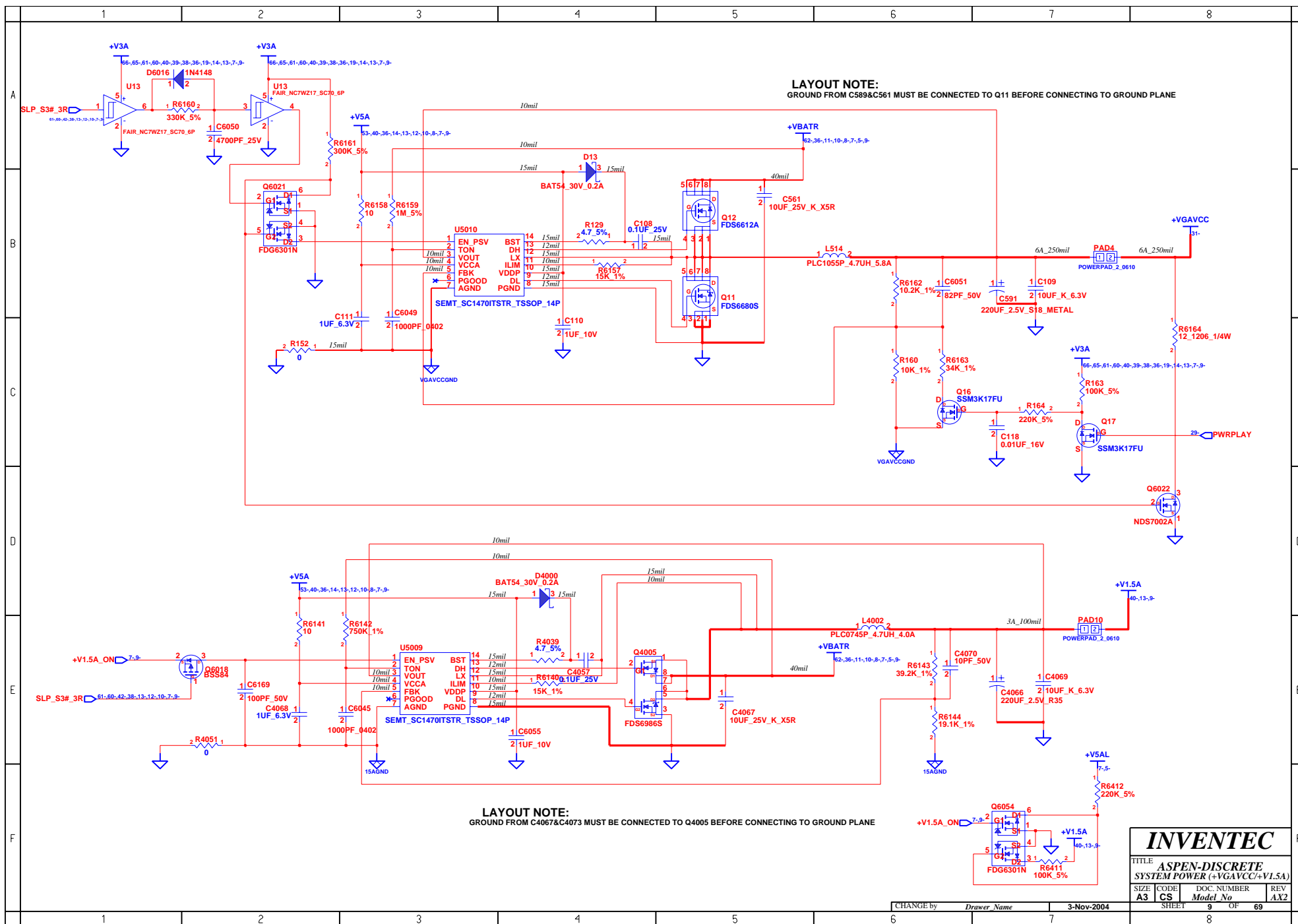
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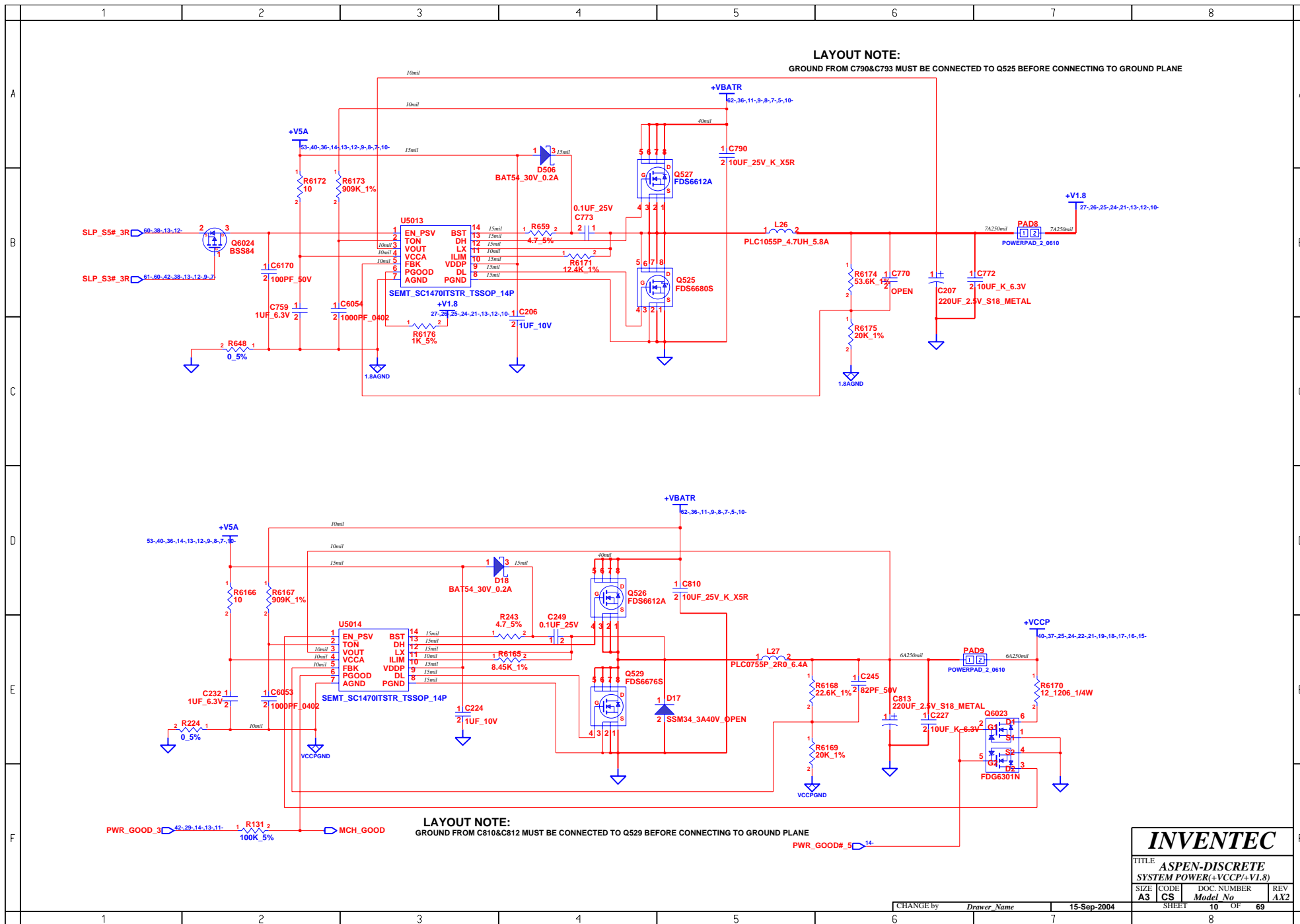
SHEET 4 OF 69

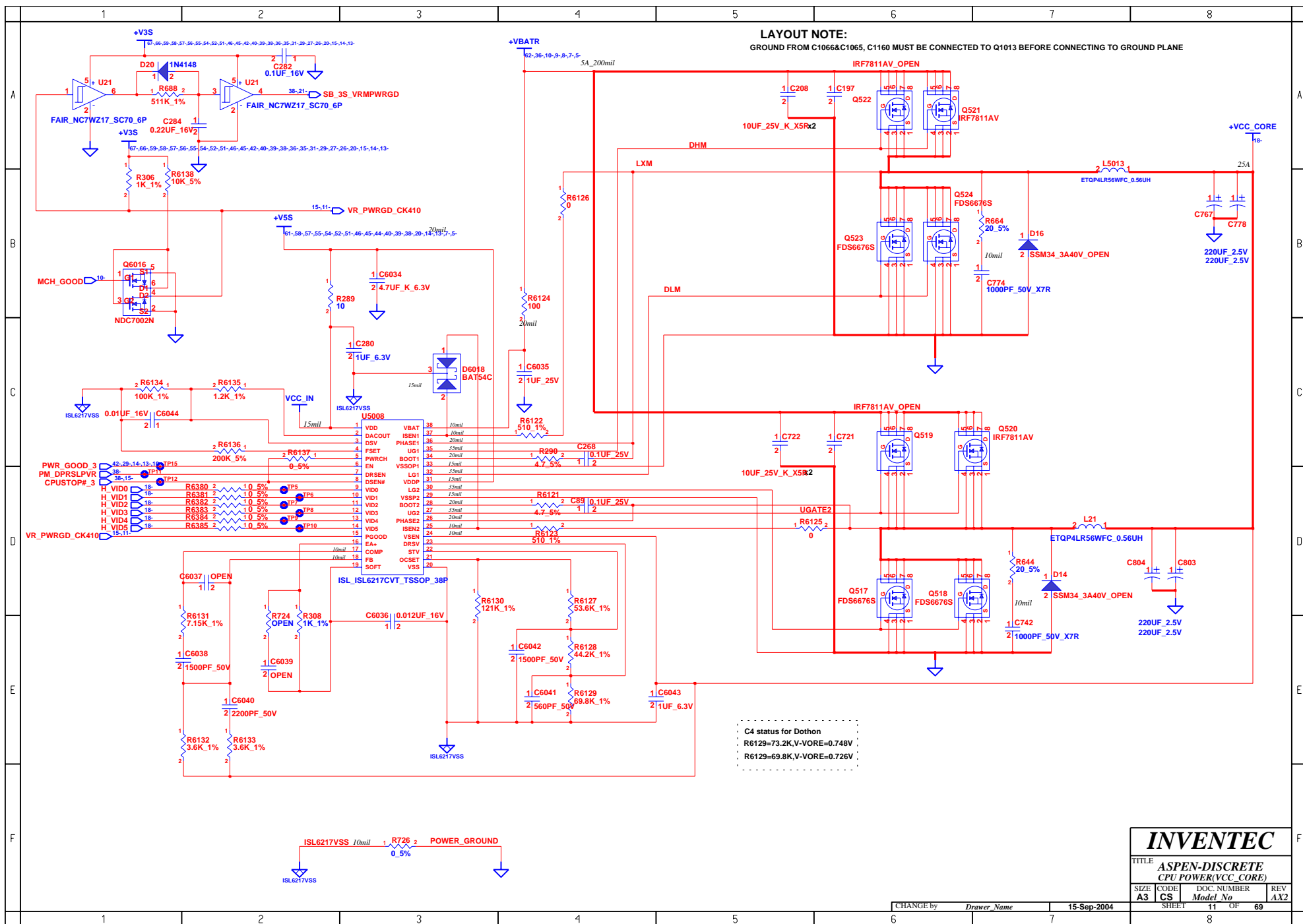


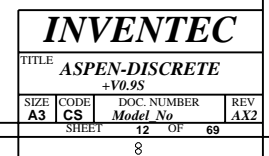


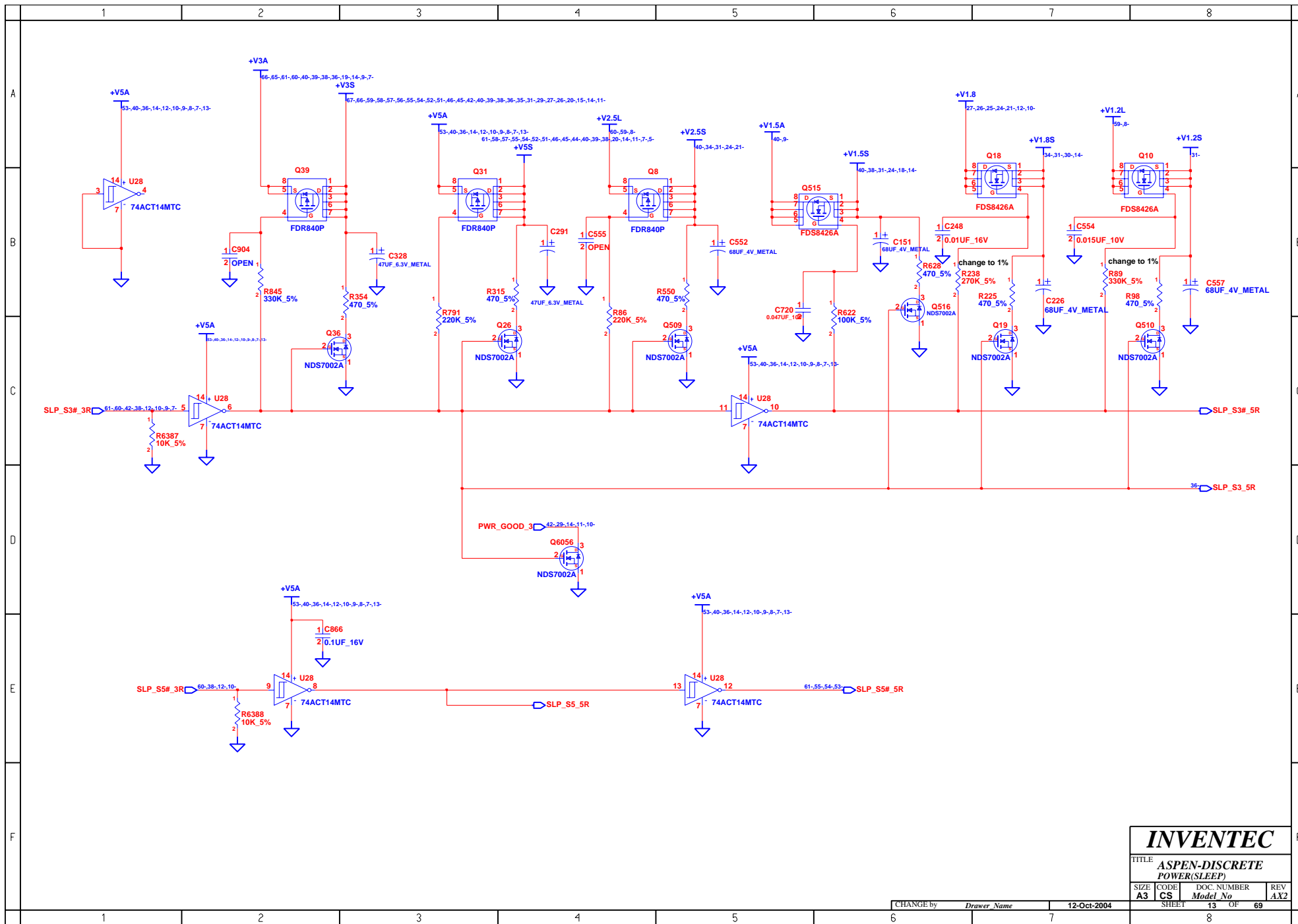












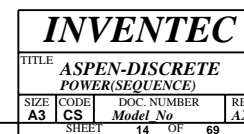
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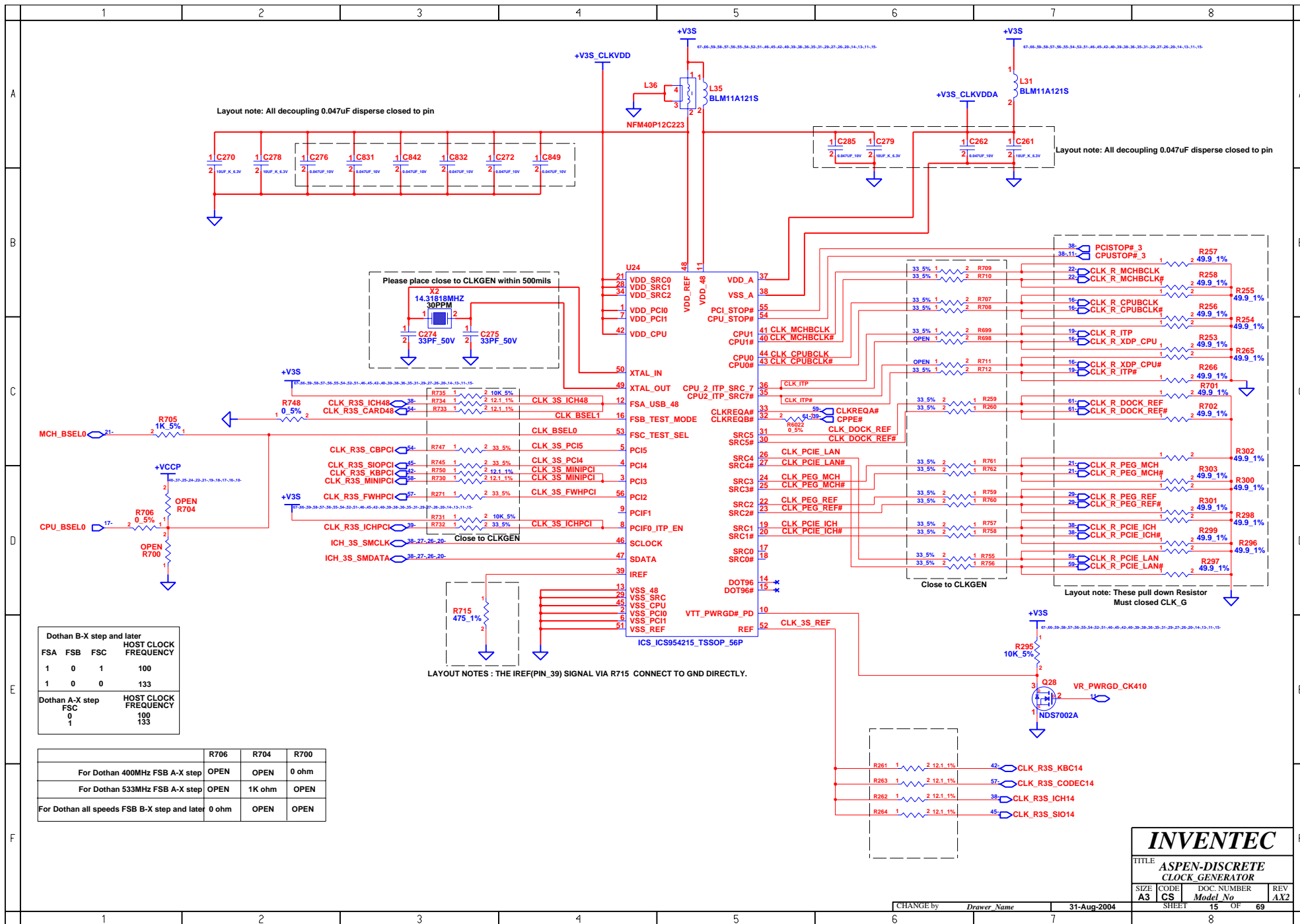
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ASPEN-DISCRETE
POWER(SLEEP)

SIZE A3	CODE CS	DOC. NUMBER Model No	REV AX2
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CHANGE by *Drawer Name* 12-Oct-2004

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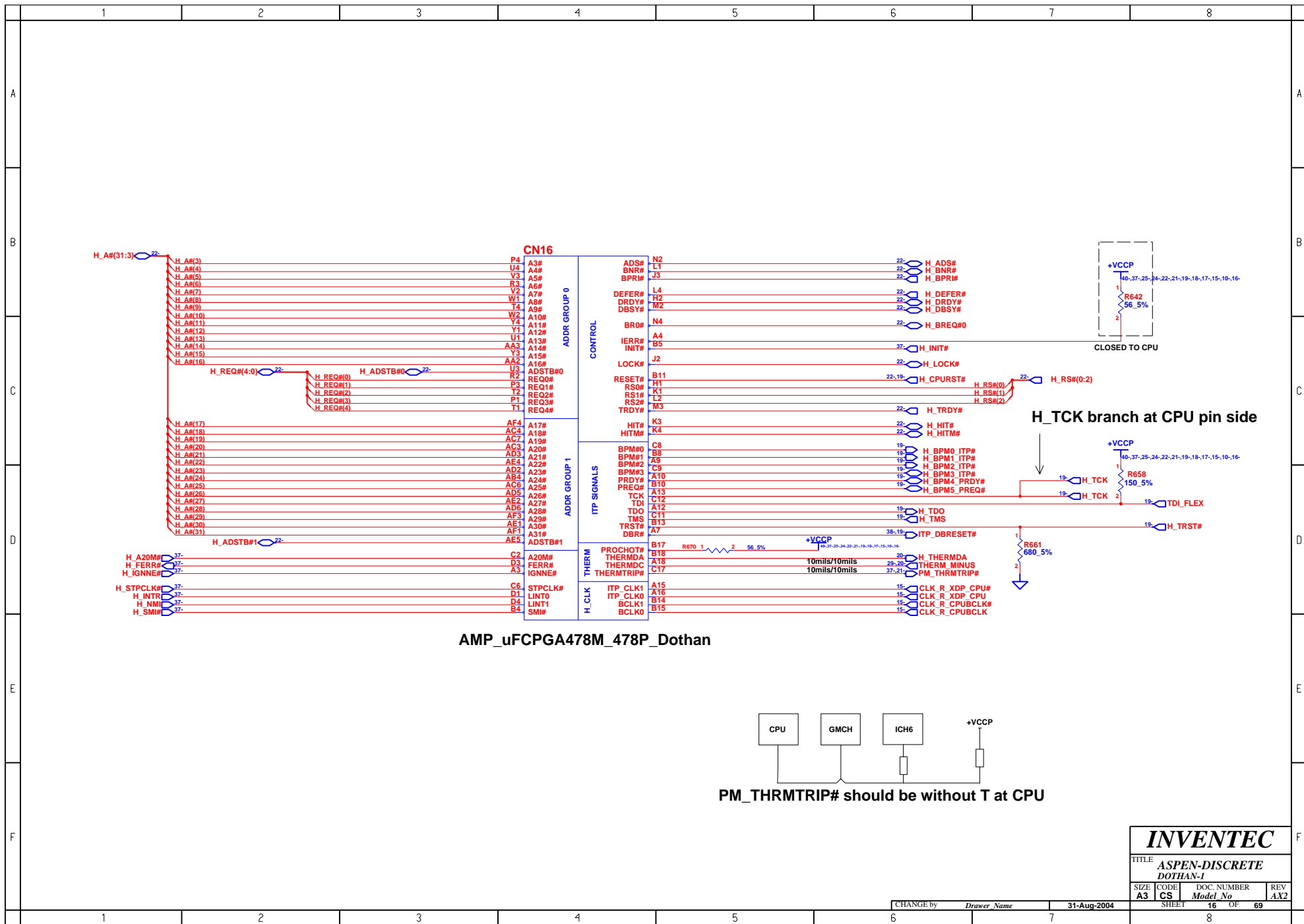


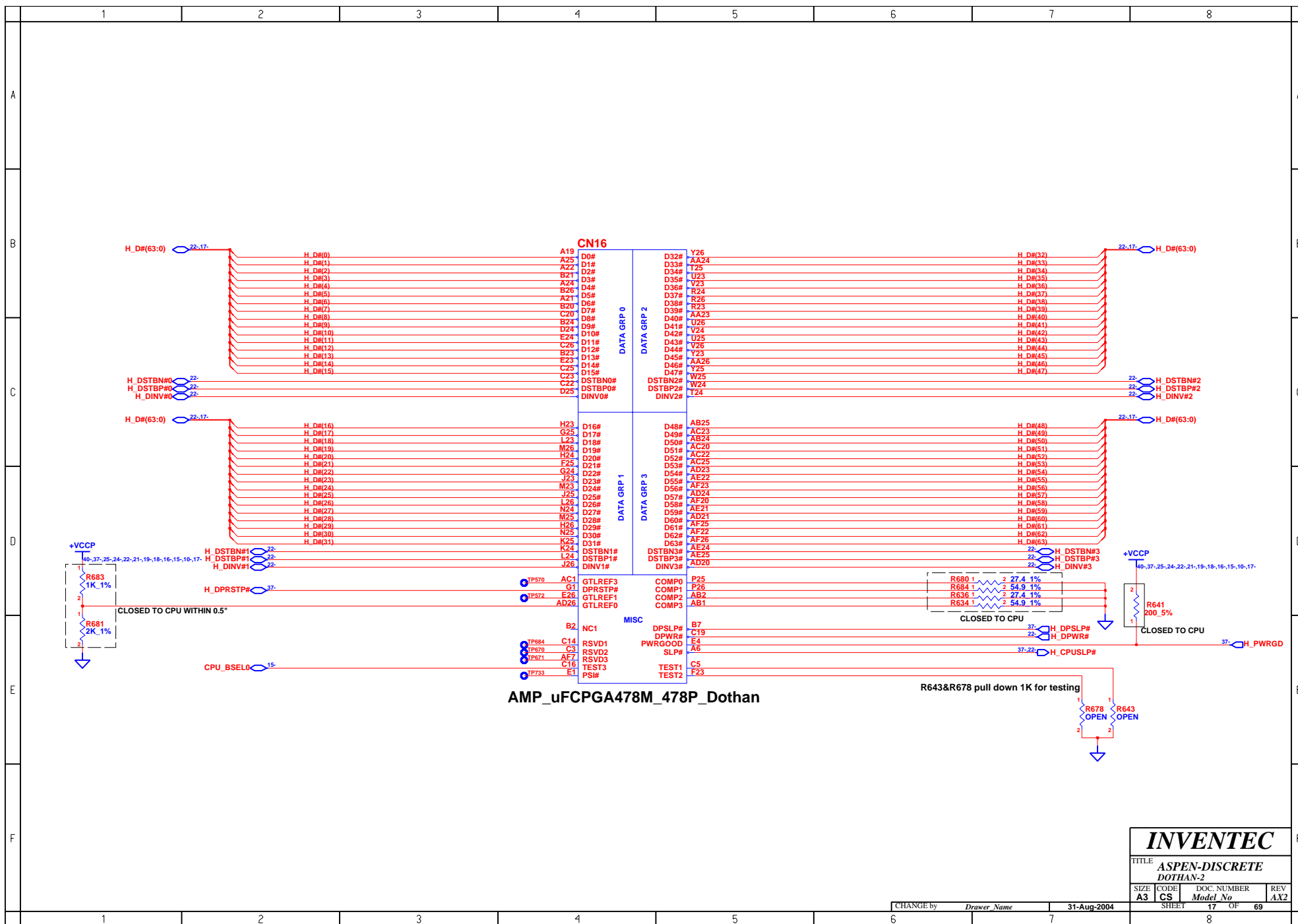


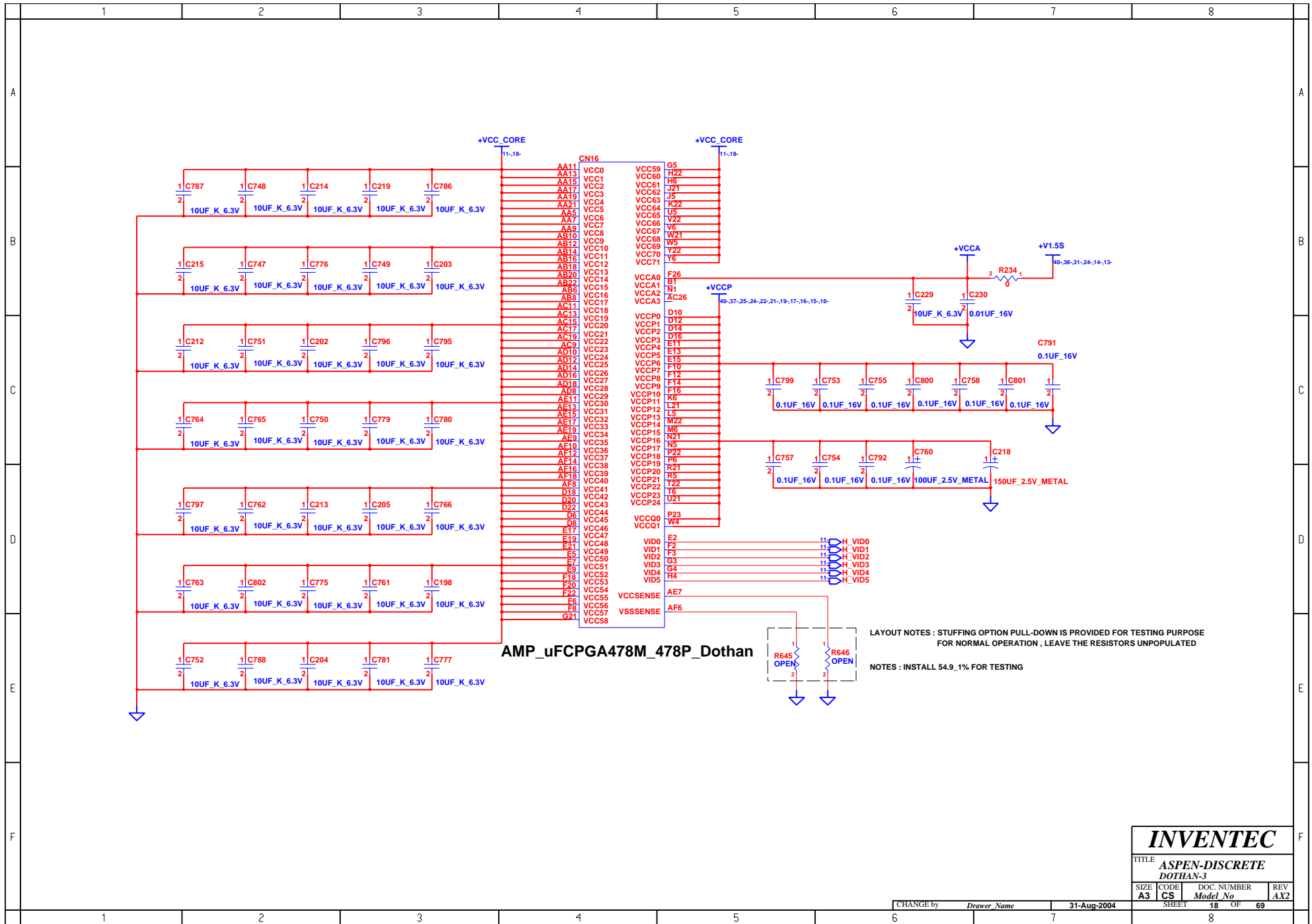
INVENTEC

TITLE
**ASPEN-DISCRETE
CLOCK GENERATOR**

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	AX2







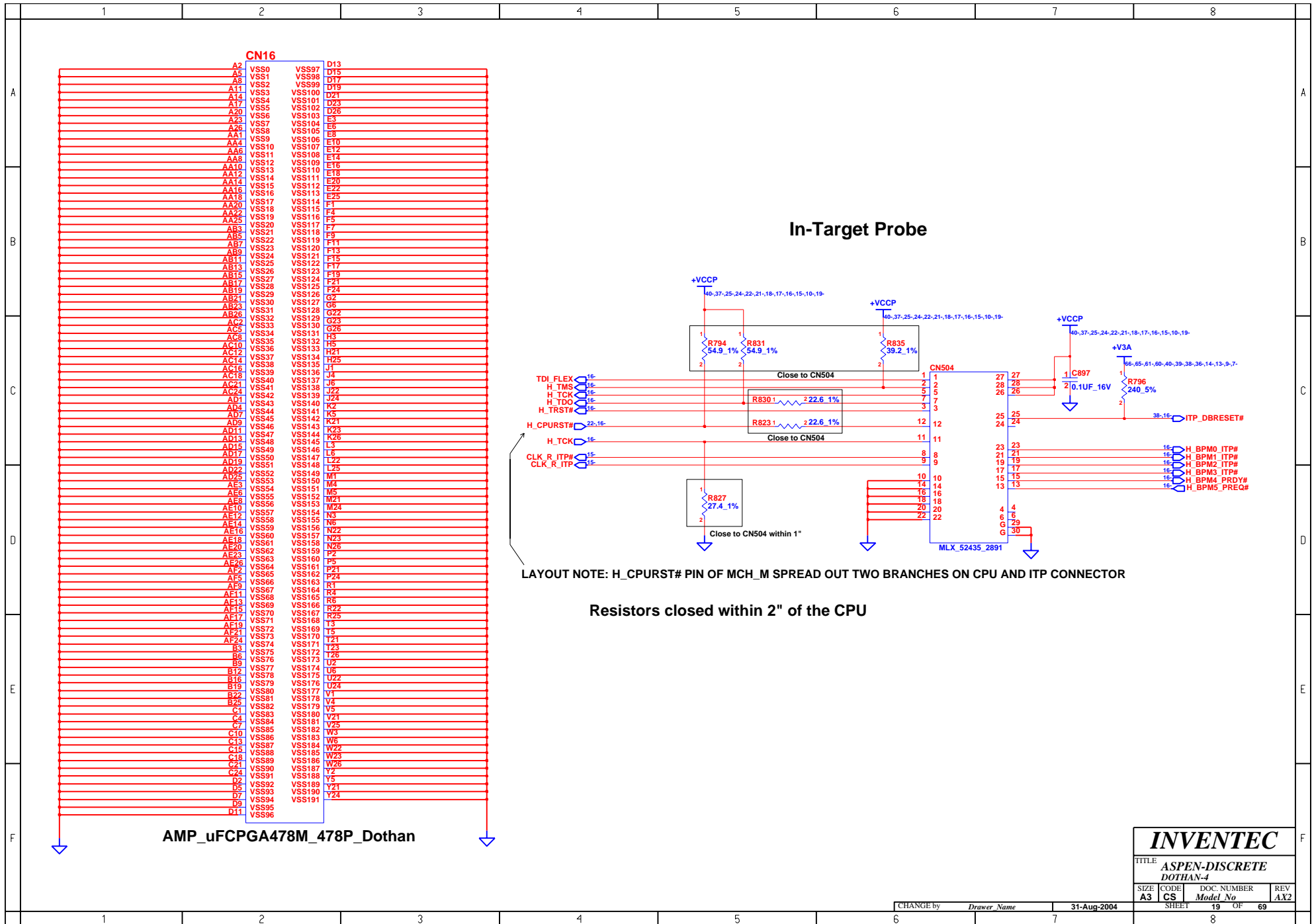
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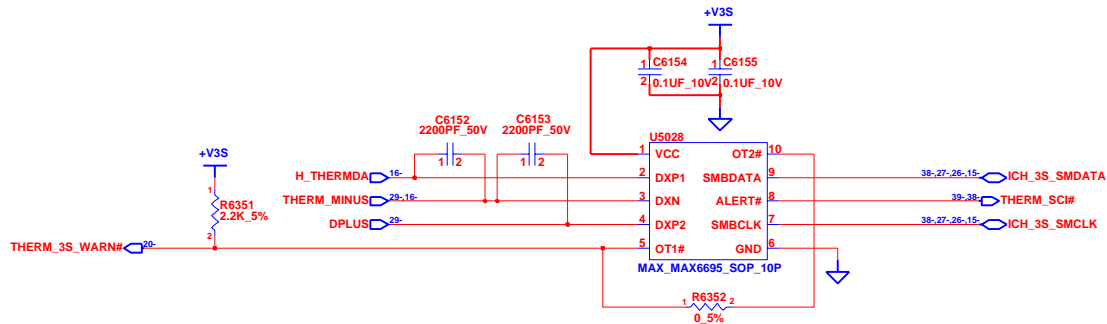
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**ASPEN-DISCRETE
DOTHAN-3**

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	AX2

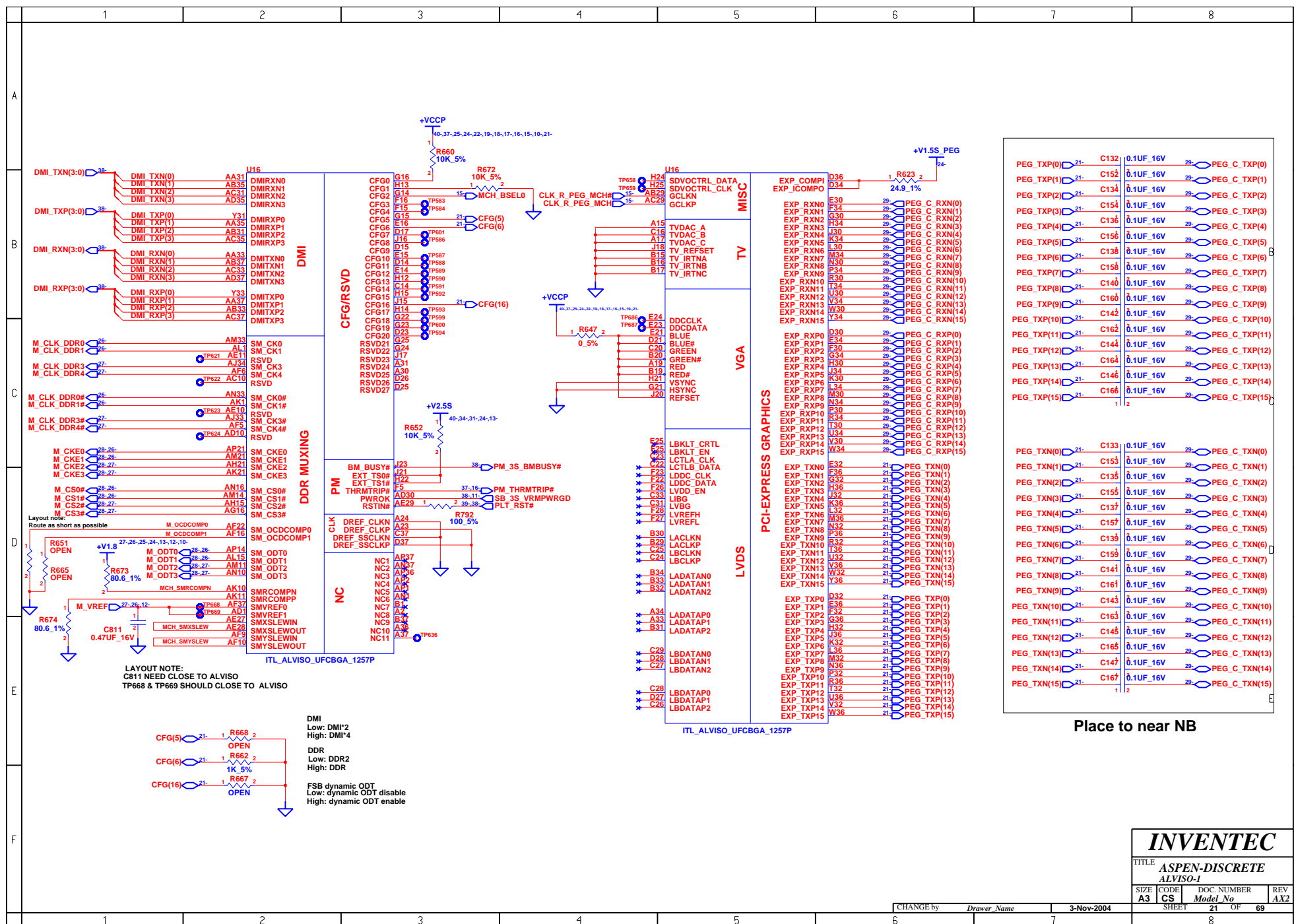
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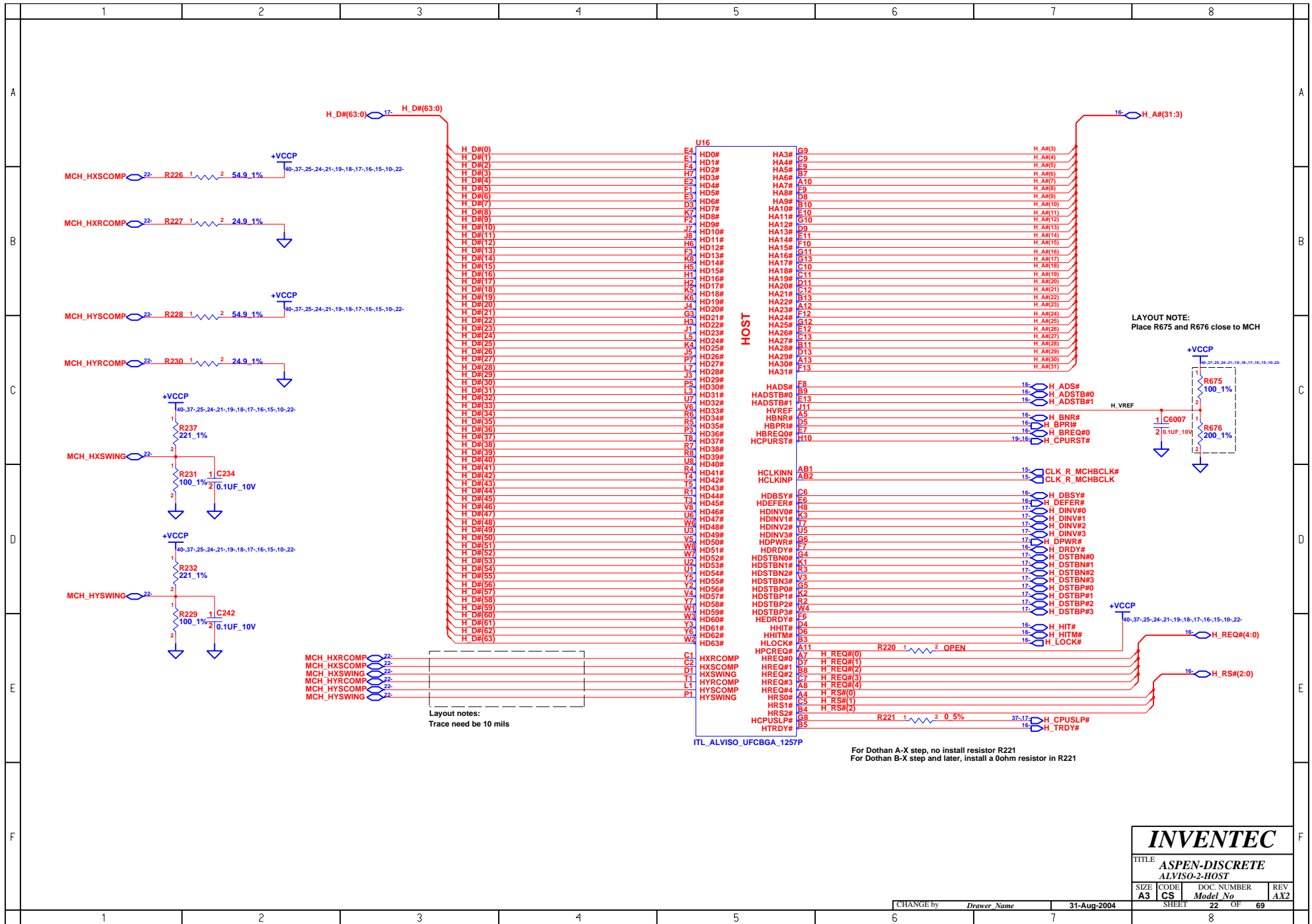
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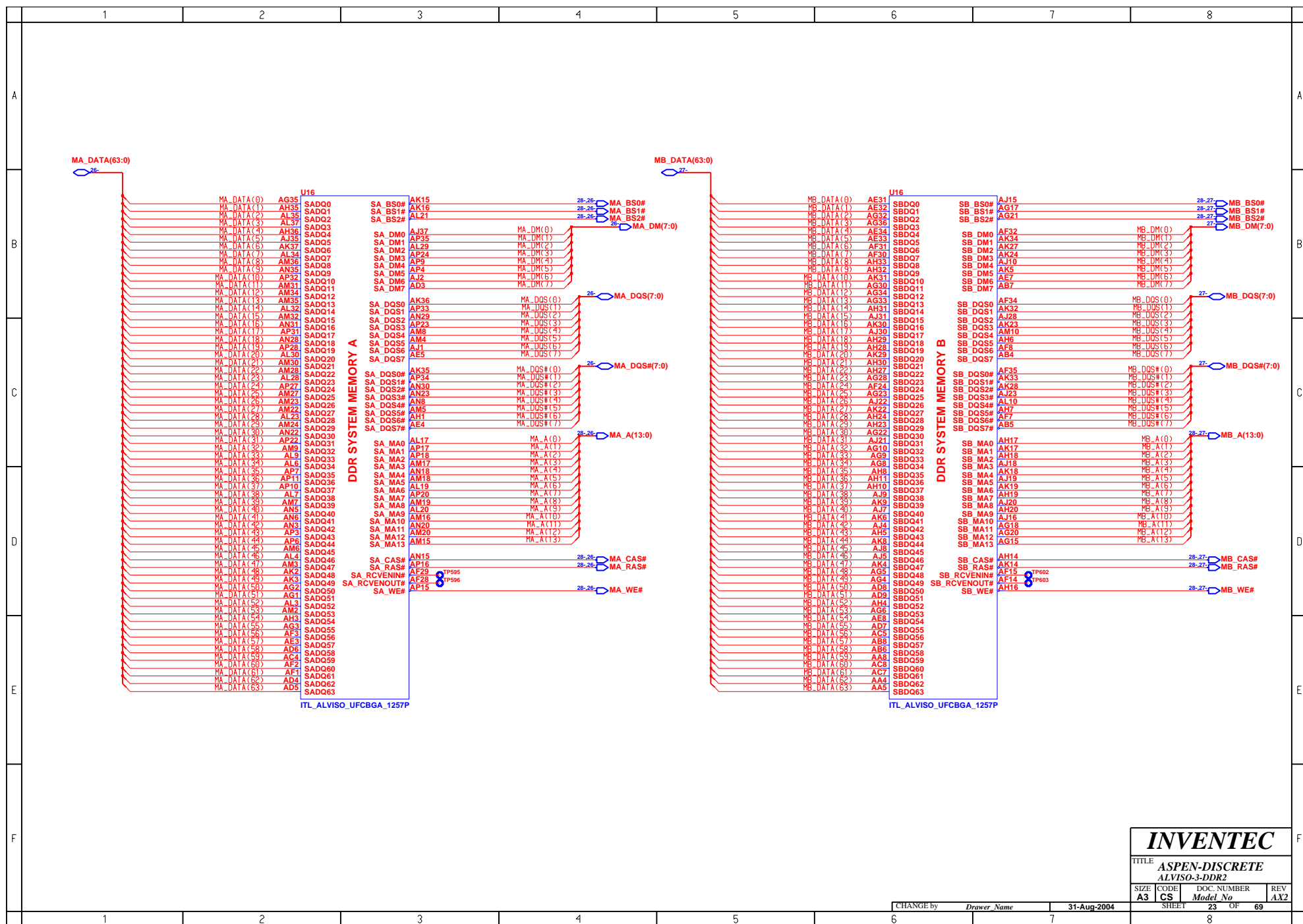


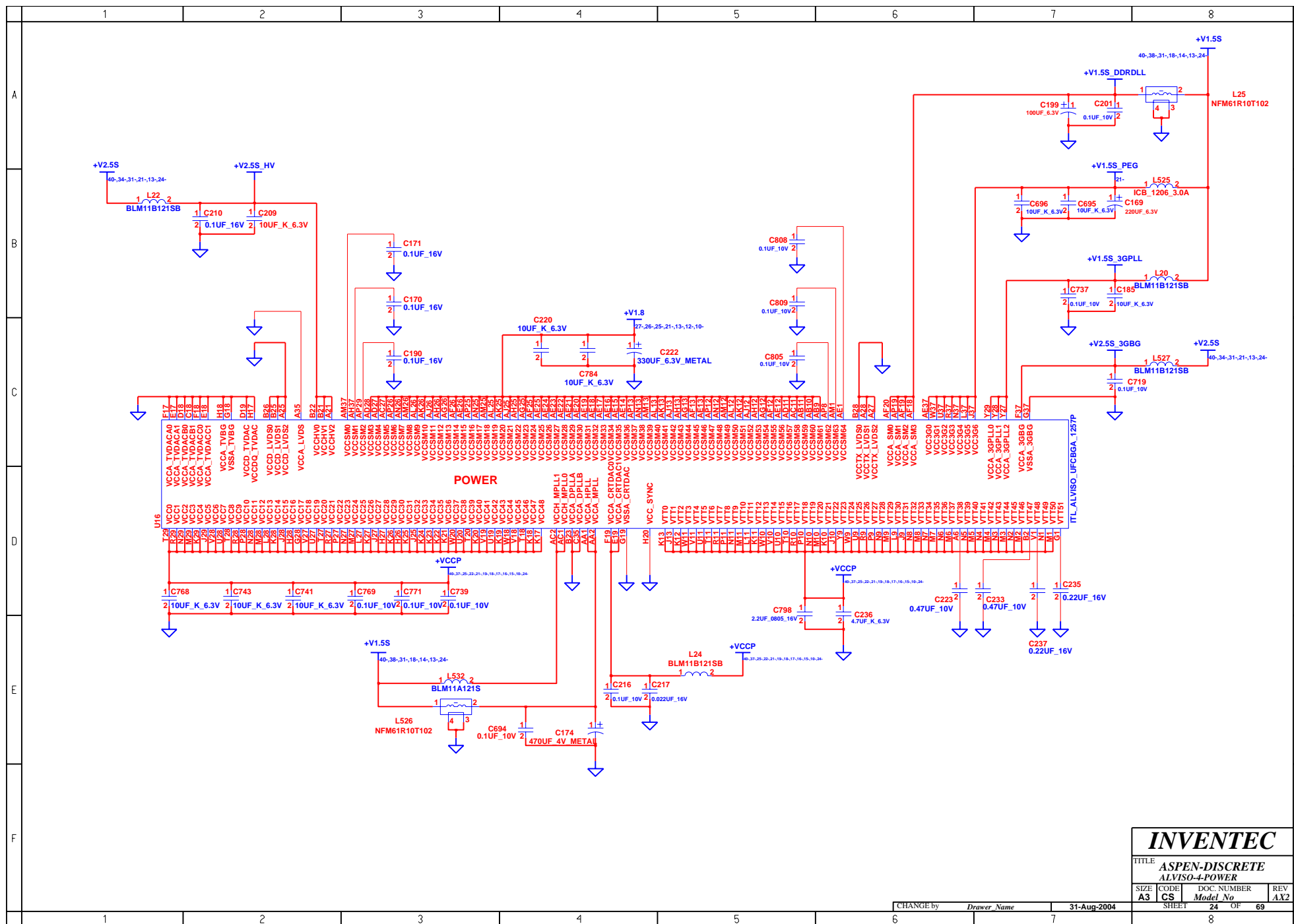


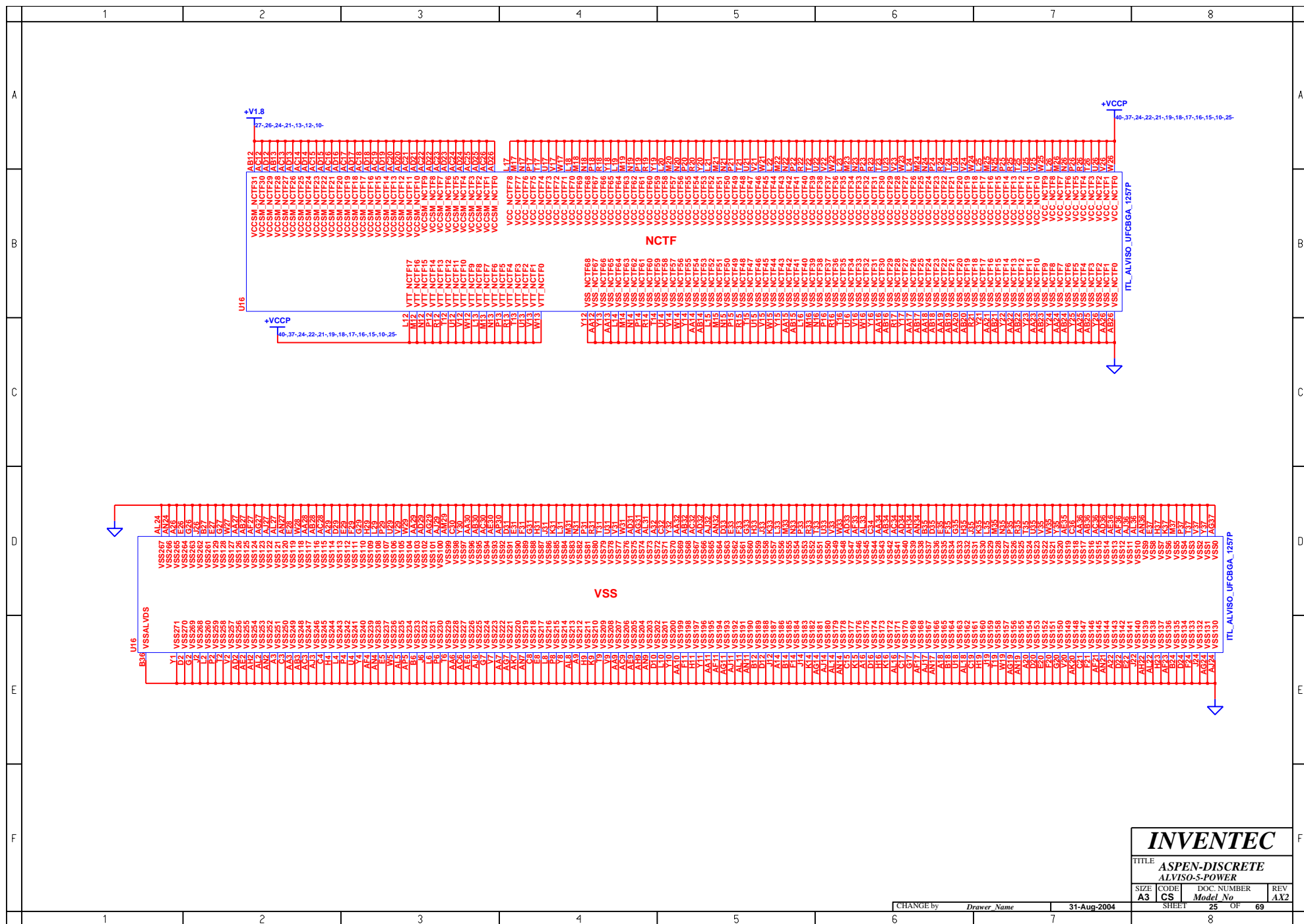
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TITLE ASPEN-DISCRETE THERMAL&FAN CONTROLLER			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV AX2
SHEET 20		OF 69	

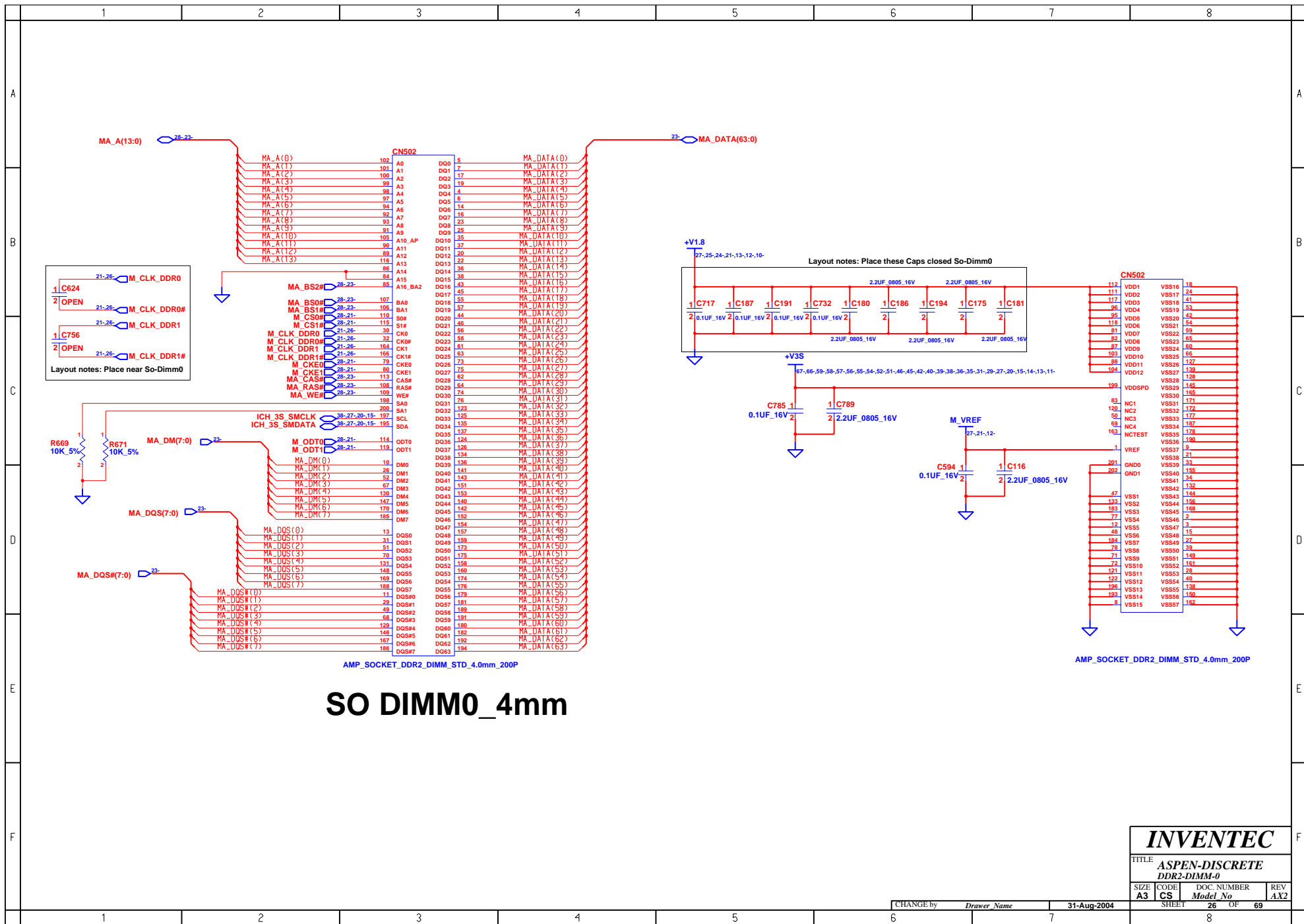












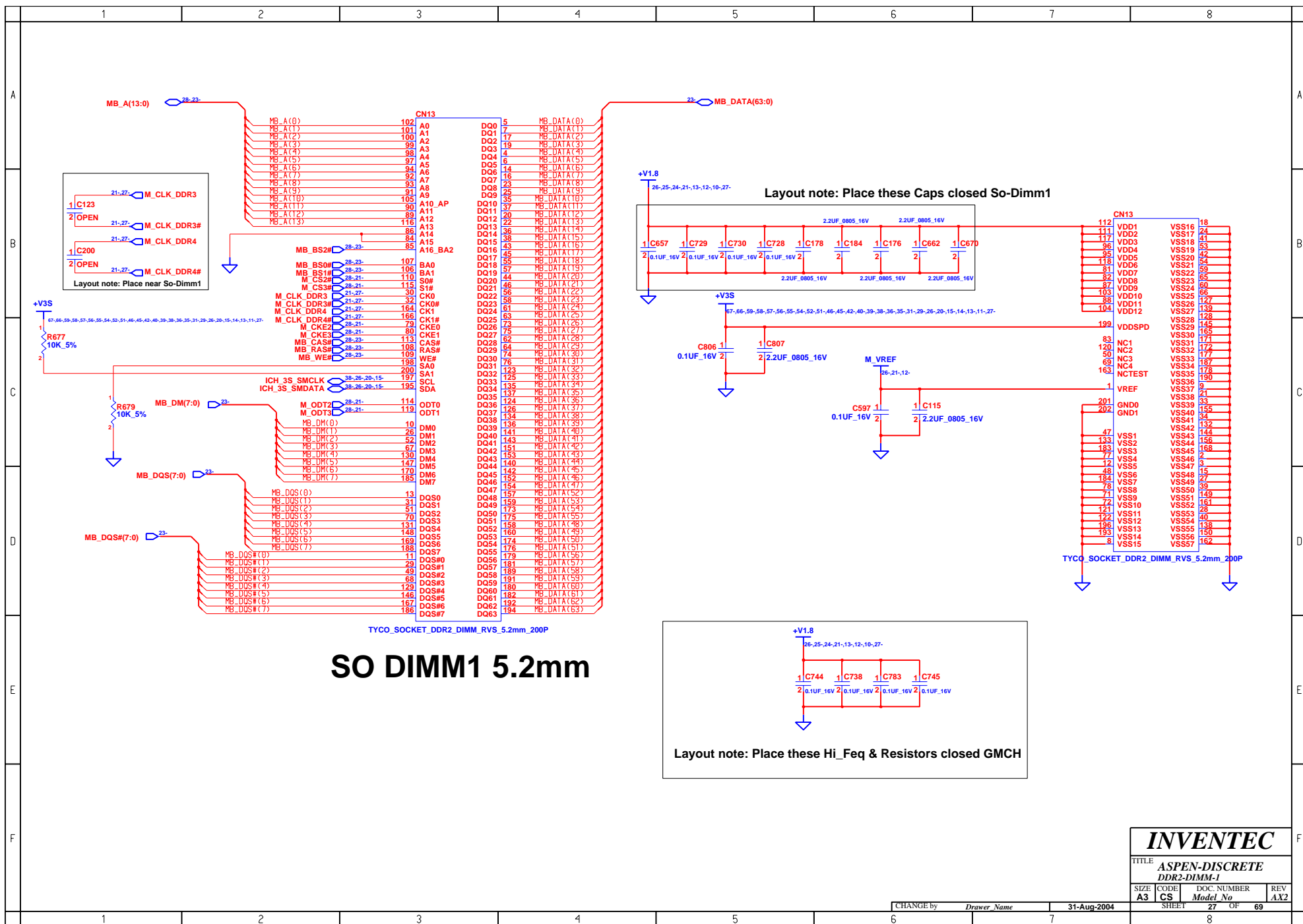
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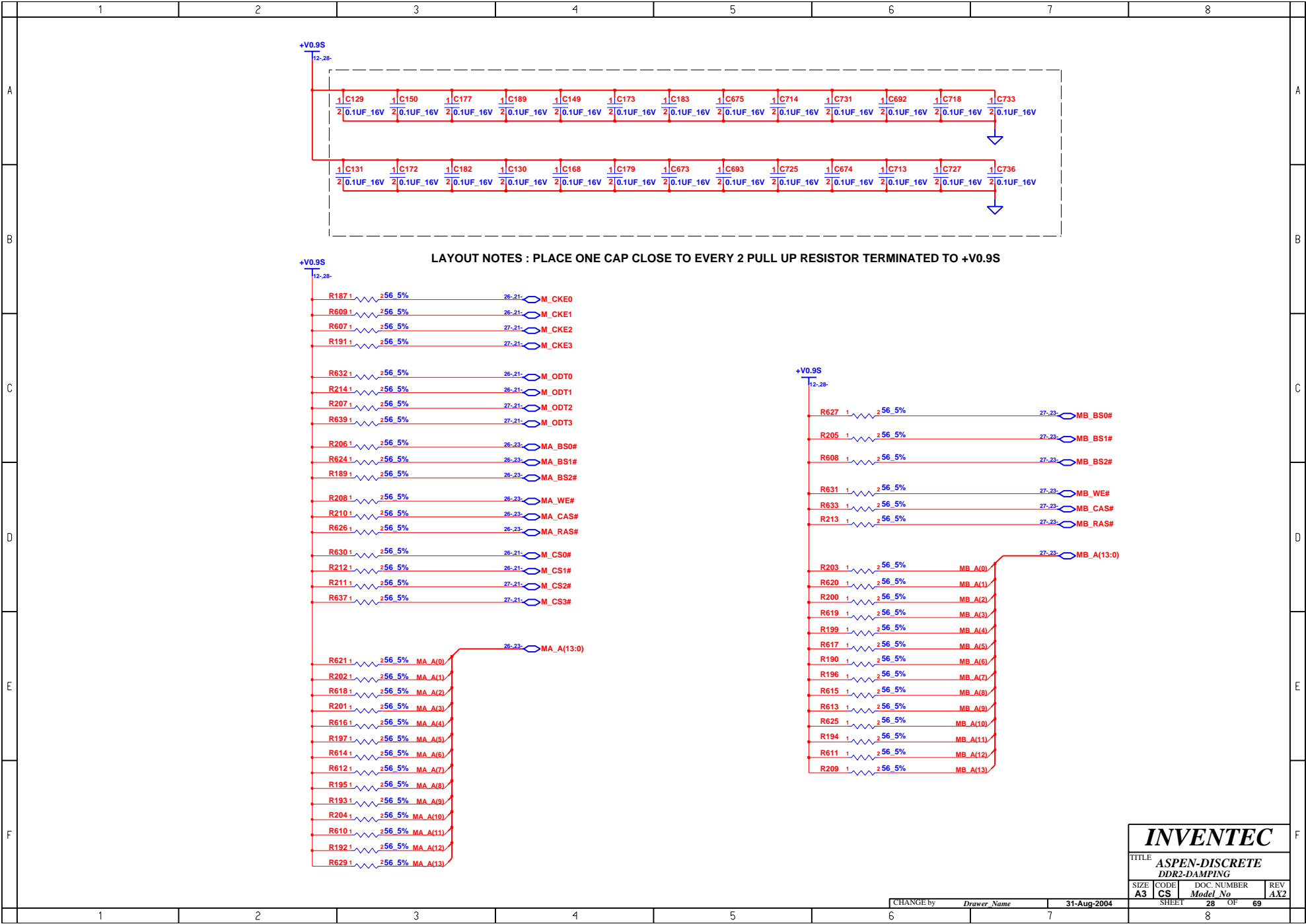
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ASPEN-DISCRETE
DDR2-DIMM-0

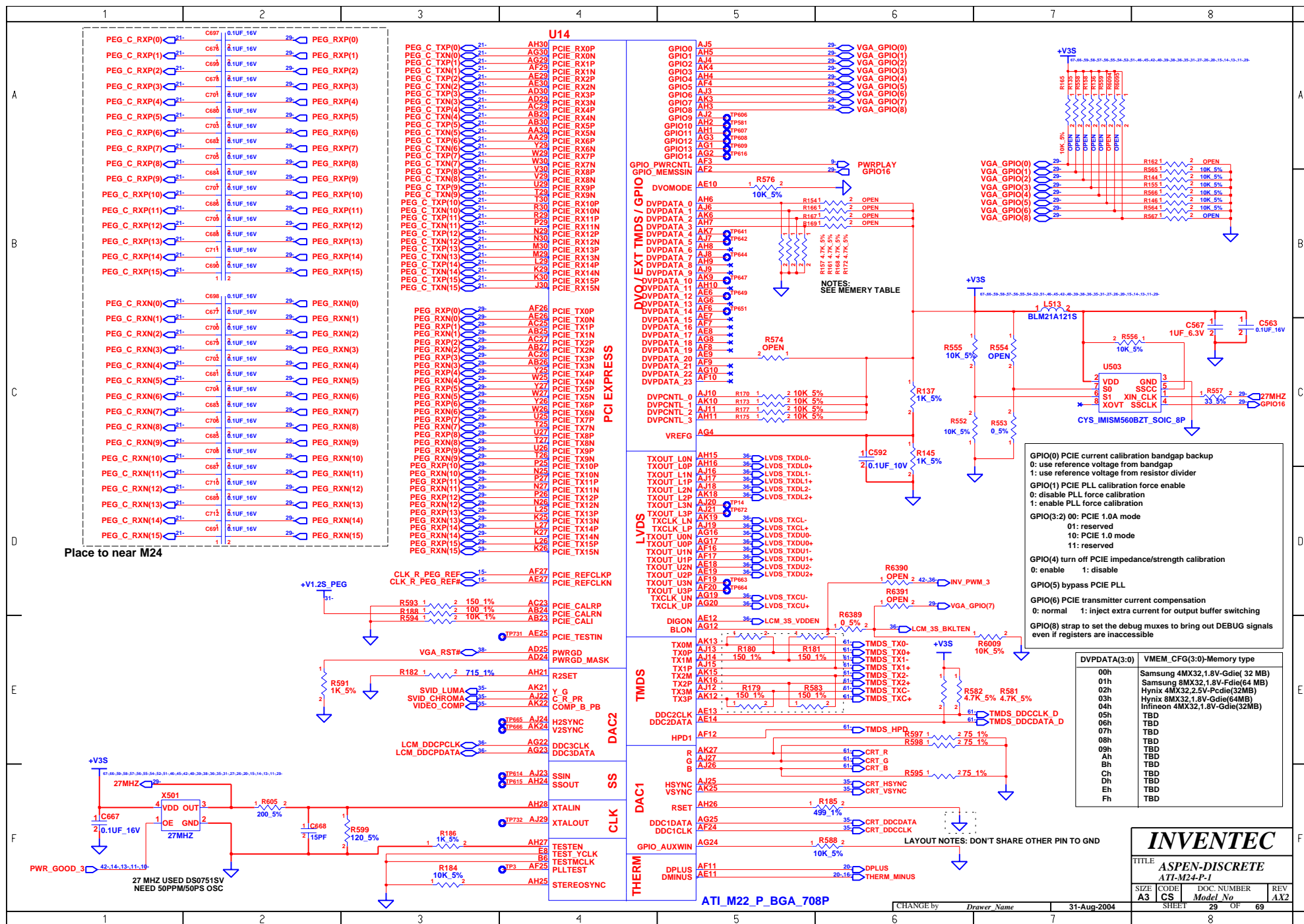
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A3	CS	Model No	AX2

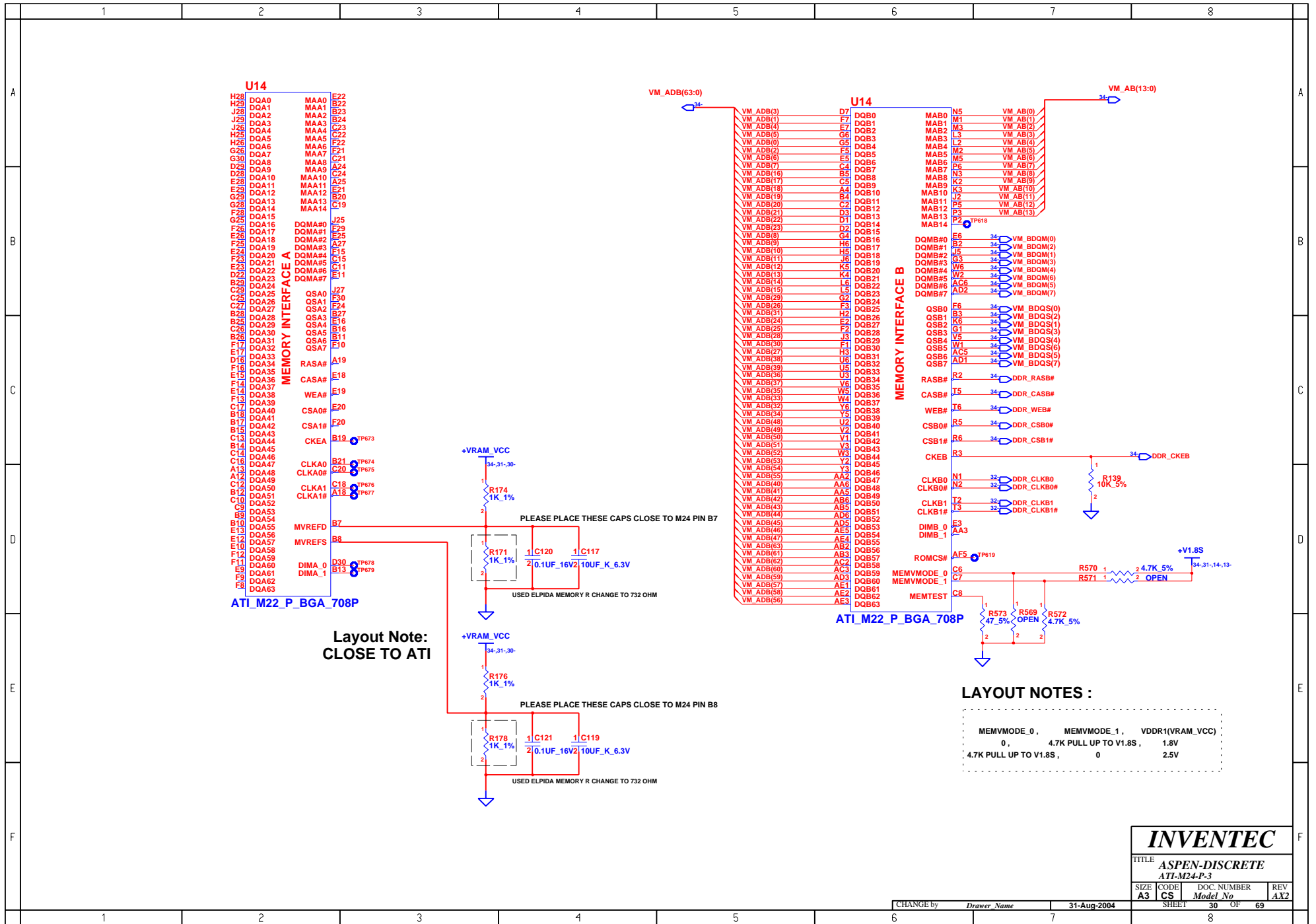
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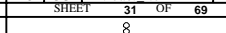
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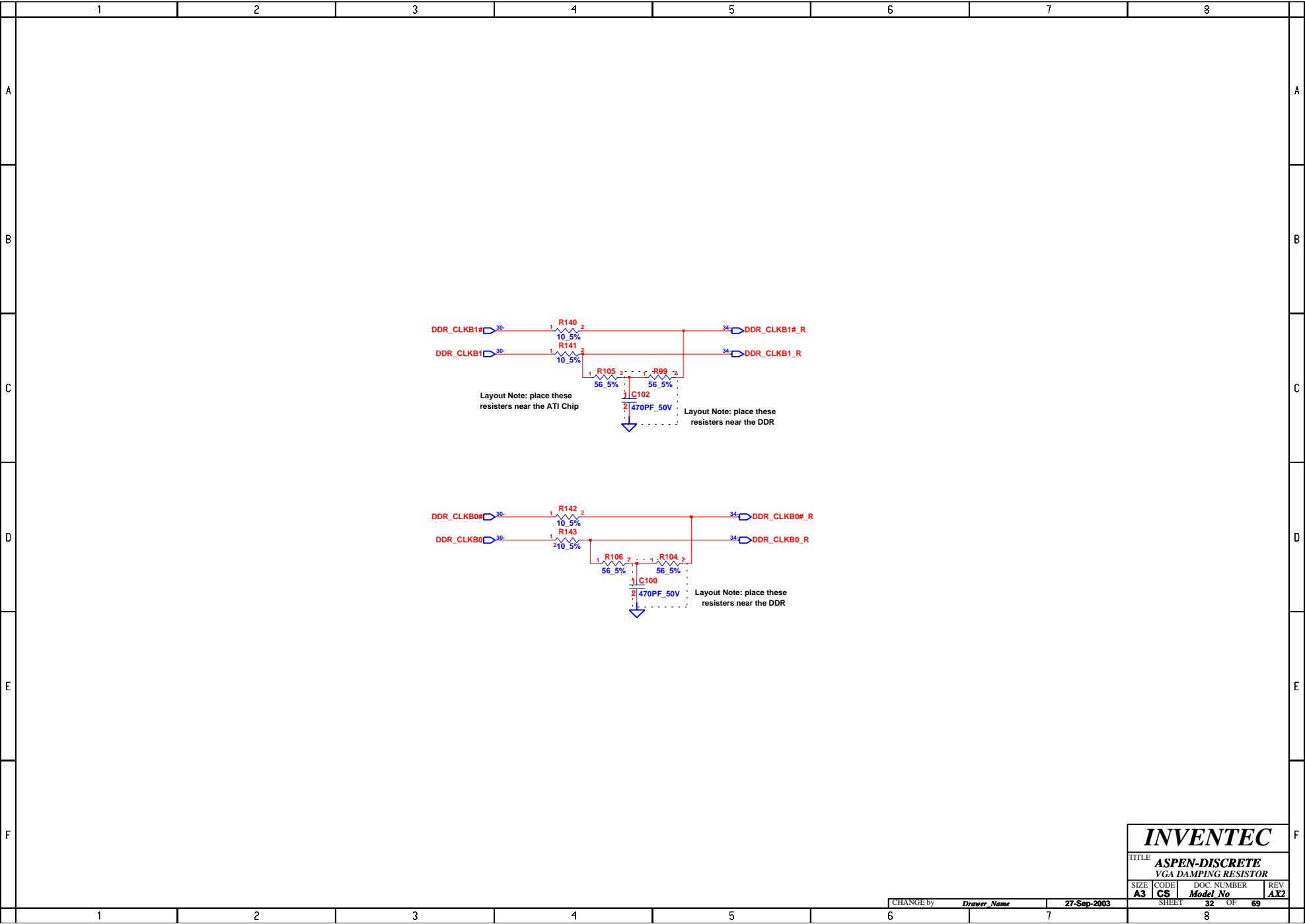












INVENTEC

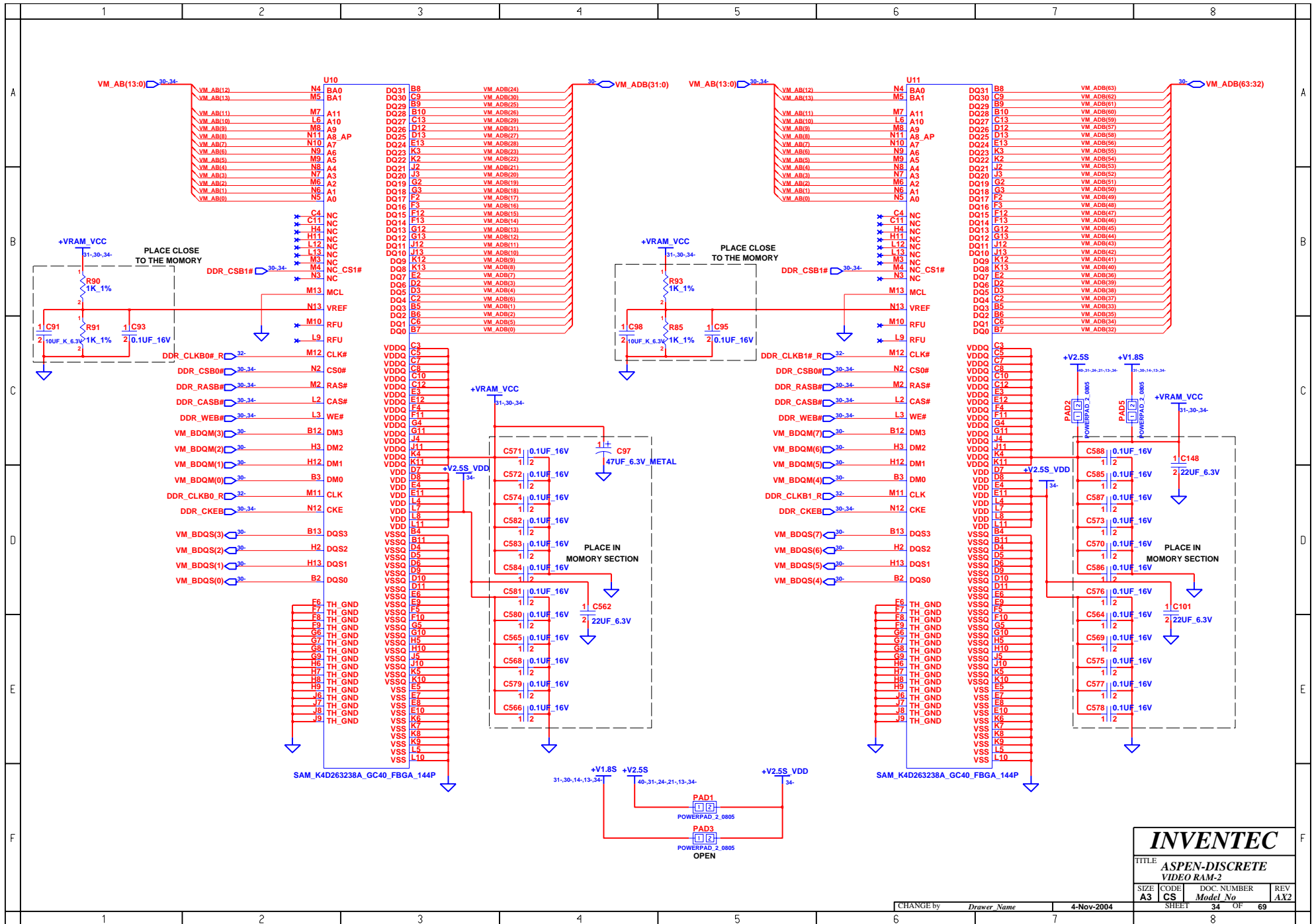
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ASPEN-DISCRETE
VGA DAMPING RESISTOR

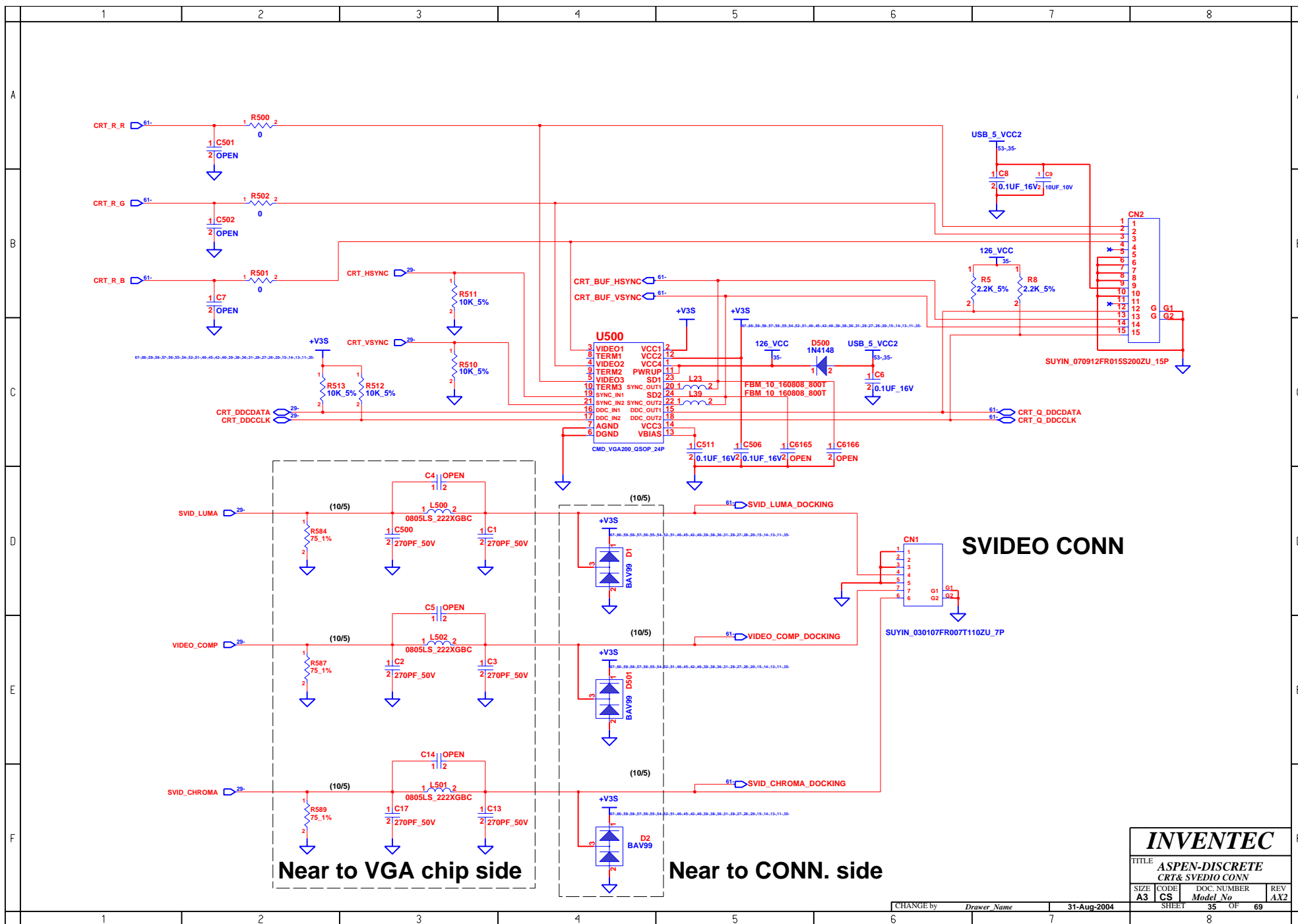
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CHANGE by *Drawer Name* 27-Sep-2003

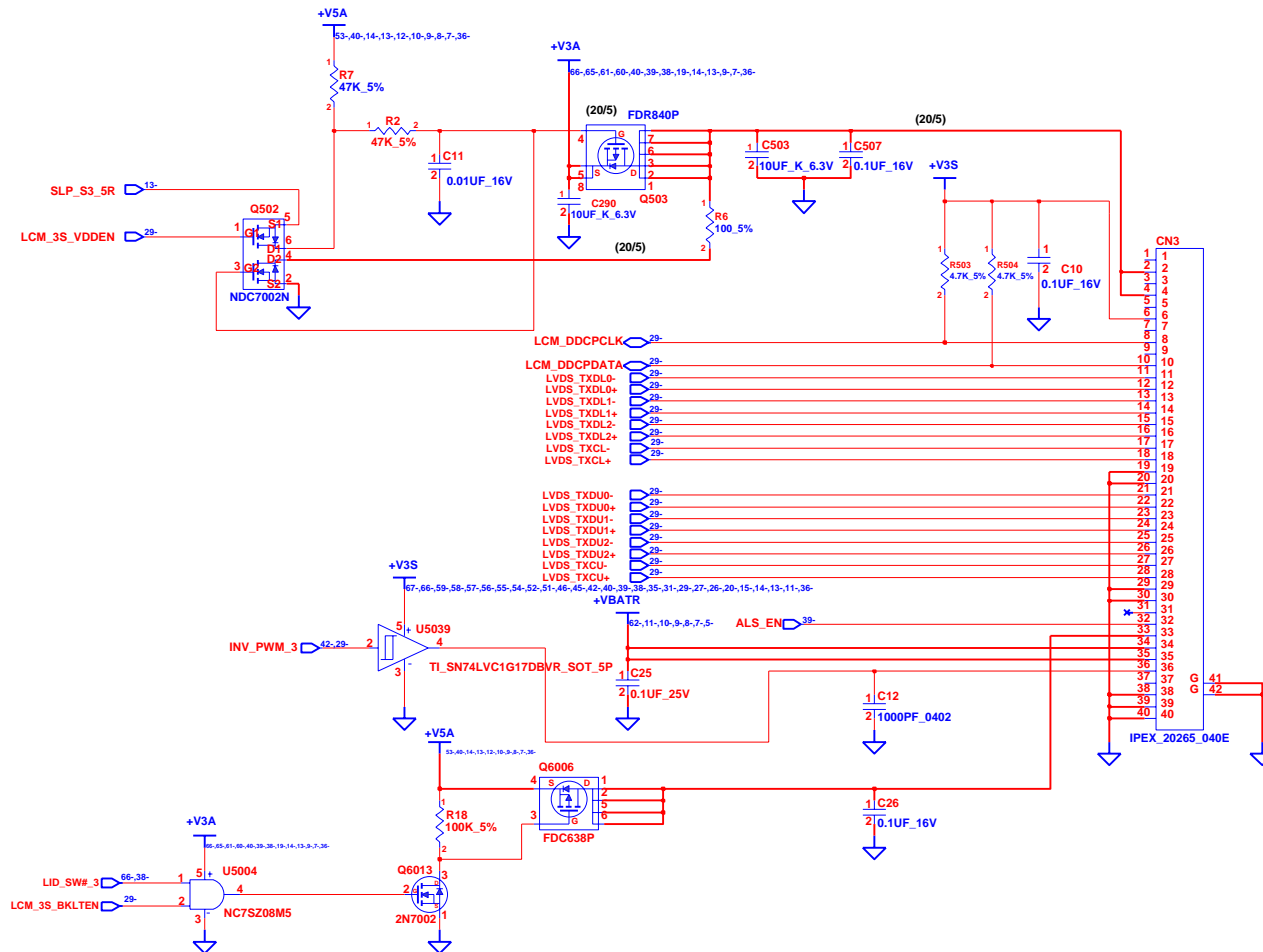
SHEET 32 OF 69

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B									B
C									C
D									D
E									E
F	<div><div><div>INVENTEC</div><div>TITLE ASPEN-DISCRETE BLANK</div><div><div>SIZE A3</div><div>CODE CS</div><div>DOC. NUMBER Model No</div><div>REV AX2</div></div></div><div><div>CHANGE by Drawer Name</div><div>31-Aug-2004</div><div>SHEET 33</div><div>OF 69</div><div>8</div></div></div>								F
	1	2	3	4	5	6	7	8	





Place closed to connector



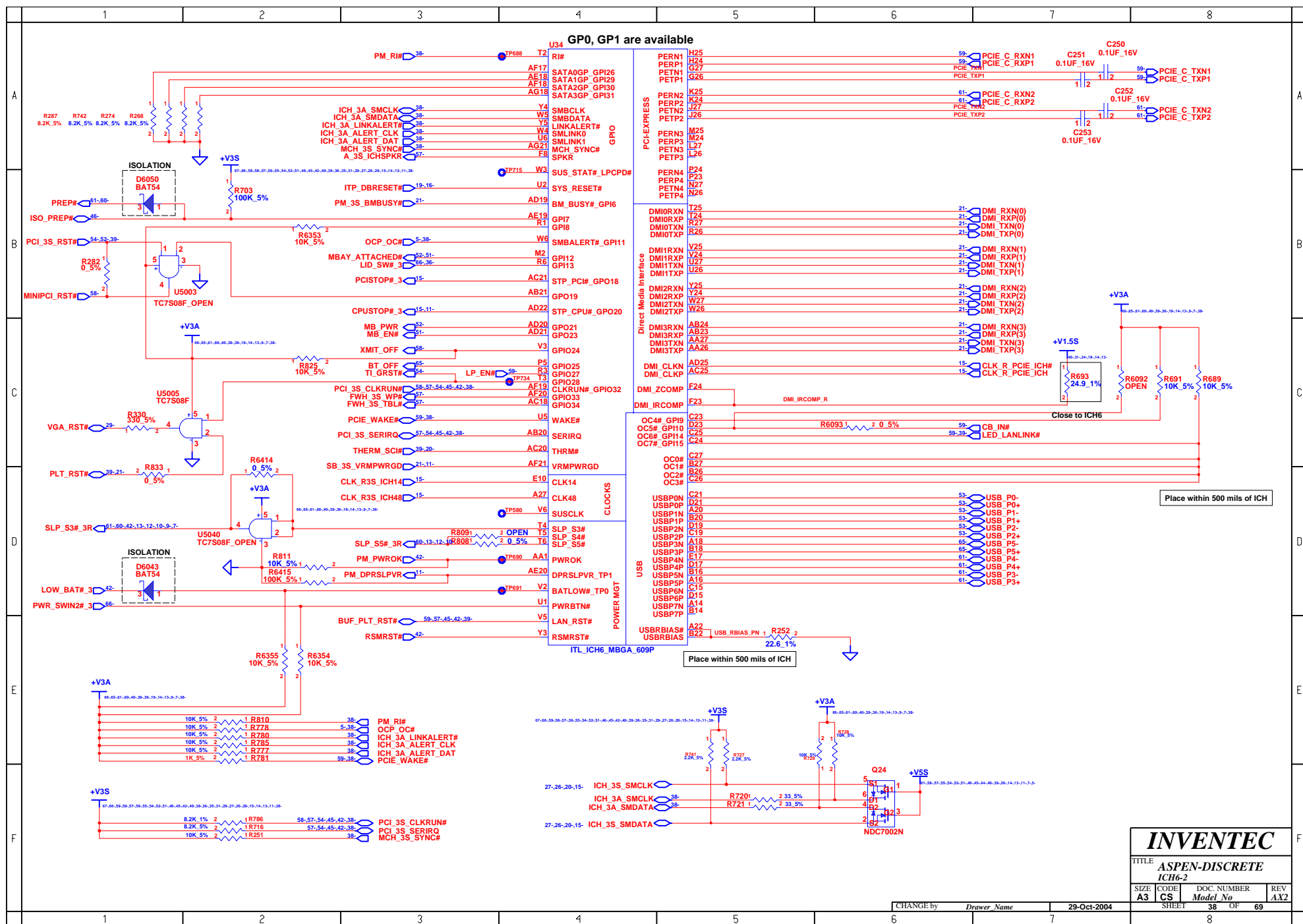
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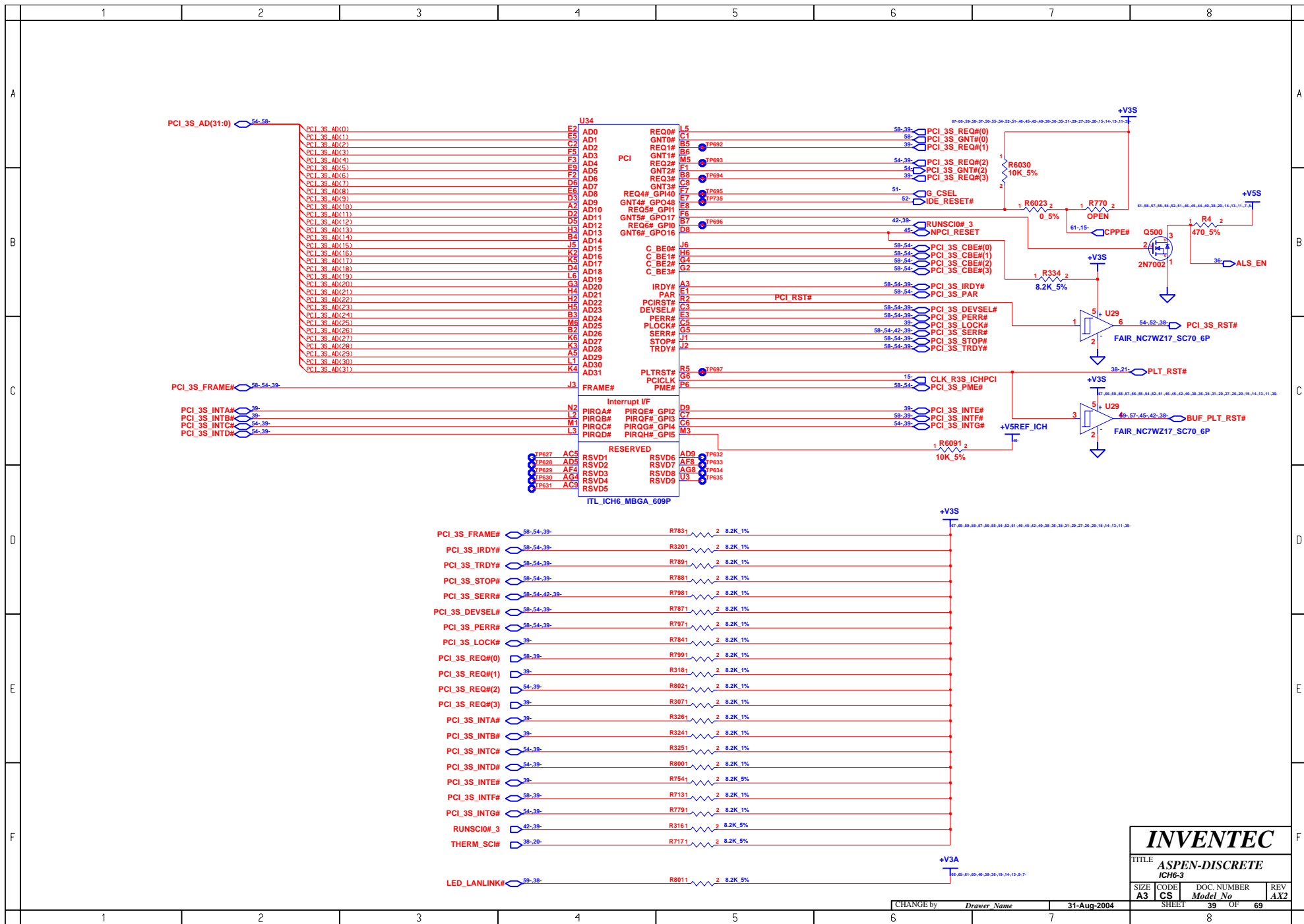
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ASPEN-DISCRETE
LCD CONN

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	AX2

CHANGE by *Drawer Name* 31-Aug-2004

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INVENTEC

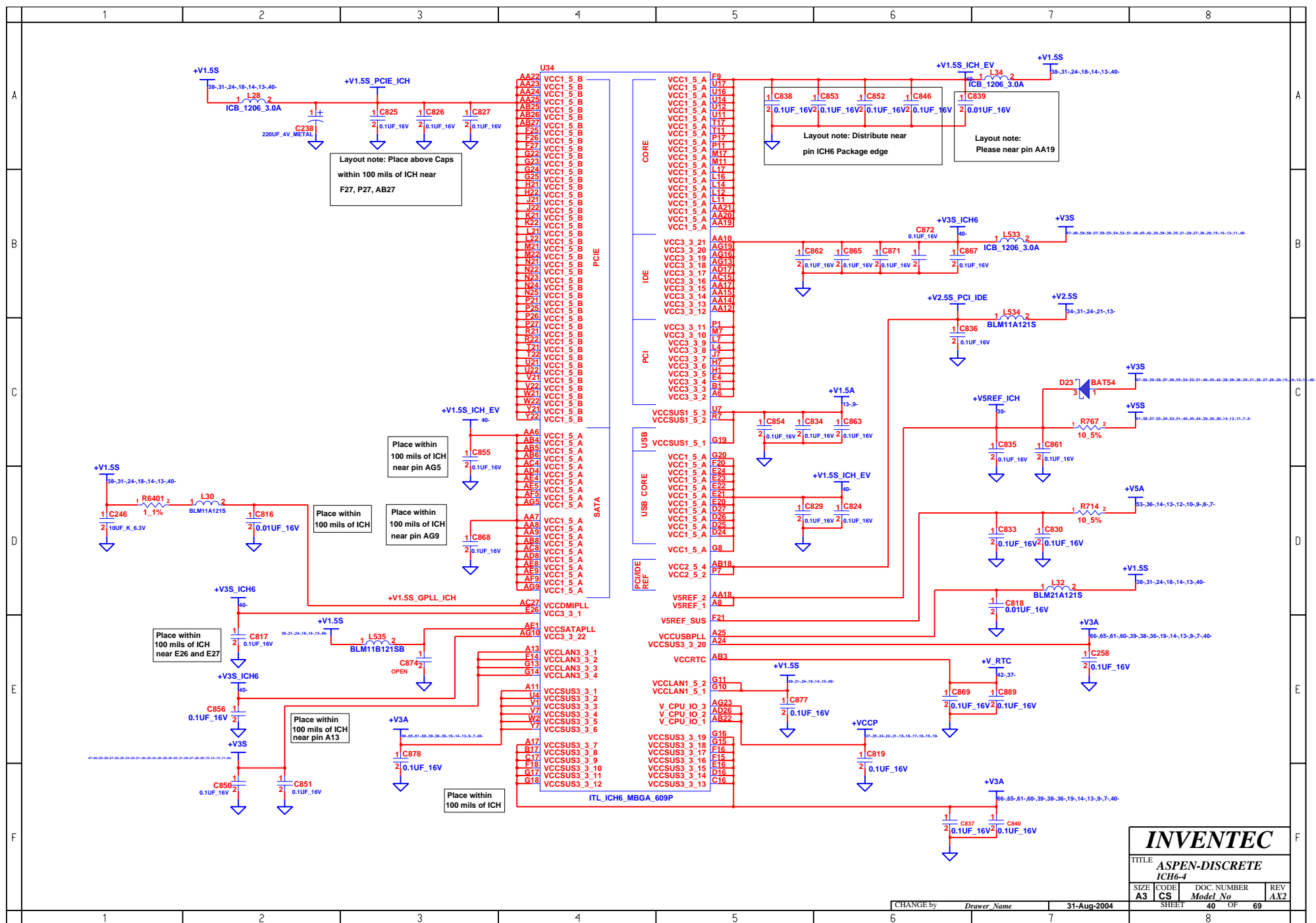
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ASPEN-DISCRETE
ICH6-3

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	AX2

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	AX2

CHANGE by *Drawer Name* 31-Aug-2004

SHEET 39 OF 69



	1	2	3	4	5	6	7	8	
A									A
B									B
C									C
D									D
E									E
F									F

U34

E27

V26

Y26

Y26

Y23

W7

W25

W24

W23

W1

V4

V27

V26

V23

U25

U24

U23

U15

U13

T7

T27

T26

T23

T16

T15

T14

T13

T12

T1

R4

R25

R24

R23

R17

R16

R15

R13

R12

R11

P22

P16

P15

P14

P13

P12

N7

N17

N16

N15

N14

N13

N12

N11

N1

M4

M27

M26

M23

M16

M15

M14

M13

M12

L25

L24

L23

L15

L13

K7

K27

K26

K23

K1

J5

J24

J23

H27

H26

H23

G9

G7

G21

G12

G1

VSS172

VSS171

VSS170

VSS169

VSS168

VSS167

VSS166

VSS165

VSS164

VSS163

VSS162

VSS161

VSS160

VSS159

VSS158

VSS157

VSS156

VSS155

VSS154

VSS153

VSS152

VSS151

VSS150

VSS149

VSS148

VSS147

VSS146

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VSS93

VSS92

VSS91

VSS90

VSS89

VSS88

VSS87

F4

F22

F19

F17

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E14

D22

D20

D18

D13

D10

C1

C22

C20

C18

C14

B25

B24

B23

B21

B19

B15

B13

AG7

AG3

AG22

AG20

AG17

AG14

AG12

AF7

AF3

AF28

AF12

AF10

AF1

AE6

AE25

AE21

AE2

AE12

AE11

AE10

AD6

AD24

AD2

AD18

AD15

AD10

AD1

AC3

AC6

AC3

AC26

AC24

AC23

AC22

AC17

AC10

AB7

AB2

AB19

AB10

AA1

AA4

AA18

AA13

AA11

A9

A7

A4

A26

A23

A21

A18

A15

A12

A1

ITL_ICH6_MBG_609P

INVENTEC

TITLE

ASPEN-DISCRETE

ICH6-5

SIZE

A3

CODE

CS

DOC. NUMBER

Model No

REV

AX2

SHEET

41

OF

69

CHANGE by

Drawer Name

31-Aug-2004

1

2

3

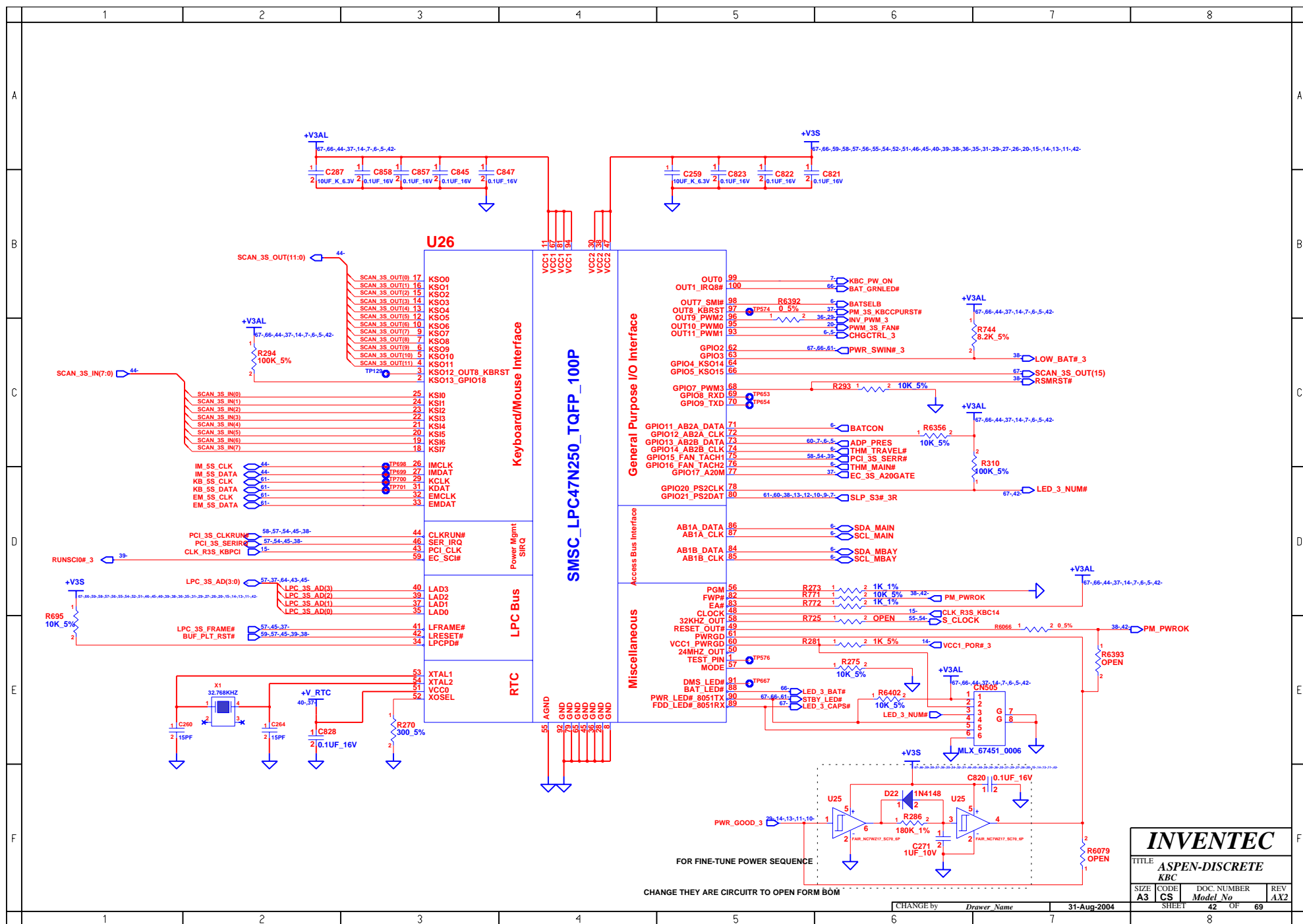
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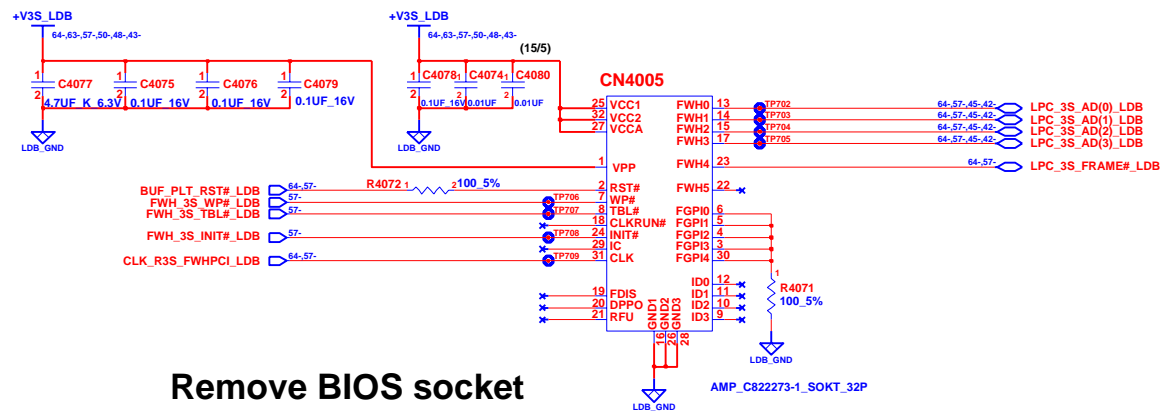
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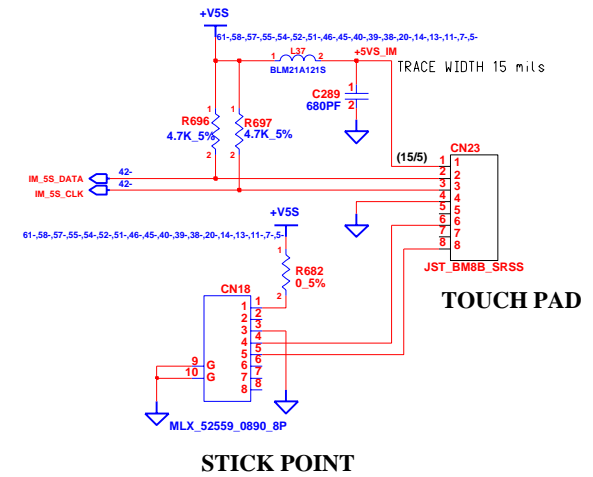
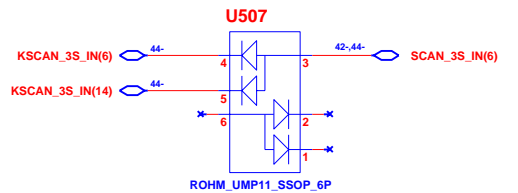
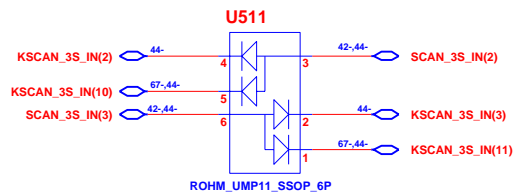
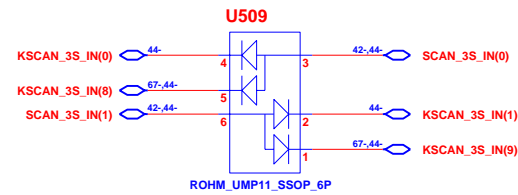
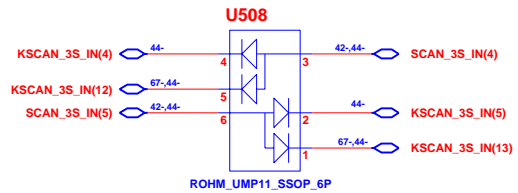
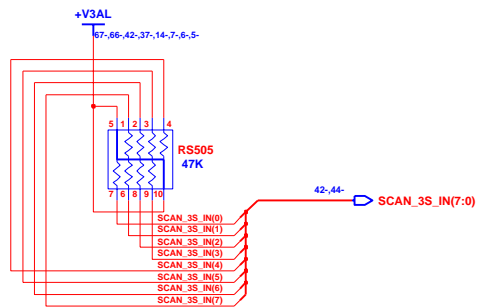
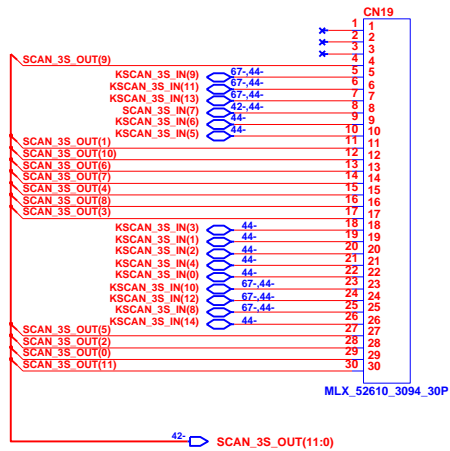
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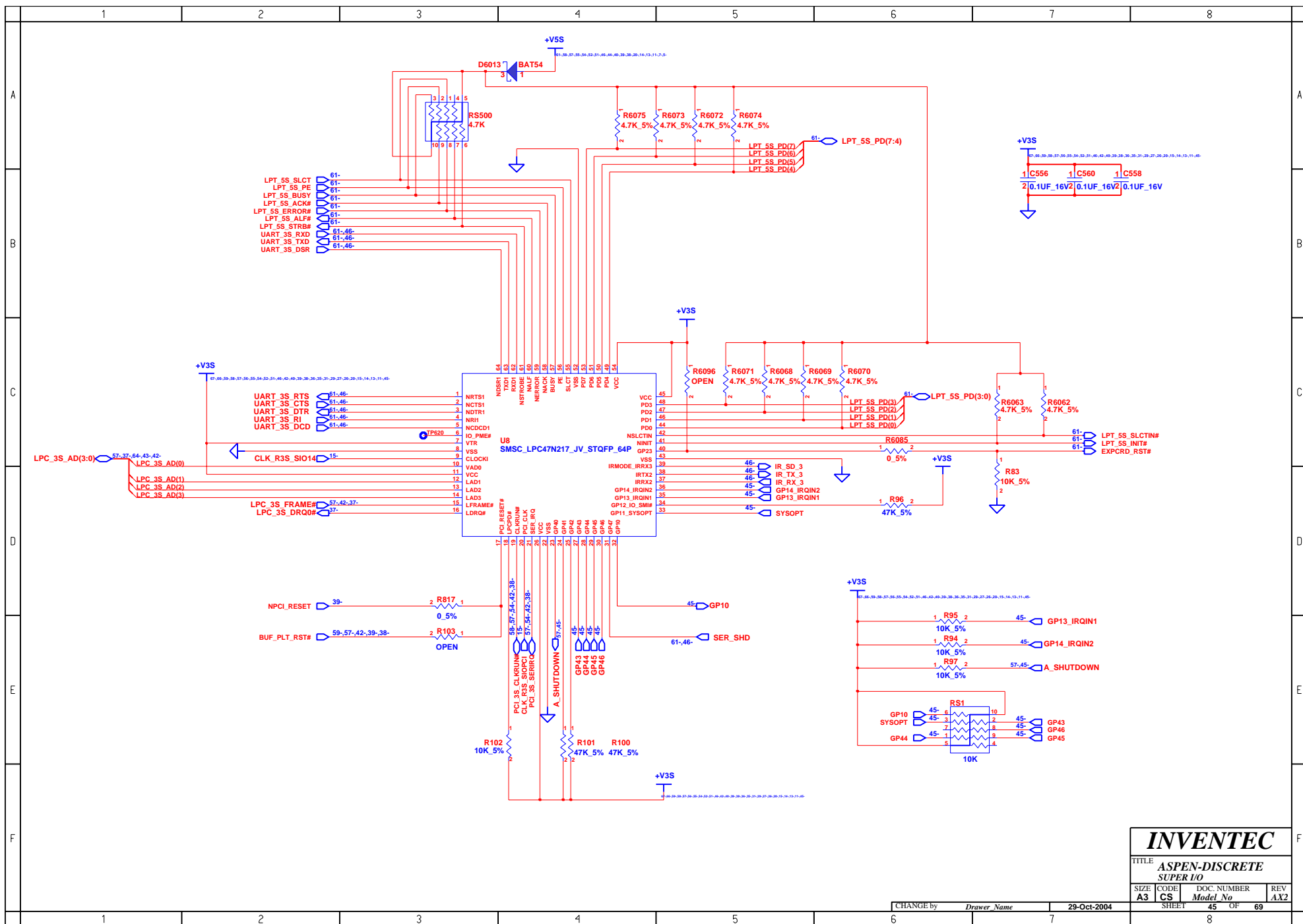


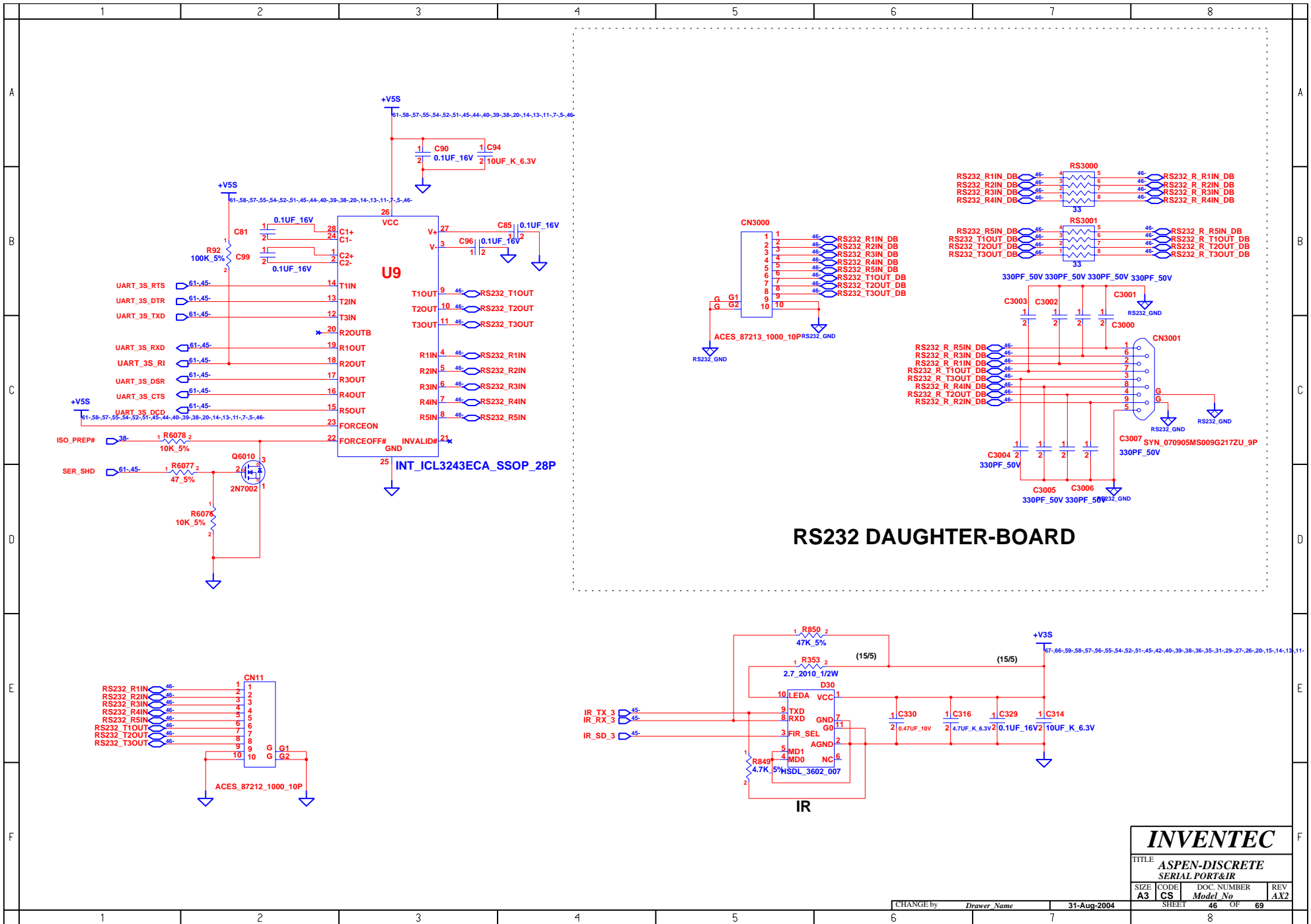
MDC , TCPA , OCP , FWH , AC97 B/B DAUGHTER BOARD

INVENTEC			
TITLE ASPEN-DISCRETE FWH			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV AX2
CHANGE by Drawer Name		4-Nov-2004	SHEET 43 OF 69



INVENTEC			
TITLE ASPEN-DISCRETE INT.KBC/POINT DEVICES			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV AX2
CHANGE by Drawer Name		31-Aug-2004	SHEET 44 OF 69





	1	2	3	4	5	6	7	8	
A	<div>BLANK</div>								A
B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

INVENTEC			
TITLE ASPEN-DISCRETE PARALLER PORT			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV AX2
CHANGE by Drawer Name		31-Aug-2004	
SHEET		47	OF 69

1 2 3 4 5 6 7 8

A

B

C

D

E

F

A

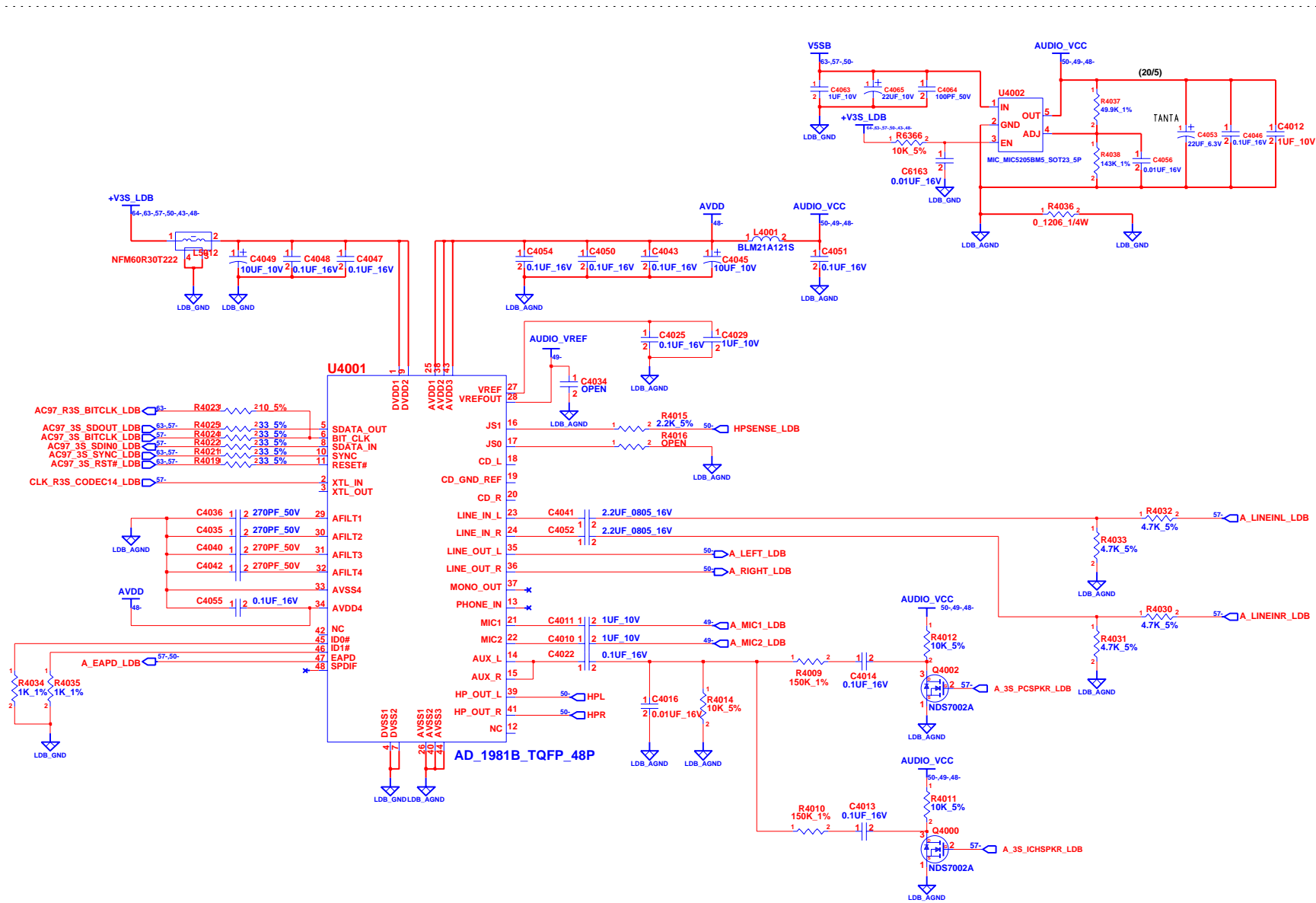
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C

D

E

F



MDC , TCPA , OCP , FWH , AC97 B/B DAUGHTER BOARD

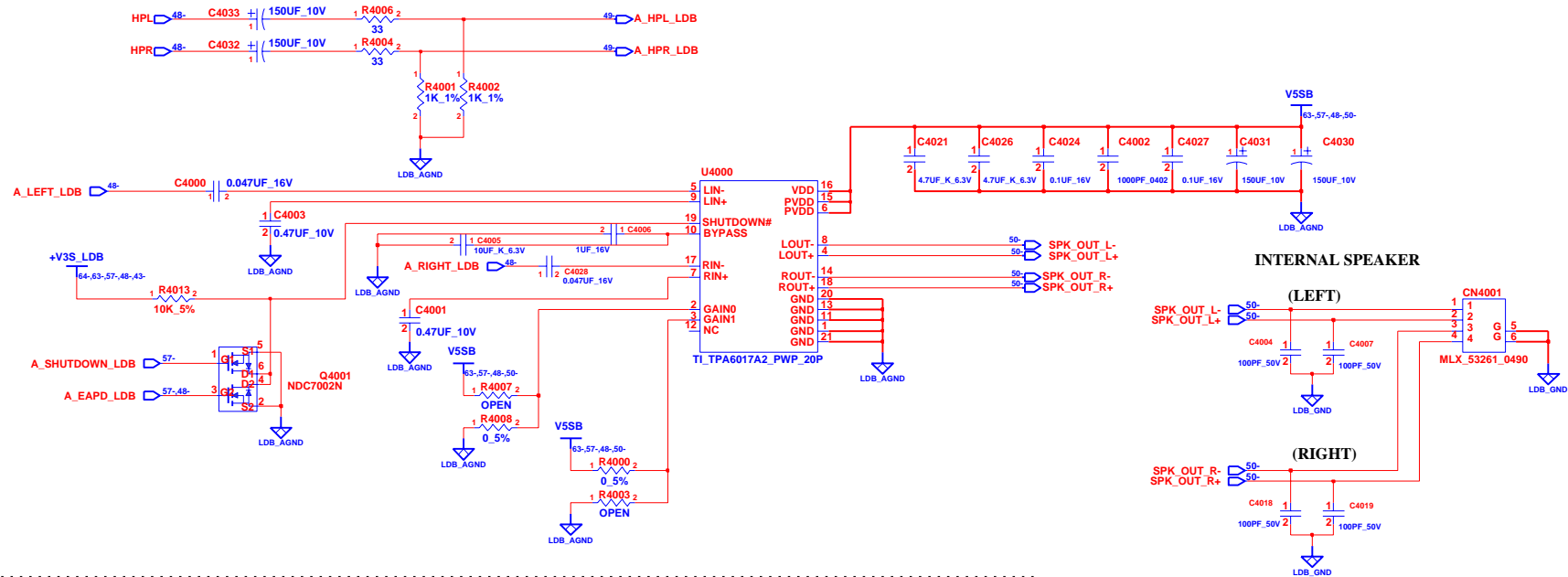
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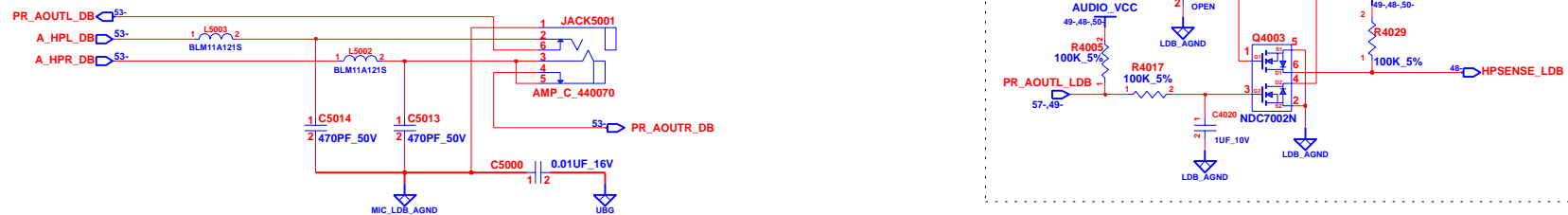
CHANGE by *Drawer Name* 31-Aug-2004

SHEET 48 OF 69

MDC , TCPA , OCP , FHW , AC97 B/B DAUGHTER BOARD



MIC AND HEADPHONE DAUGHTER BOARD (REFER TO SHEET 49)



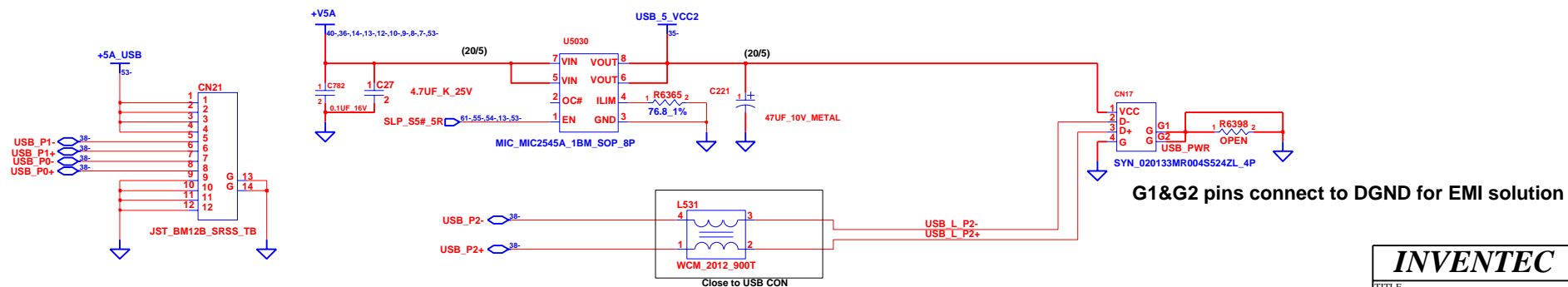
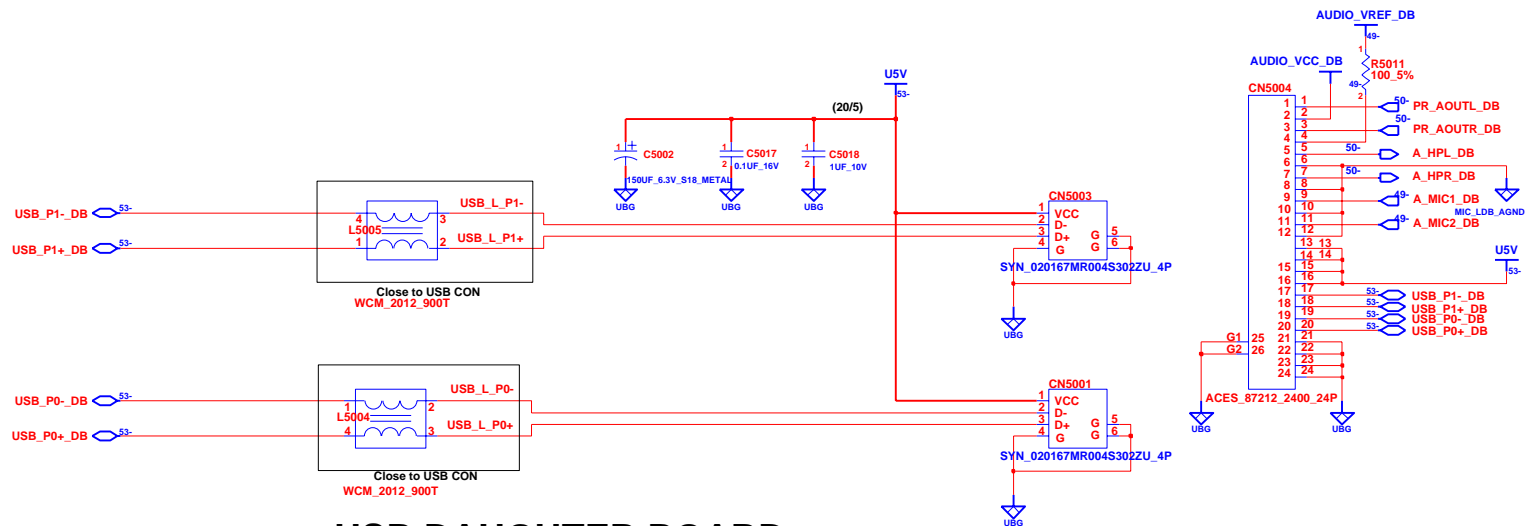
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TITLE
**ASPEN-DISCRETE
AUDIO AMP & HP JACK**

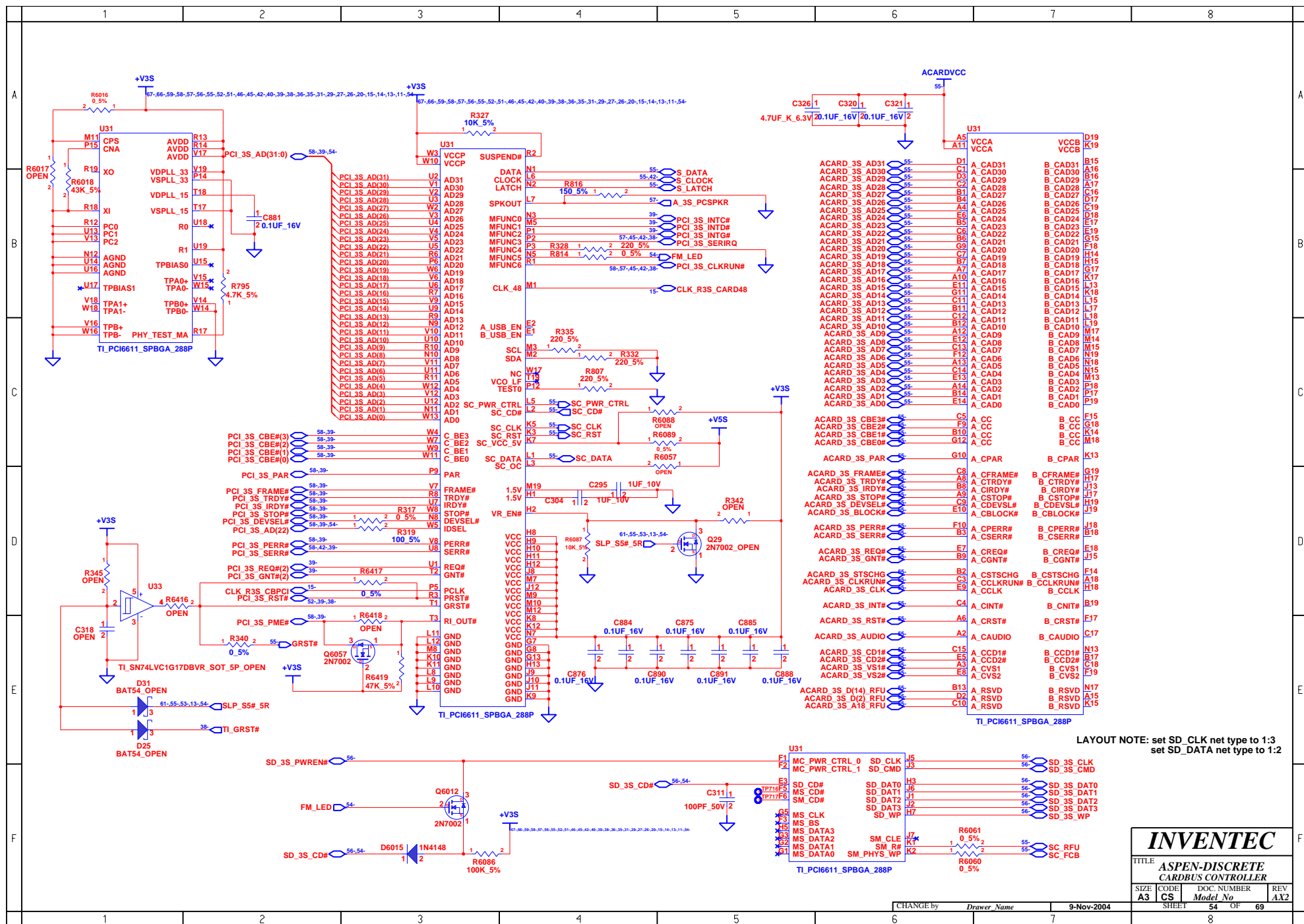
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A3	CS	Model No	AX2

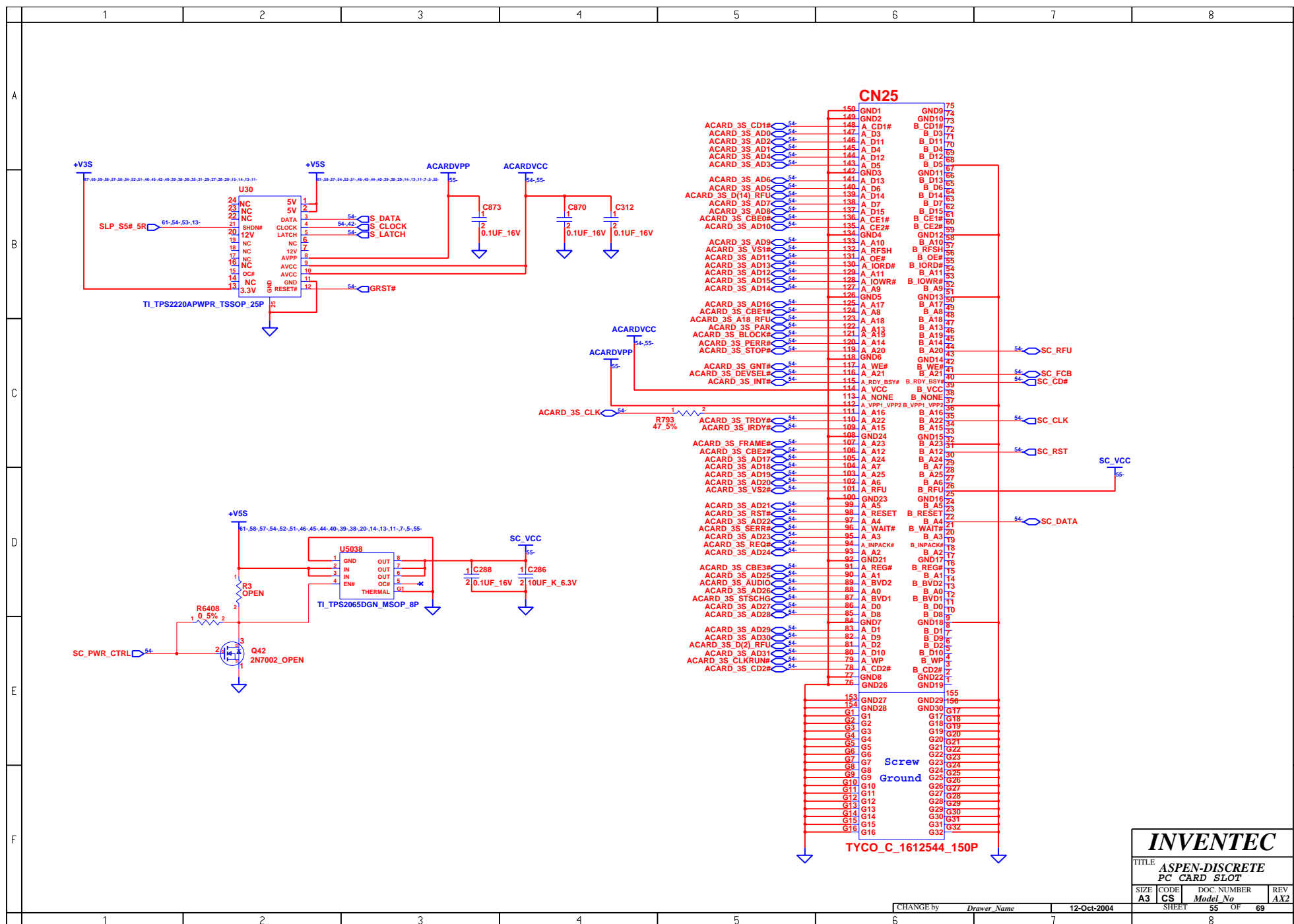
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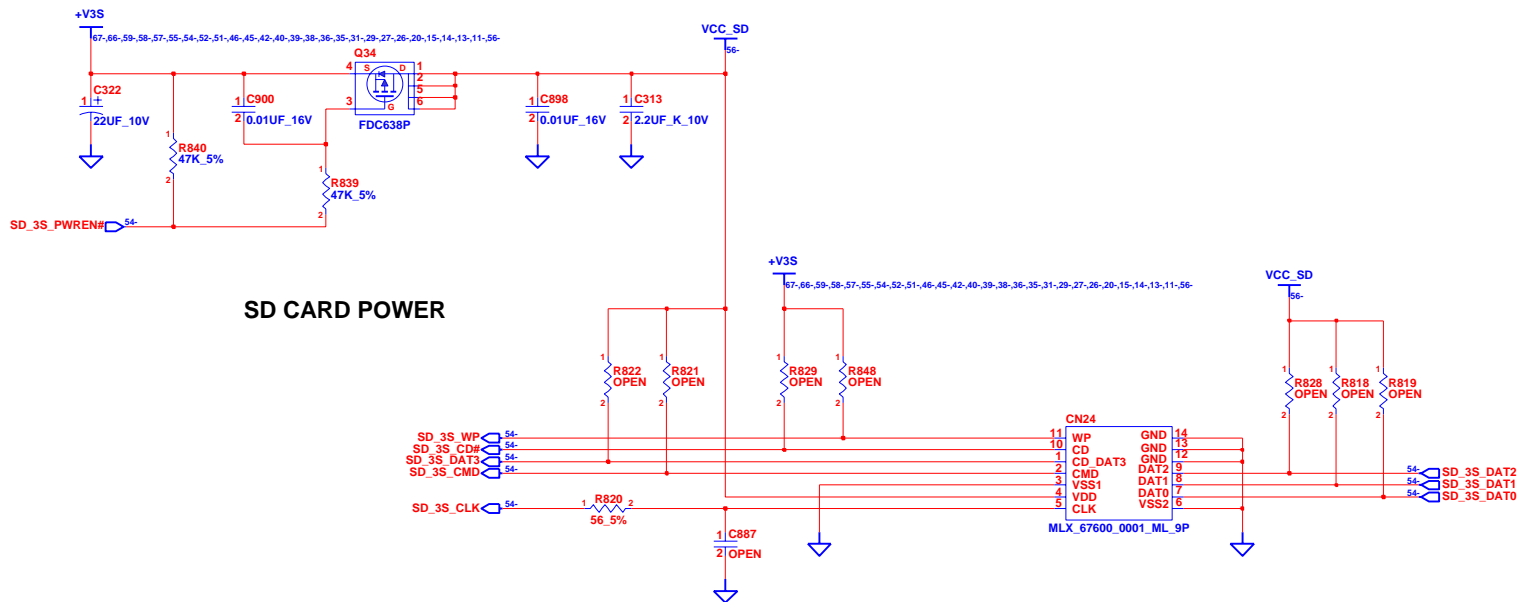
SHEET 50 OF 69



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INVENTEC			
TITLE			
ASPEN-DISCRETE			
SD CARD CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	AX2
CHANGE by		31-Aug-2004	
DRAWN by			
SHEET		56	OF 69
		8	

FM CONN.

Signal	Pin
PCI_3S_SERIRQ	1
LPC_3S_AD(1)	2
PCI_3S_CLKRUN	3
LPC_3S_AD(3)	4
FWH_3S_WPA	5
LPC_3S_AD(0)	6
FWH_3S_TBL	7
LPC_3S_AD(2)	8
FWH_3S_INITR	9
LPC_3S_FRAME	10
CLK_R3S_FWHPC1	11
BUF_PLT_RSTA	12
	13
	14
AC97_3S_SDOUT	15
AC97_3S_SDI0	16
AC97_3S_BITCLK	17
AC97_3S_SDI1	18
AC97_3S_SDI2	19
AC97_3S_SDI3	20
AC97_3S_RSTA	21
	22
CLK_R3S_CODEC14	23
PR_AOUTR	24
A_3S_ICHSPKR	25
PR_AOUTL	26
A_3S_PCSPKR	27
A_LINEINR	28
A_SHUTDOWN	29
A_LINEINL	30
PR_HPSENSE	31
	32
	33
A_EAPD	34
	35
	36
+VSS	37
AUDIO_AGND	38
	39
	40

SYN_100026FA040S200ZL_40P

ML CONN.

B/B DAUGHTER BOARD

INVENTEC

TITLE **ASPEN-DISCRETE**
DAUGHTER BOARD CNN

SIZE	CODE	CS	DOC. NUMBER	Model No	REV	AX2
A3	CS		20-Oct-2004	57	69	AX2

CHANGE by *Drawer Name* 20-Oct-2004

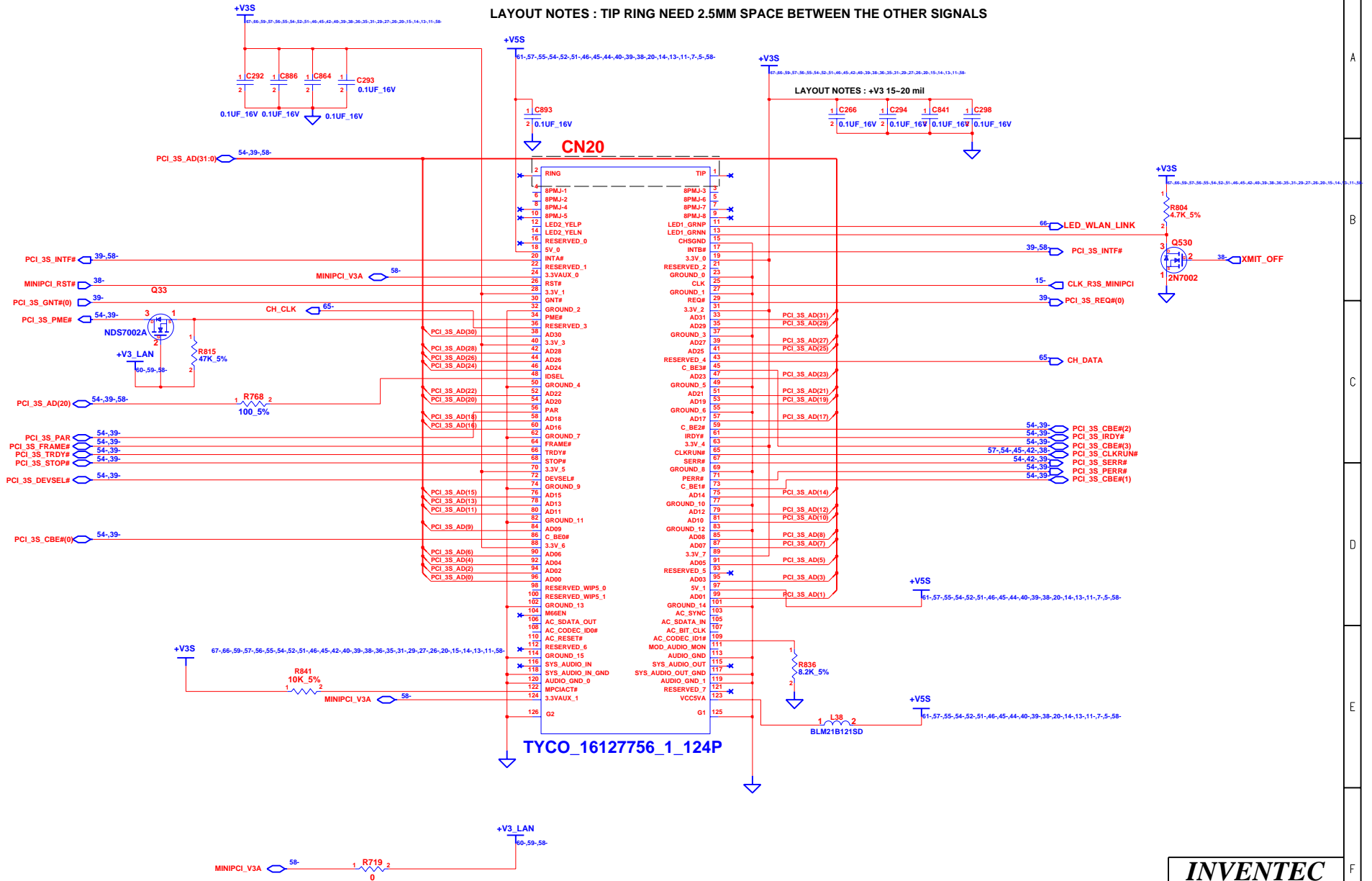
SHEET 57 OF 69

B/B DAUGHTER BOARD

INVENTEC			
TITLE ASPEN-DISCRETE DAUGHTER BOARD CNN			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV AX2
SHEET		57	OF 69
8			

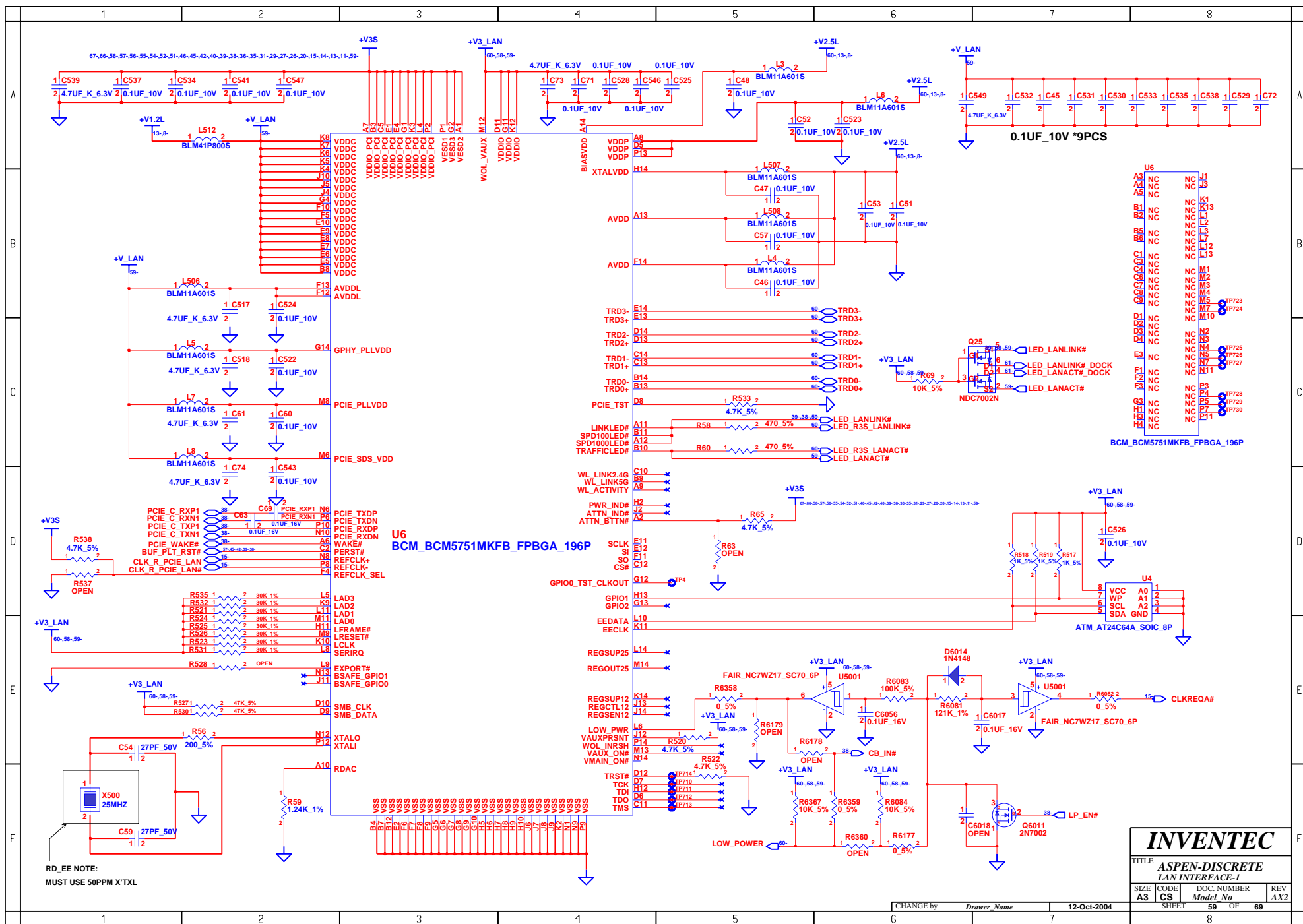
LAYOUT NOTES : TIP RING NEED 2.5MM SPACE BETWEEN THE OTHER SIGNALS

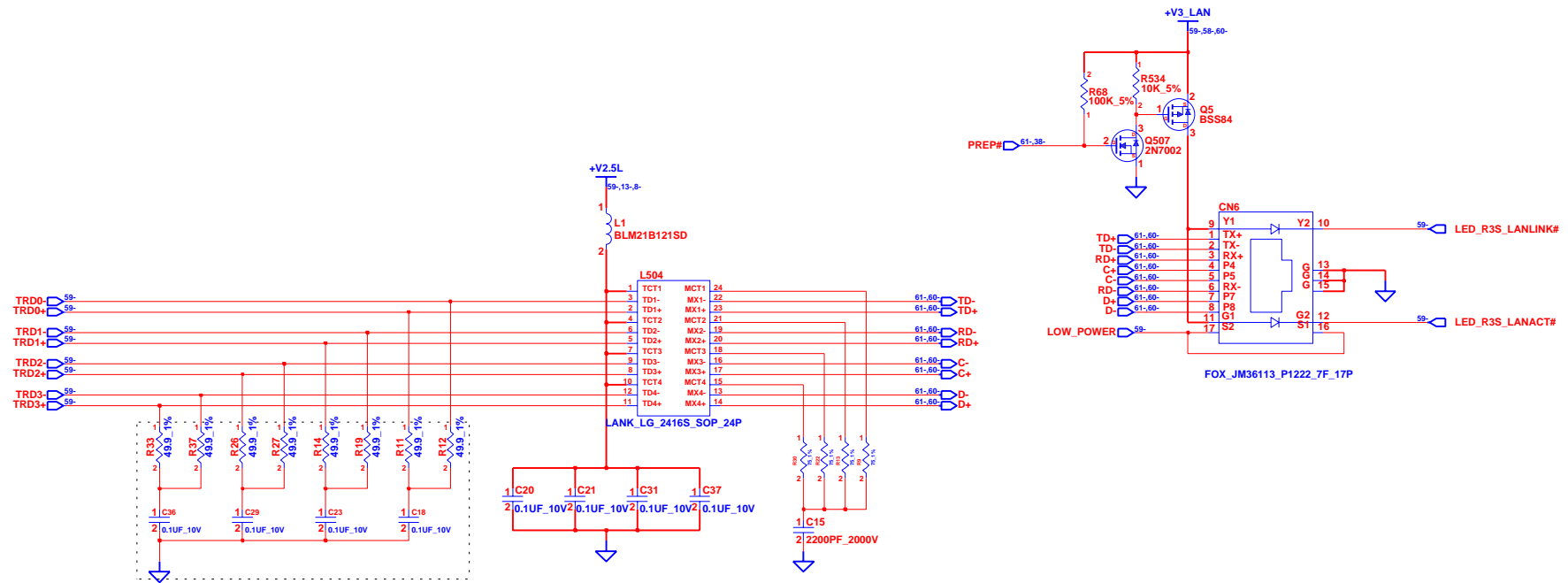
LAYOUT NOTES : +V3 15-20 mil



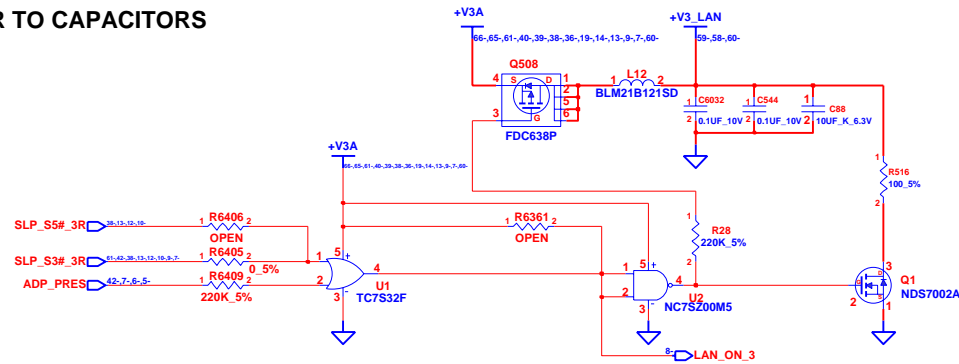
INVENTEC

TITLE ASPEN-DISCRETE MINIPCI CONN			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV AX2
CHANGE by Drawer Name		31-Aug-2004	SHEET 58 OF 69





LAYOUT NOTE: THERE ARE RESISTORS NEAR TO CAPACITORS



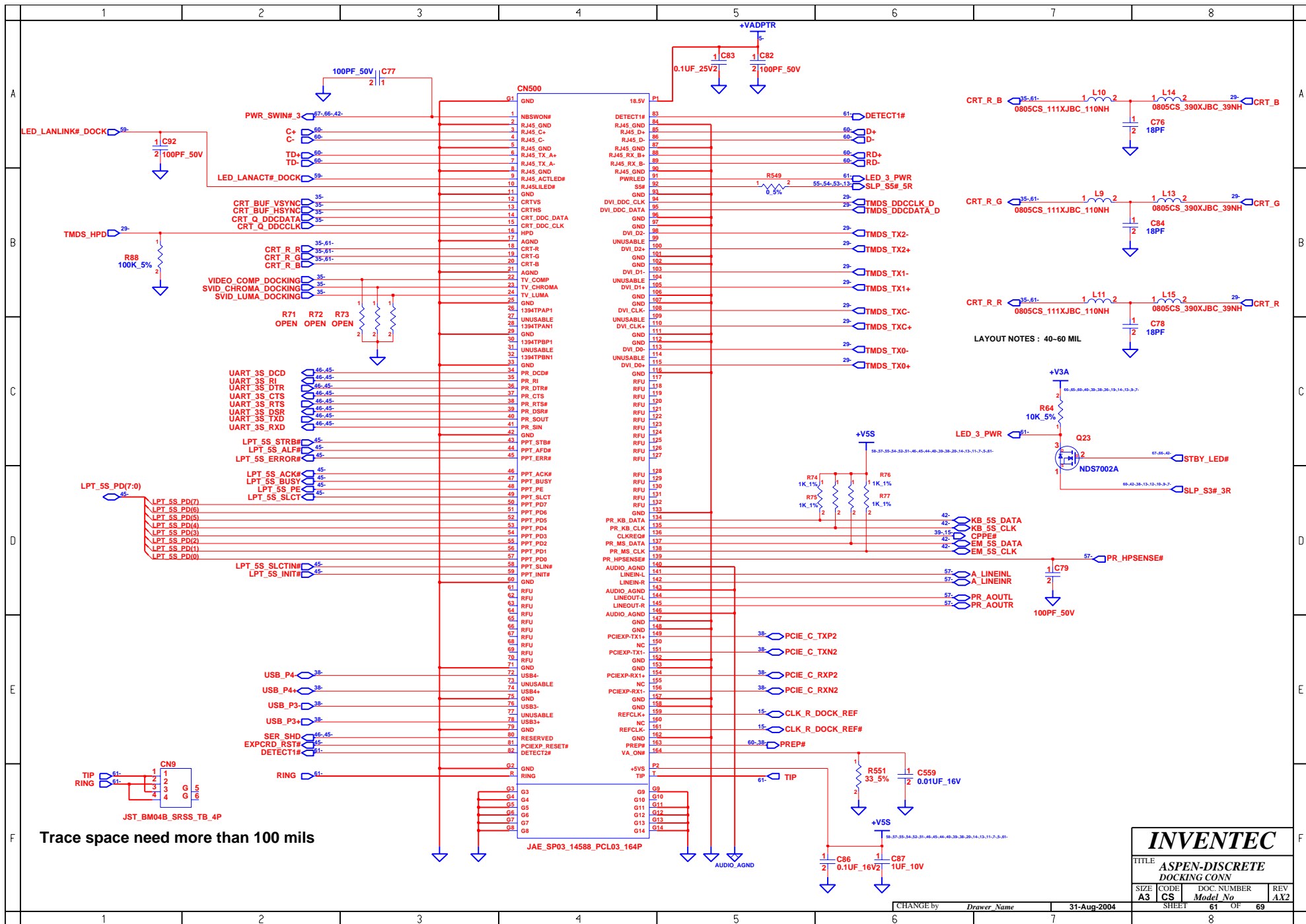
INVENTEC

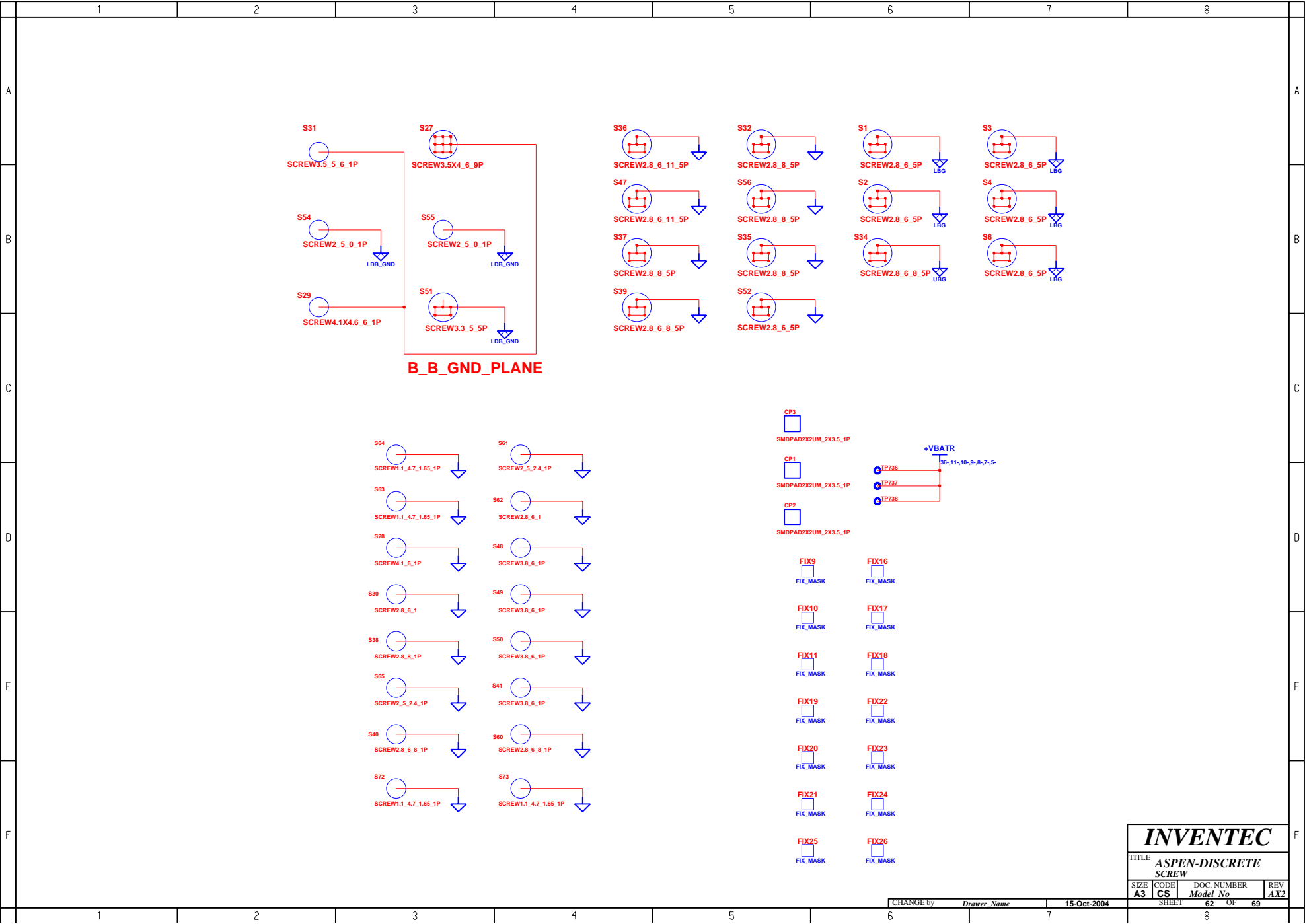
TITLE
**ASPEN-DISCRETE
LAN RJ45 CONN**

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	AX2

CHANGE by *Drawer Name* 20-Oct-2004

SHEET 60 OF 69





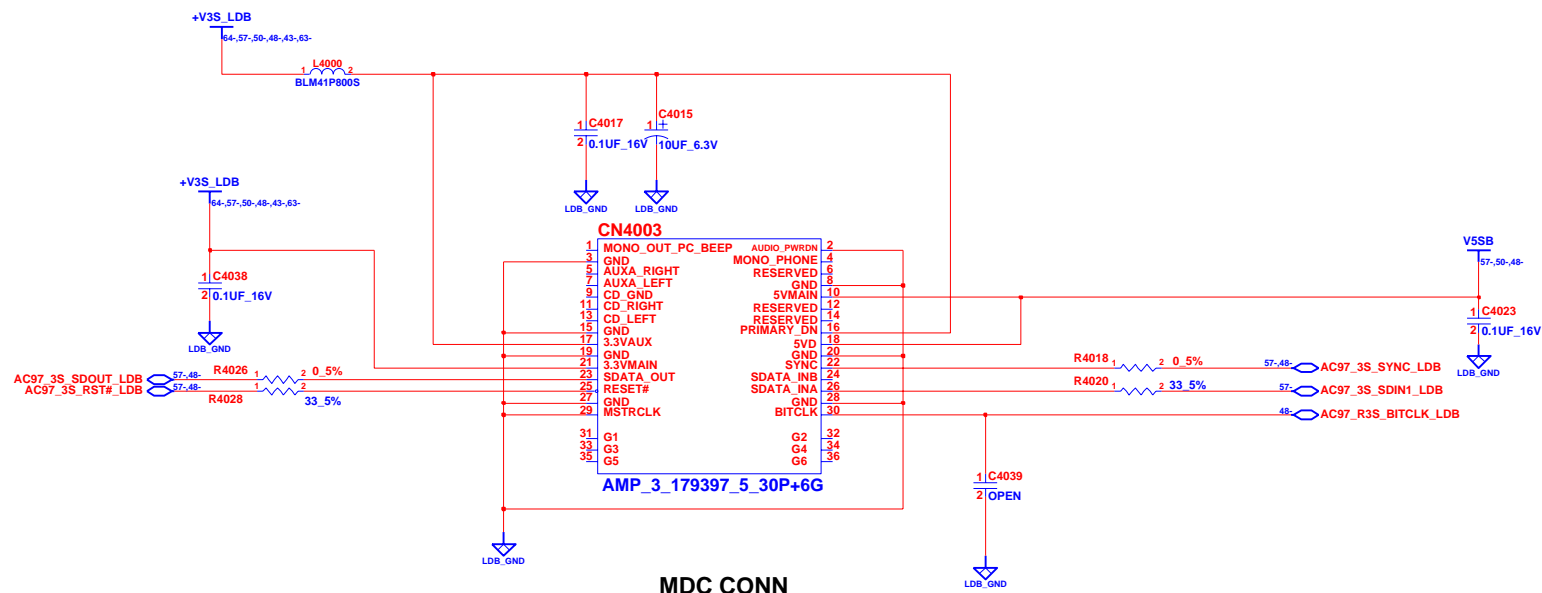
INVENTEC

TITLE
ASPEN-DISCRETE
SCREW

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	AX2

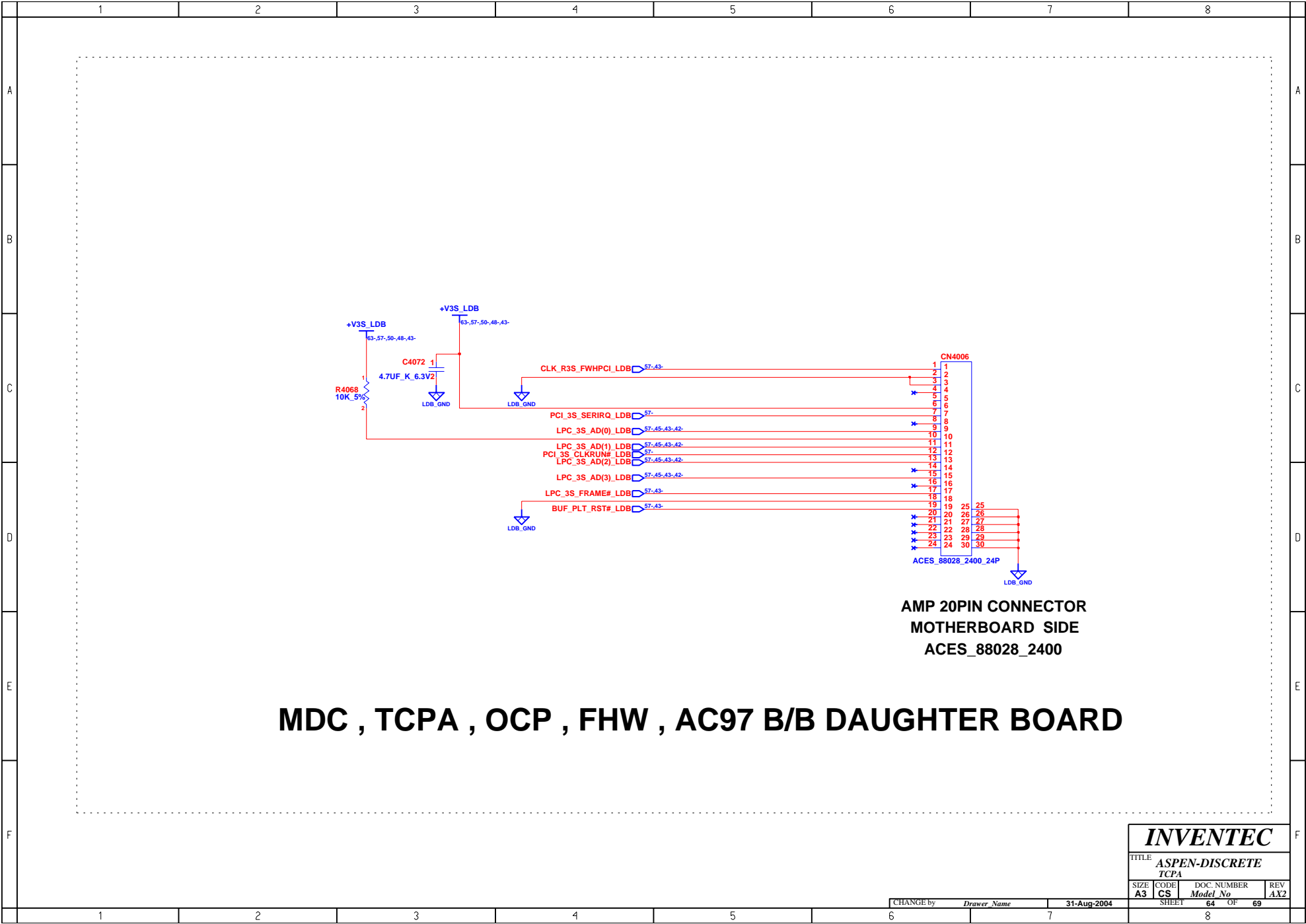
SHEET 62 OF 69

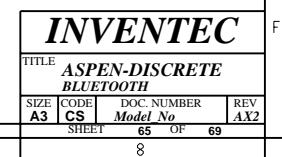
CHANGE by *Drawer Name* 15-Oct-2004

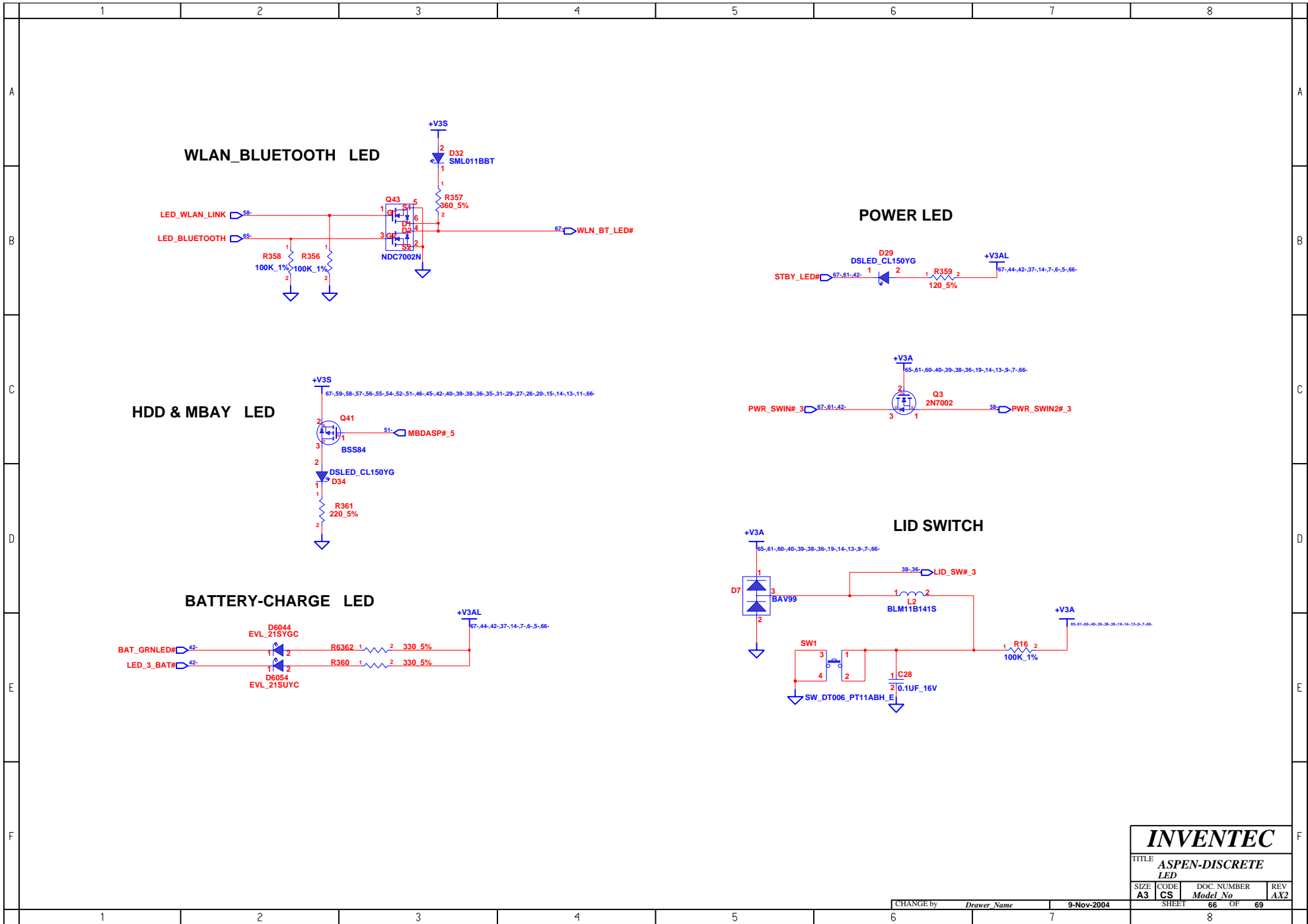


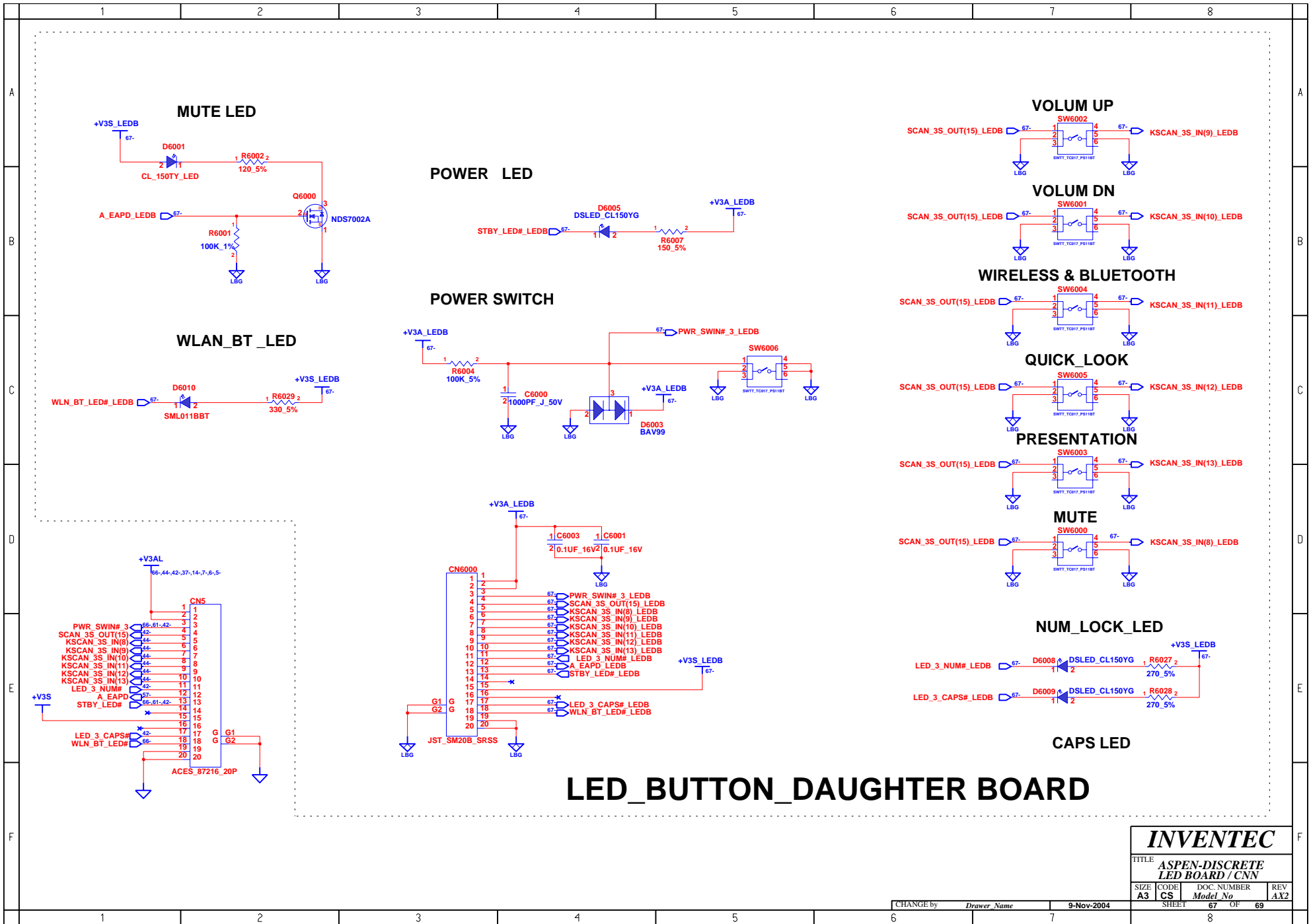
MDC , TCPA , OCP , FHW , AC97 B/B DAUGHTER BOARD

INVENTEC			
TITLE ASPEN-DISCRETE			
MDC CONN			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV AX2
CHANGE by Drawer Name		31-Aug-2004	SHEET 63 OF 69
1		2	8









INVENTEC

TITLE ASPEN-DISCRETE LED BOARD / CNN			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV AX2

CHANGE by *Drawer Name* 9-Nov-2004

SHEET 67 OF 69

[illegible]

IEC / HP Aspen_Discrete PV Schematic Changes

November 9, 2004

HP Confidential Information

Open Items 29

Item #	Project	Component / Subsection	PG. #	Description of Requested Change	Date Open+F7 / Closed	Requested By / Owner	Status / Aspen	Aspen FBK/Date
63	Discrete	Charger	5	To fix the battery charge over 8hrs. -Change C6151 from open to 330pf to reduce noise.	2004/10/12	IEC	Open	Implement on SI2 build, sch1012 done
64	Discrete	3V/5V	7	Change the C277 voltage rating from 2.5V to 6.3V	2004/10/12	IEC	Open	Implement on SI2 build, sch1012 done
65	Discrete	3V/5V	7	3A/5A no power issue -Additional Thomas's circuit on +V3AL/+V5AL	2004/10/12	HP	Open	sch1012 done.
66	Discrete	Sleep	13	SLP_S3_5R driving clamping FET for PWR_GOOD_3 signal. This avoids systems hangs/reset due to pending wake events just prior to entry in S3 -Additional Q6056.	2004/10/12	HP	Open	sch1012 done.
67	Discrete	VGA_VCC/1.5A		The rebound of SLP_S3#_3R is caused by C6050 / D6016 discharging and need a buffer to isolate the cap-diode discharging circuit. 9 - Change U13 from signal buffer to dual buffer. 13 - Change R6387, R6388 from 470pf to 10K.	2004/10/12	IEC	Open	sch1012 done.
68	Discrete	audio		Need a shutdown GPIO for audio noise, same as Vail. 37 - Add a A_SHUTDOWN on ICH6 pin P4. 50 - Change Q4001 from signal to dual FET. 57 - Change CN6001, CN6002 pin 29 from gnd to A_SHUTDOWN.	2004/10/12	HP	Open	sch1012 done.
69	Discrete	NIC		Relayout the L504 for return loss. 59 - Remove R6020 and pass through BUF_PLT_RST# to U6 pin C2 for saving space. -Remove TP718~TP722 for saving space. 60 - Change L504 from LG_2408S (small package) to LG_2402S (Normal package) for adjust 100M/GigaLan return loss. -Remove L5020(open pad) for saving space.	2004/10/12	IEC	Open	sch1012 done.
70	Discrete	OCP	5	Change R4064 from 909 ohm to 221 ohm for OCP is throttling the CPU on AC mode	2004/10/14	HP	Open	sch1020 done
71	Discrete	3V/5V	7	Change the U5033 from MIC5205 to MIC5235	2004/10/20	IEC	Open	sch1020 done
72	Discrete	3V/5V	7	To improve dynamic regulation. -Change R6105 from 2.7K to 1.2K. -Change C225 from 330uF_4V to 220uF_4V.	2004/10/20	IEC	Open	sch1020 done
73	Discrete	Fan controller	20	Change the U20 power rail from +V3AL to +V3S and then change KBC BIOS to drive pin1 to low	2004/10/20	HP	Open	sch1020 done
74	Discrete	M22	31	1.Change C651 from 1uF_6.3V to 22uF_4V for +V1.8S, same as Vail 2.Change L19 from ACM321611 to NFM60R30T222 for +V1.2S_PEG, same as Vail	2004/10/20	IEC	Open	sch1020 done
75	Discrete	audio	45	Audio amp shutdown changes for noise pop issue. -Change the U8 pin23 and R97 pin2 from GP40 to A_SHUTDOWN, same as Vail	2004/10/20	HP	Open	sch1020 done
76	Discrete	Super I/O	45	PCI Express Card Reset -Install R6085 with 0 ohm jumper. -Install R83 to 10K -Remove R6096.	2004/10/20	HP	Open	sch1020 done
77	Discrete	ICH6-2	38	Increase driver to advance more device and to avoid bridge: -Add NI AND gate(U5040) with 0 ohm (R6414) jumper on SLP_S3#_3R from ICH6.	2004/10/29	HP	Open	sch1029 done
78	Discrete	ICH6-2	38	Add a 100k(R6415) pull-down resistor on PM_DPRSLPVR to ensure the signal does not float from an Intel sighting report	2004/10/29	HP	Open	sch1029 done

79	Discrete	Cardbus	54	Since we do not support WAKE from S3-S5, the TI spec requires that GRST and PRST are connected together. - Add a NI resistor(R6418), 2N7002 FET(Q6057) between PCI_3S_PME# and U31 pin T3, connect a 47k (R6419) pull-up resistor to +V3S on U31 pinT3. -connect PCI_3S_RST# to U31 pin T1(GRST#) and add this selectable with 2 zero ohm jumpers (NI R6416, Put R6417).	2004/10/29	HP	Open	sch1029 done
80	Discrete	SD clk&data	55	The S_DATA trace space is 1:2, S_CLK trace space is 1:3 for TI layout recommend	2004/10/29	HP	Open	layout1029 done
81	Discrete	+V2.5L	8	Video corruption by +V2.5L no power. -Change L510 from 4.7uH to 8.2uH -Change C6159 from 4.7uF to 1uF. -Add R1 (10 ohm) between +V5A and U5007 pin28 (VCC). -Add C16 4.7U between U5007 pin28(VCC) and U5007 pin1(GND). -Change R6117 from 16.2K to 2K. -Change R6116 from 12.4K to 2K. -Change C551 from 10pF to 0.01uF. Prevent LAN noise : -Add R10 (0 ohm) between U5007 pin24 and Q6 pin2. -Add R15(0 ohm) between U5007 pin5 and Q4 pin2.	2004/11/3	HP	Open	sch1103 done
82	Discrete	SMVREF	12	Modify the DDR2 termination regulator (U3) from NS_LP2996MRX to TI_TPS51100	2004/11/3	HP	Open	sch1103 done
83	Discrete	SM_OCDCOMP	21	NI R651,R665 on Alviso OCDCOMP from Intel sighting report	2004/11/3	HP	Open	sch1103 done
84	Discrete	M22	31	1. Remove L19 and Change the C128 from 10uf to 47uf for +V1.2S 2.Change L523 from ACM321611 to NFM60R30T222 for +V1.8S	2004/11/3	HP	Open	sch1103 done
85	Discrete	Bios Socket	43	Remove CN4005 and Install U1000 by BOM change	2004/11/3	HP	Open	sch1103 done
86	Discrete	TI_PRST	54	NI U33,R345,C318,D31	2004/11/3	HP	Open	sch1103 done
87	Discrete	Fan controller	20	To improve PWM percentage of FAN -Change R6139 from 10k to 1k	2004/11/5	IEC	Open	sch1105 done
88	Discrete	M22	31	Leave L19	2004/11/5	HP	Open	sch1105 done
89	Discrete	RTC accuracy	37	Change C882,C883 from 10pf to 22pf for RTC accuracy	2004/11/5	IEC	Open	sch1105 done
90	Discrete	LED's brightness	66 67	1.Change R357 from 270 to 360 2.Change R359 from 150 to 120 3.Change R361 from 270 to 220 4.Change R6362,R360 from 270 to 330 5.Chnage R6002 from 270 to 120 6.Change R6029 from 270 to 330	2004/11/5	IEC	Open	sch1105 done
91	Discrete	USB connector	53	NI R6398(0 ohm) and short the trace between R6398 pin1&2 by layout for EMI request	2004/11/9	EMI	Open	sch1109 done