

	1	2	3	4	5	6	7	8																																																																																		
A	<div data-bbox="421 528 1664 873" data-label="Text"> <h1>OSAKA</h1> </div>								A																																																																																	
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F	<table border="1" data-bbox="120 1348 483 1476"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>DATE</td> <td>CHANGE NO.</td> <td>REV</td> </tr> <tr> <td>1</td> <td></td> <td></td> </tr> </table>																									DATE	CHANGE NO.	REV	1			<table border="1" data-bbox="1272 1348 2040 1476"> <tr> <td>DRAWER</td> <td>EE</td> <td>DATE</td> <td>POWER</td> <td>DATE</td> <td rowspan="4" style="text-align: center; vertical-align: middle;"> INVENTEC <small>TITLE</small> OSAKA (NM) </td> </tr> <tr> <td>DESIGN</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CHECK</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>RESPONSIBLE</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SIZE =</td> <td>3</td> <td>VER :</td> <td></td> <td></td> <td> <small>SIZE</small> A3 </td> <td> <small>CODE</small> CS </td> <td> <small>DOC. NUMBER</small> TC778ZBA000 </td> <td> <small>REV</small> A01 </td> </tr> <tr> <td>FILE NAME :</td> <td colspan="4">XXXX-XXXXXX-XX</td> <td> <small>SHEET</small> 1 </td> <td> <small>OF</small> 55 </td> <td></td> <td></td> </tr> <tr> <td>P/N</td> <td colspan="4">XXXXXXXXXXXX</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> </tr> </table>	DRAWER	EE	DATE	POWER	DATE	INVENTEC <small>TITLE</small> OSAKA (NM)	DESIGN					CHECK					RESPONSIBLE					SIZE =	3	VER :			<small>SIZE</small> A3	<small>CODE</small> CS	<small>DOC. NUMBER</small> TC778ZBA000	<small>REV</small> A01	FILE NAME :	XXXX-XXXXXX-XX				<small>SHEET</small> 1	<small>OF</small> 55			P/N	XXXXXXXXXXXX									1	2	3	4	5	6	7	8	F
DATE	CHANGE NO.	REV																																																																																								
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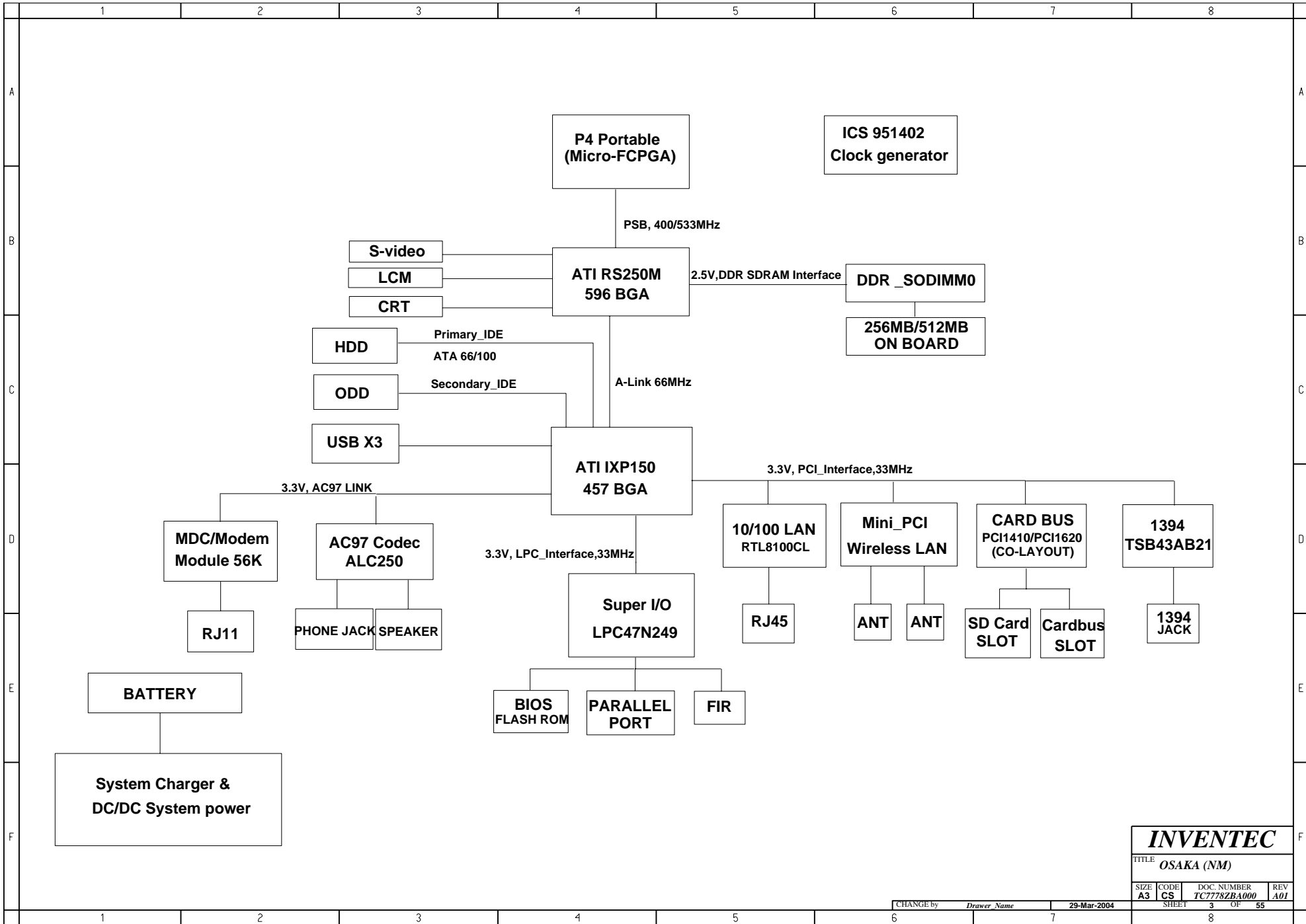
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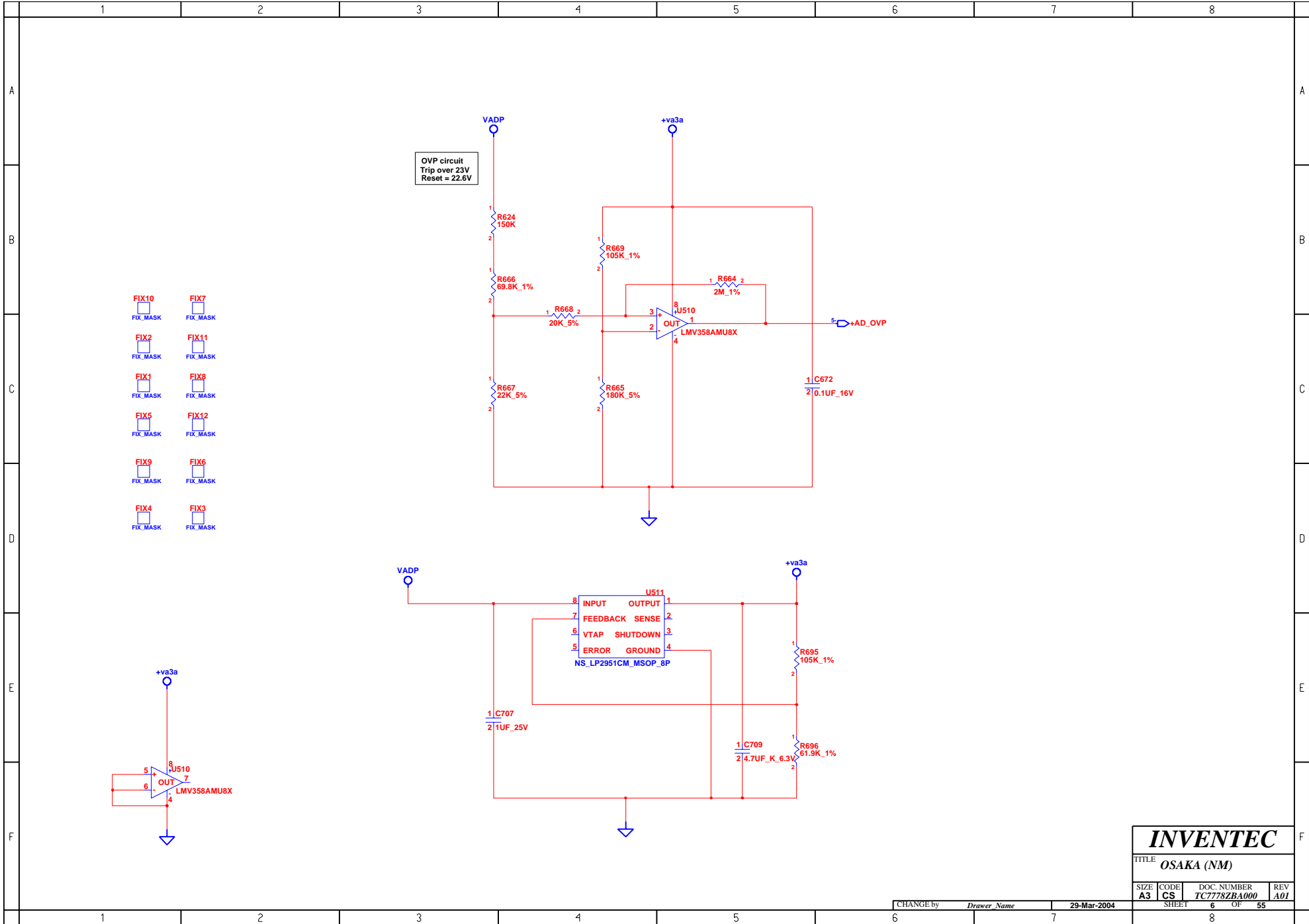
TITLE *OSAKA (NM)*

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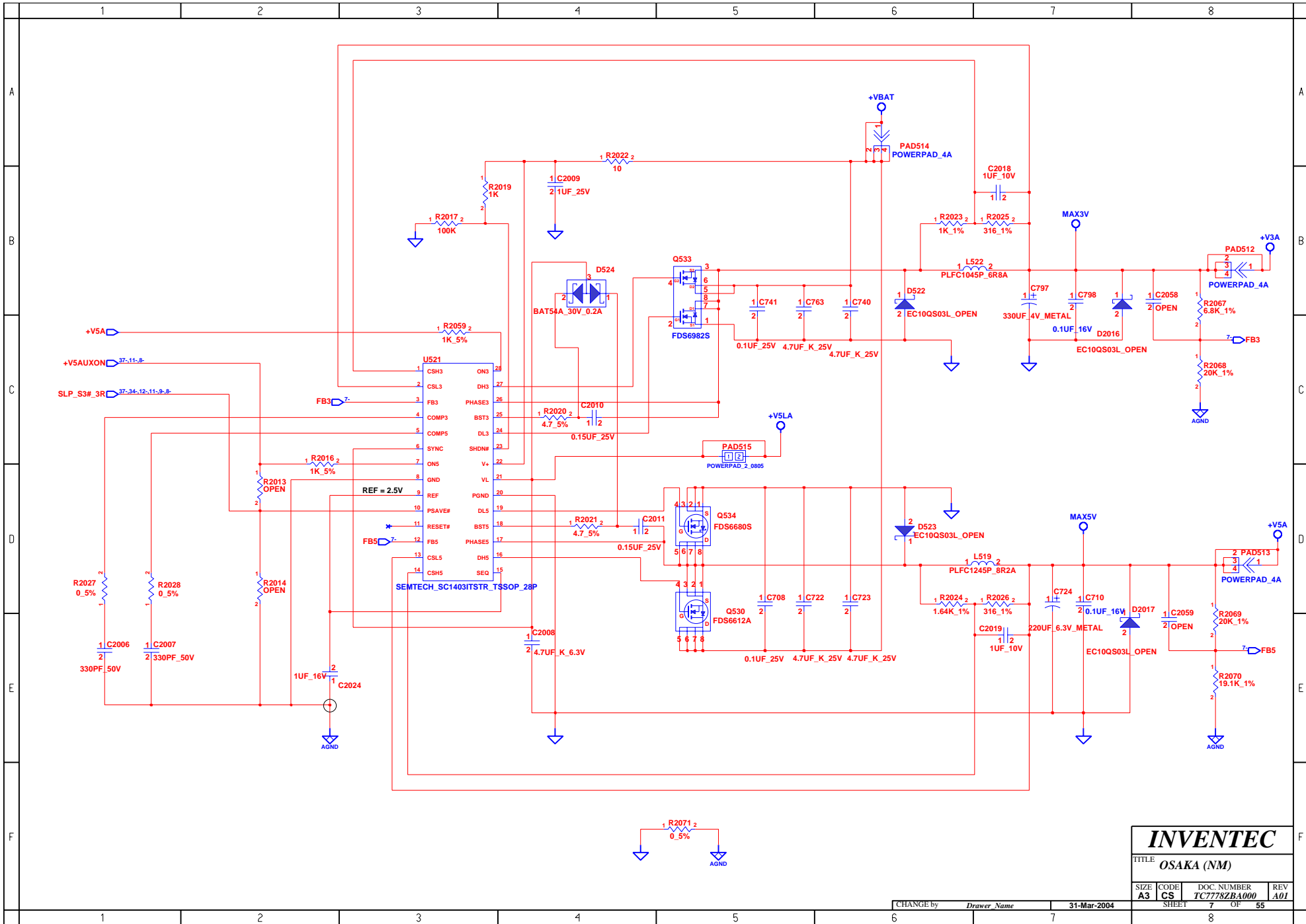
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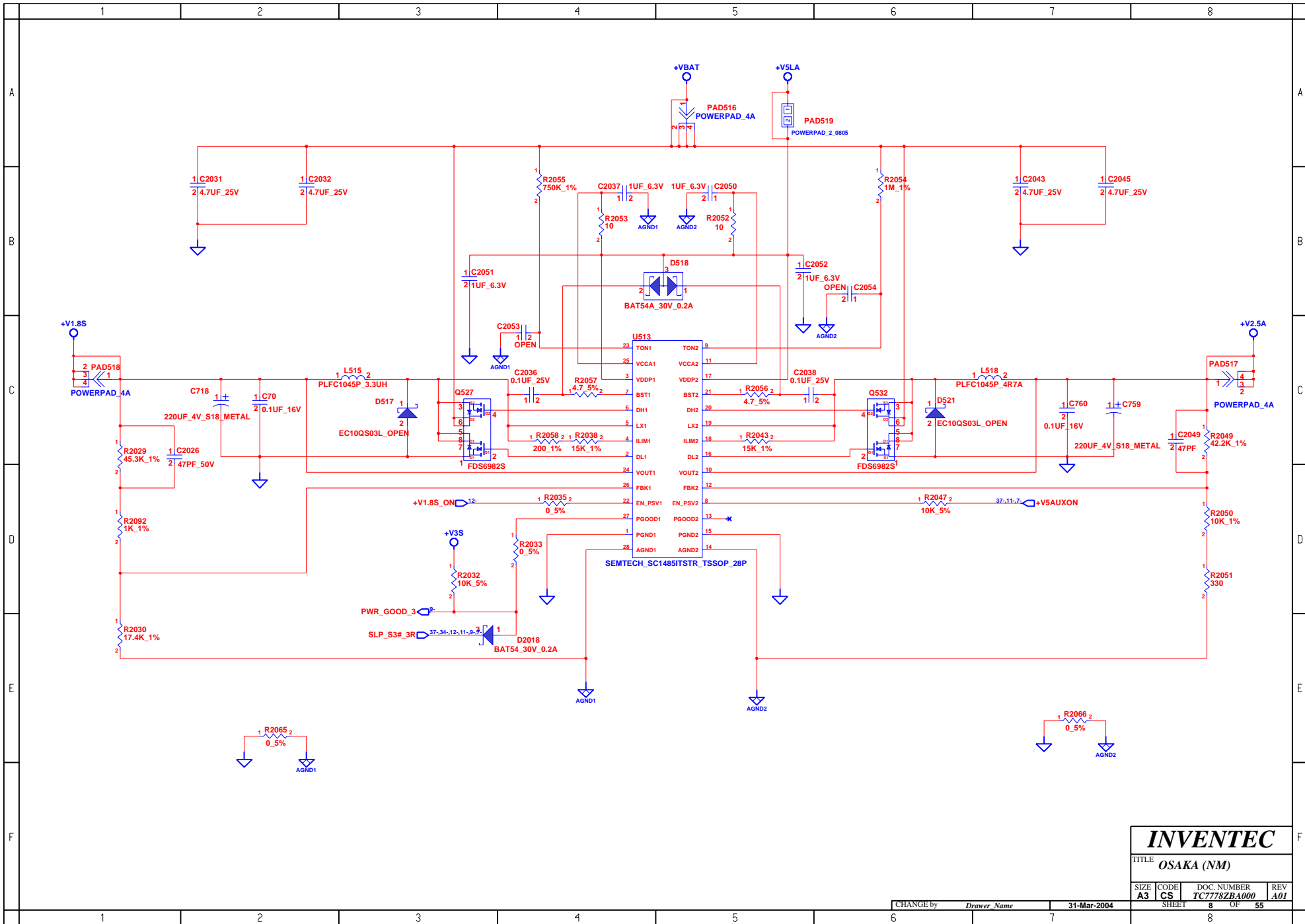
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A3	CS	TC7778ZBA000	A01

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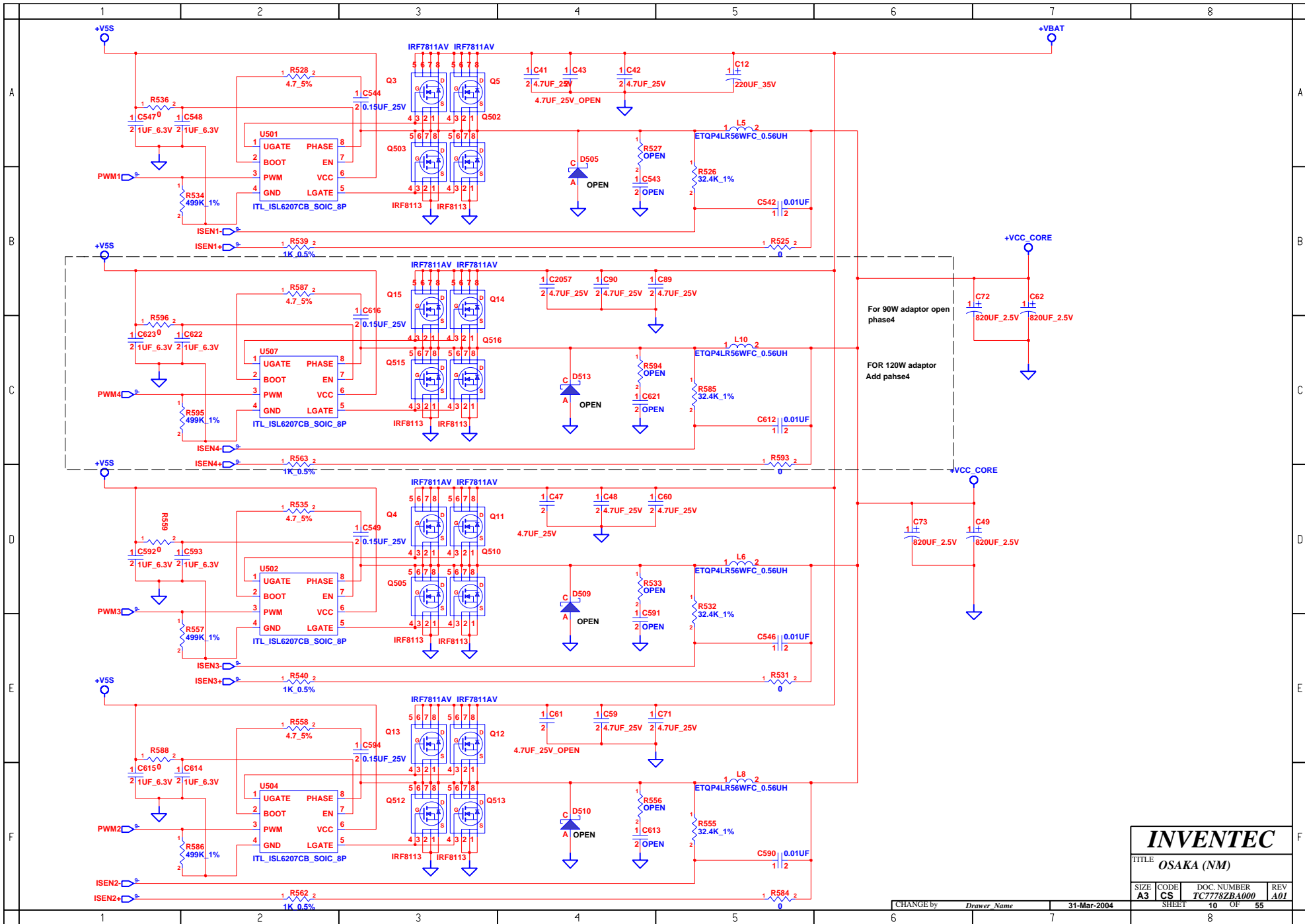
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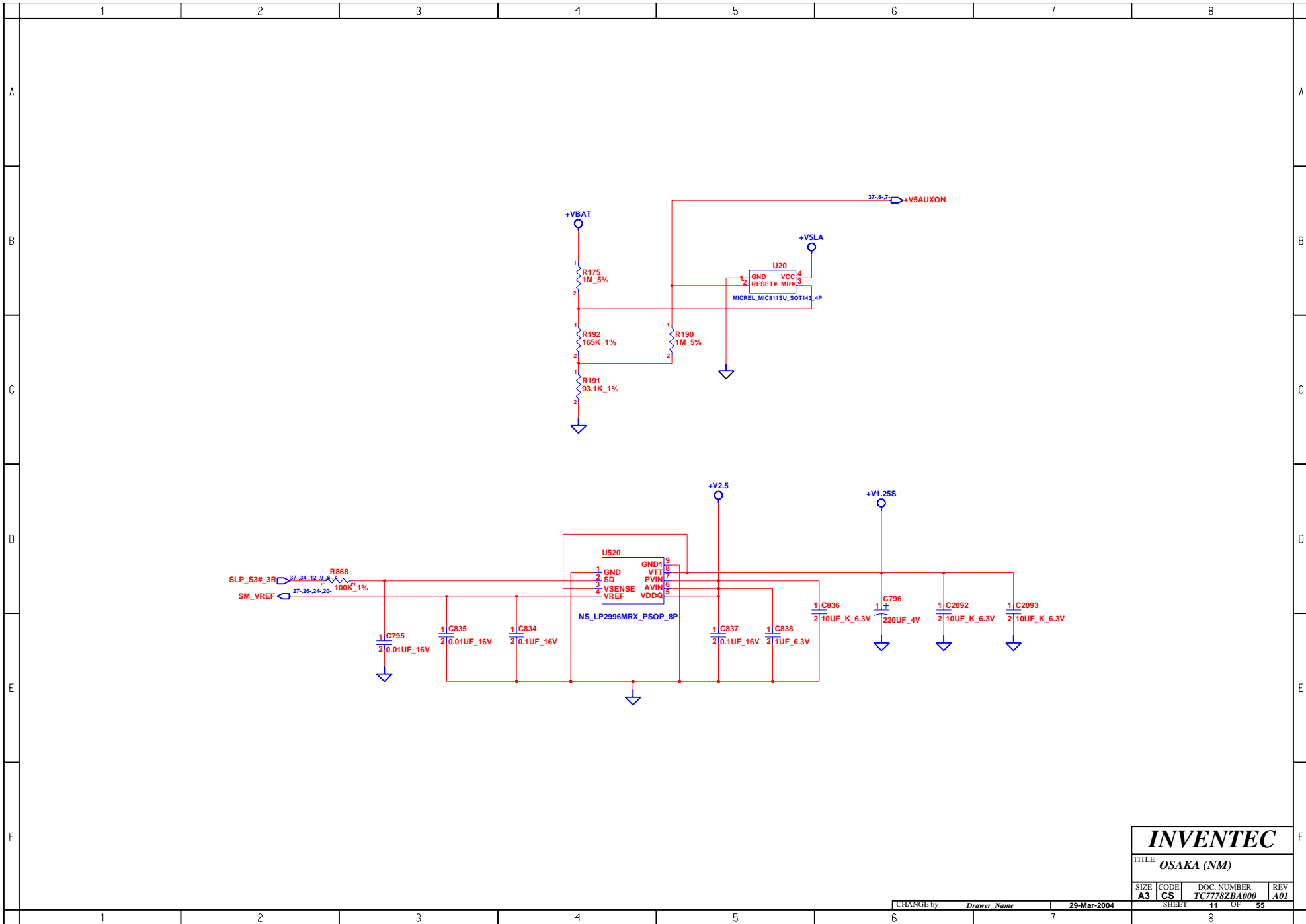
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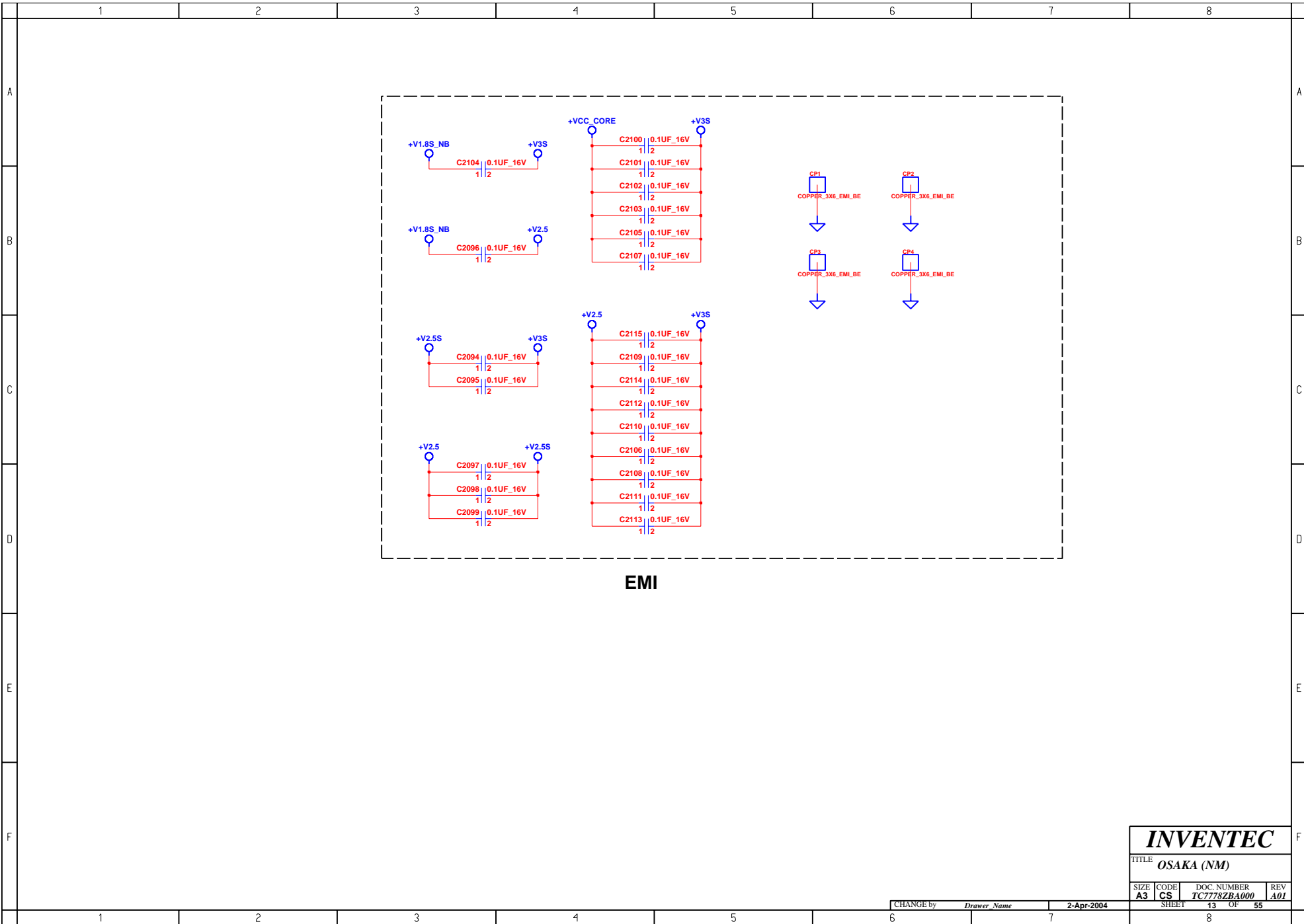
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EMI

INVENTEC

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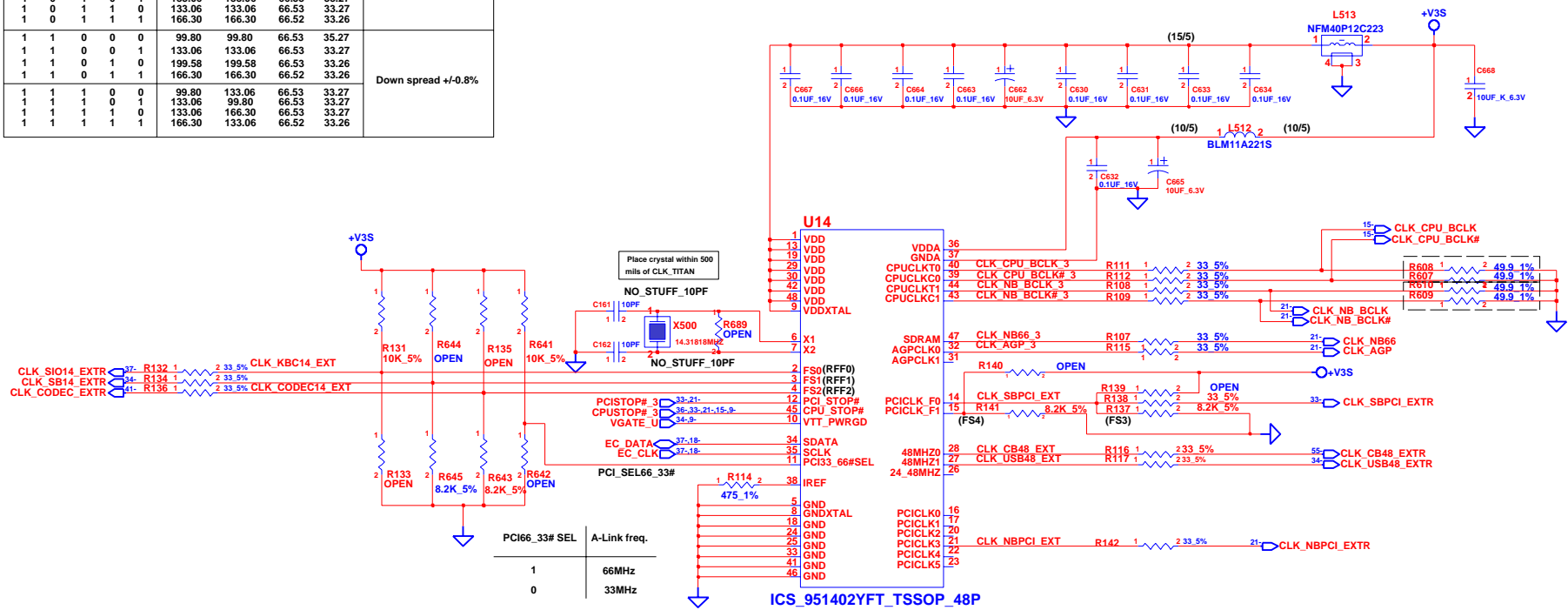
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EXT CLK FREQUENCY SELECT TABLE

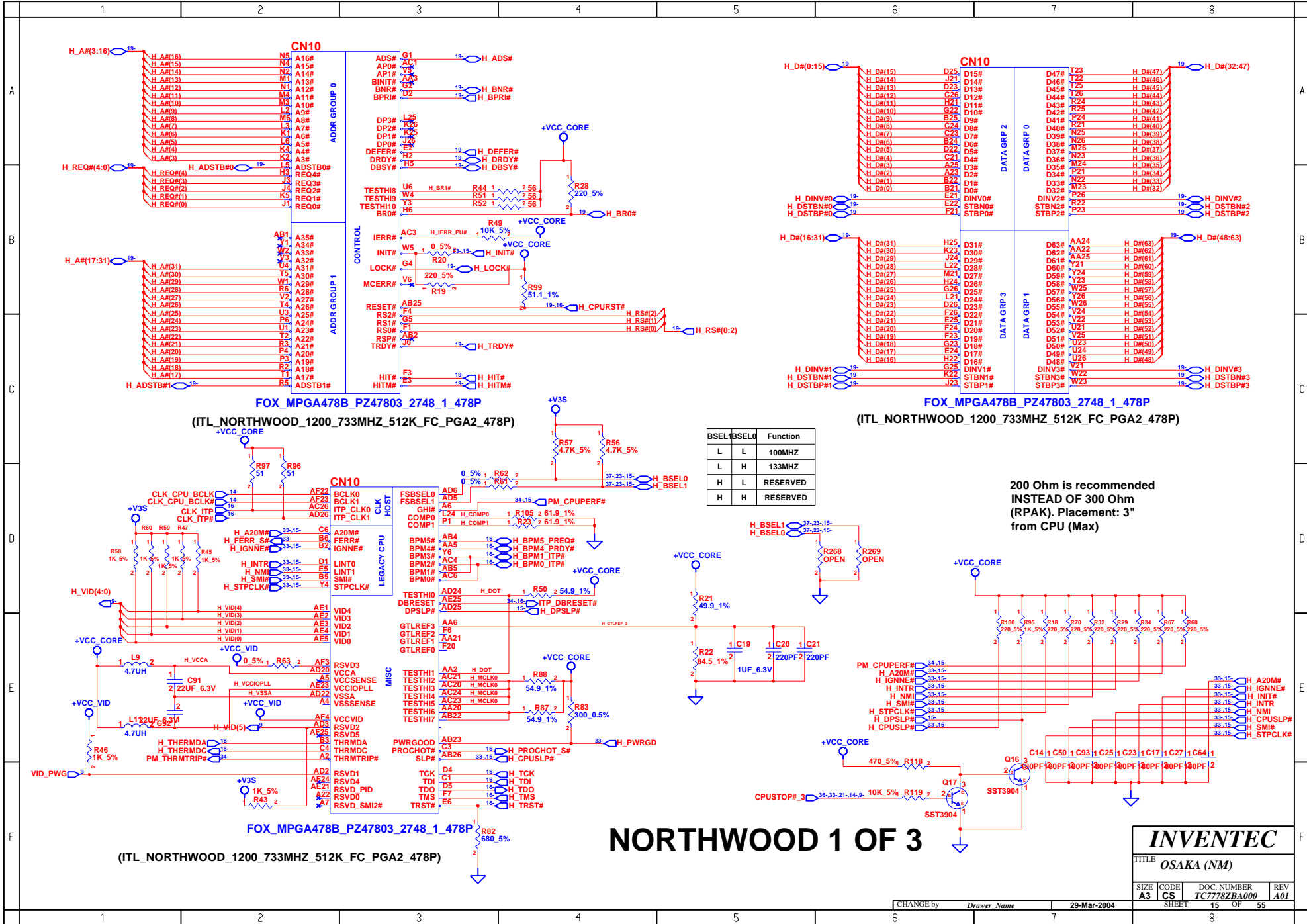
FS4	FS3	FS2	FS1	FS0	CPU MHz	MEM MHz	66MHz	PCI MHz	With Spread Enabled...
0	0	0	0	0	100.01	100.01	66.67	33.34	Spread OFF OR Center spread +/-0.3%
0	0	0	0	1	133.33	133.33	66.67	33.33	
0	0	0	1	0	200.01	200.01	66.67	33.34	
0	0	0	1	1	166.64	166.64	66.66	33.33	
0	0	1	0	0	100.01	133.34	66.67	33.34	
0	0	1	0	1	133.34	100.01	66.67	33.34	
0	0	1	1	0	133.16	166.45	66.58	33.29	
0	0	1	1	1	166.45	133.16	66.58	33.29	
0	1	0	0	0	105.00	105.00	70.00	35.00	
0	1	0	0	1	140.00	140.00	70.00	35.00	
0	1	0	1	0	66.67	66.67	66.67	33.34	
0	1	0	1	1	175.00	175.00	70.00	35.00	
0	1	1	0	0	109.99	109.99	73.33	36.66	
0	1	1	0	1	146.66	146.66	73.33	36.67	
0	1	1	1	0	201.00	201.00	70.00	35.00	
0	1	1	1	1	183.27	183.27	73.31	36.65	
1	0	0	0	0	99.80	99.80	66.53	33.27	
1	0	0	0	1	133.06	133.06	66.53	33.27	
1	0	0	1	0	199.58	199.58	66.53	33.26	
1	0	0	1	1	166.30	166.30	66.52	33.26	
1	0	1	0	0	99.80	133.06	66.53	33.27	
1	0	1	0	1	133.06	133.06	66.53	33.27	
1	0	1	1	0	133.06	133.06	66.53	33.27	
1	0	1	1	1	166.30	166.30	66.52	33.26	
1	1	0	0	0	99.80	99.80	66.53	35.27	
1	1	0	0	1	133.06	133.06	66.53	33.27	
1	1	0	1	0	199.58	199.58	66.53	33.26	
1	1	0	1	1	166.30	166.30	66.52	33.26	
1	1	1	0	0	99.80	133.06	66.53	33.27	
1	1	1	0	1	133.06	99.80	66.53	33.27	
1	1	1	1	0	133.06	166.30	66.53	33.27	
1	1	1	1	1	166.30	133.06	66.52	33.26	



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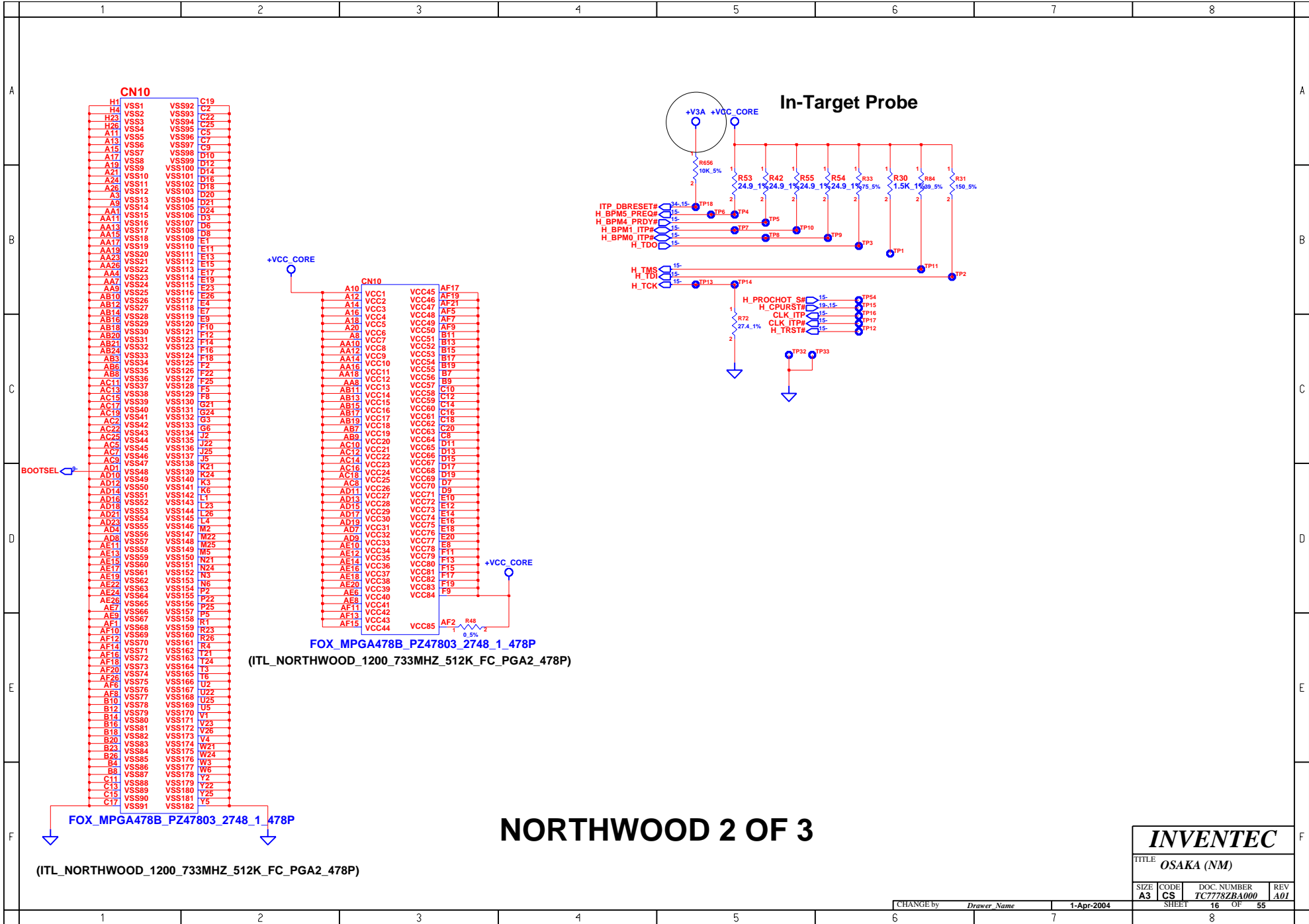
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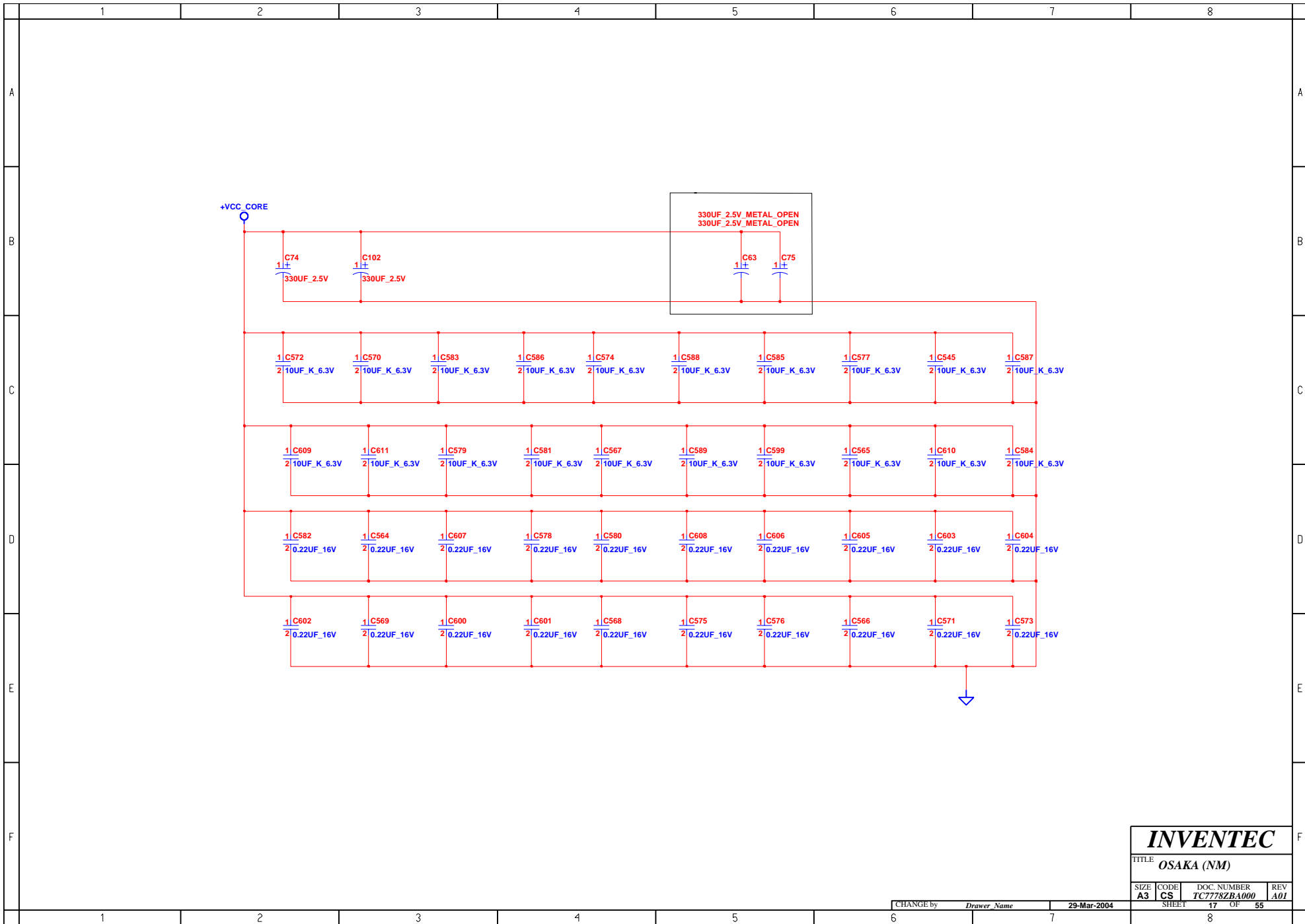


BSEL#	BSELO	Function
L	L	100MHZ
L	H	133MHZ
H	L	RESERVED
H	H	RESERVED

200 Ohm is recommended
INSTEAD OF 300 Ohm
(RPAK). Placement: 3"
from CPU (Max)

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SIZE A3	CODE CS	DOC. NUMBER TC7782BA000	REV A01
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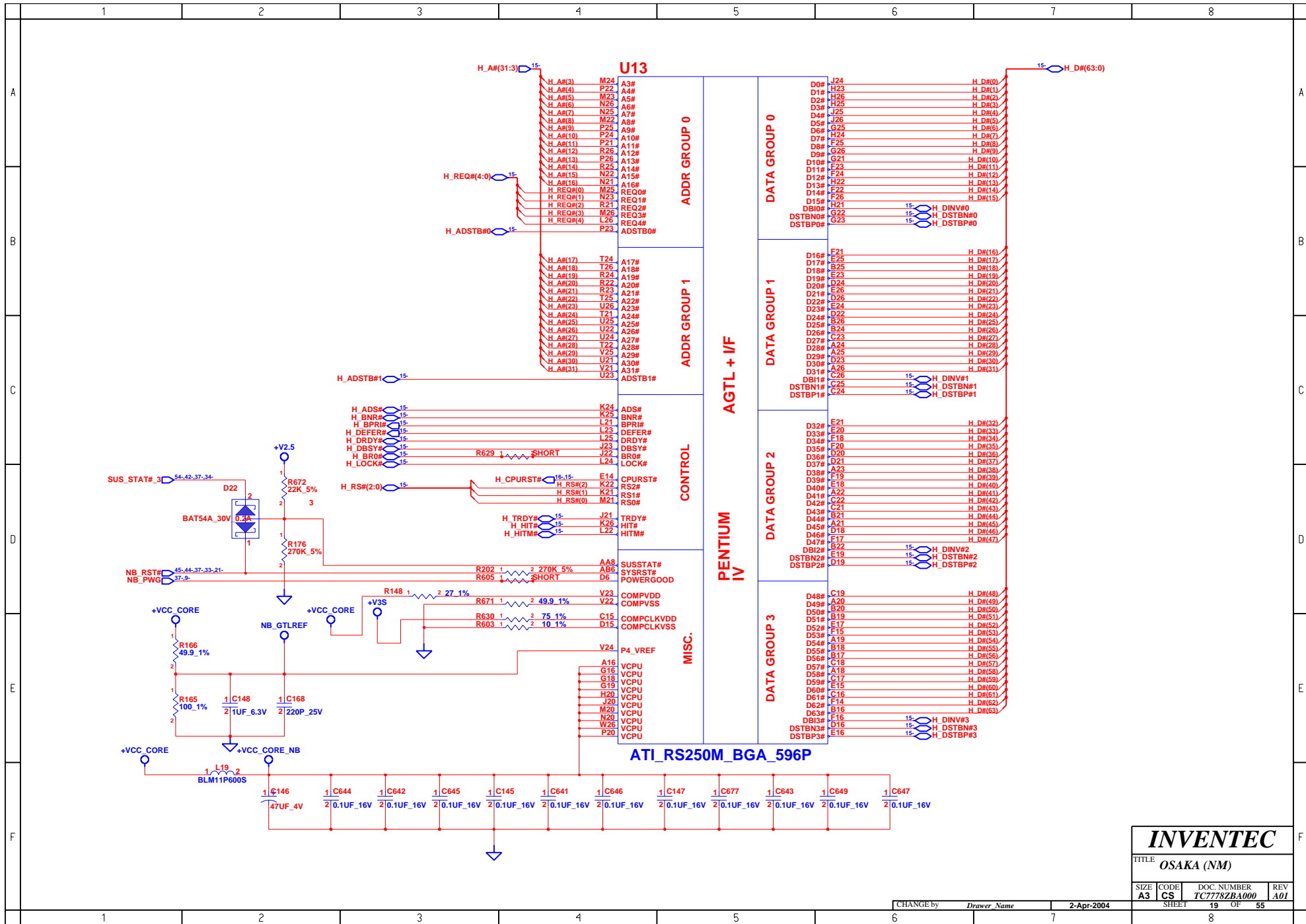
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TITLE
OSAKA (NM)

SIZE A3	CODE CS	DOC. NUMBER TC7778ZBA000	REV A01
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CHANGE by *Drawer Name* 29-Mar-2004

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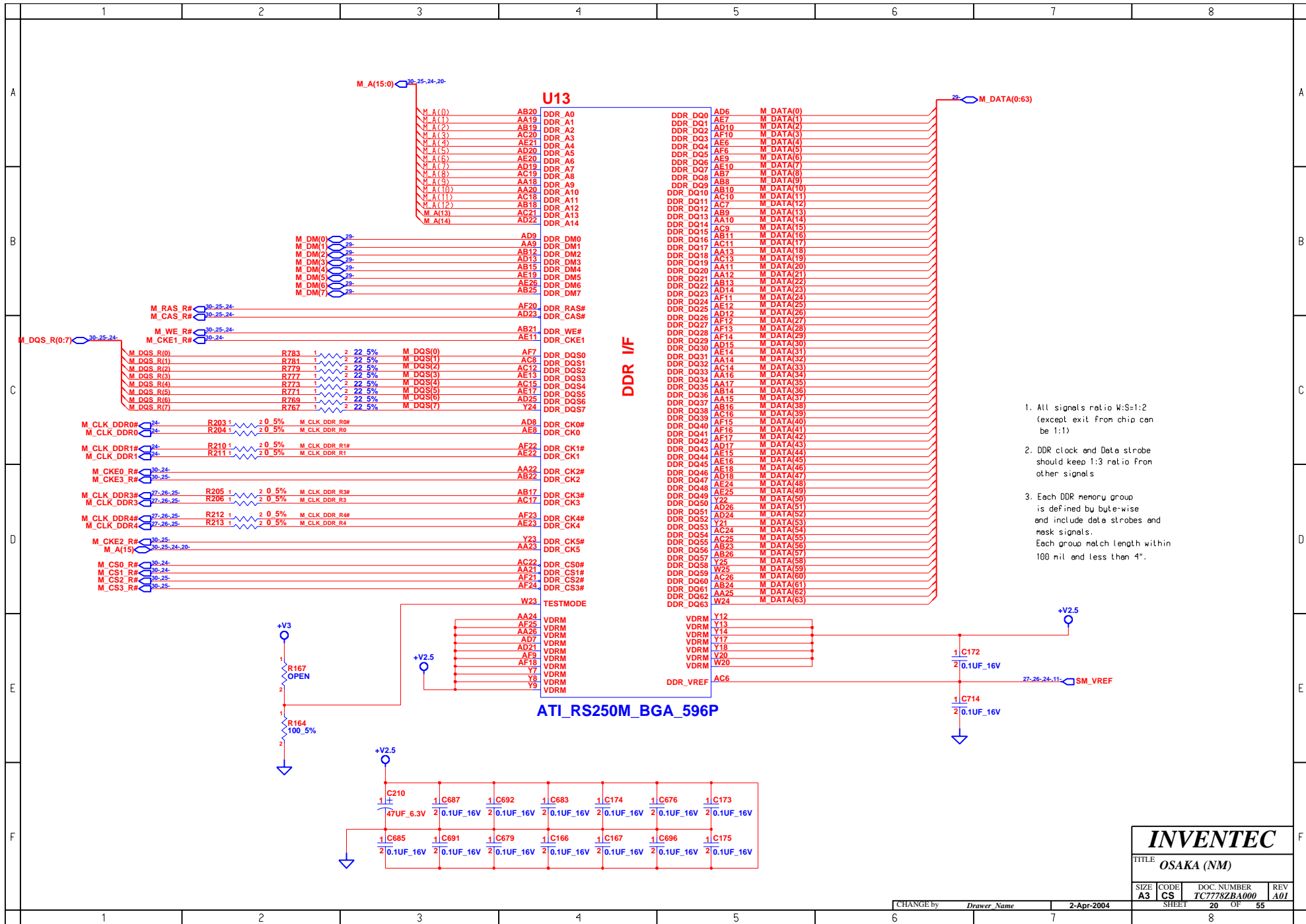


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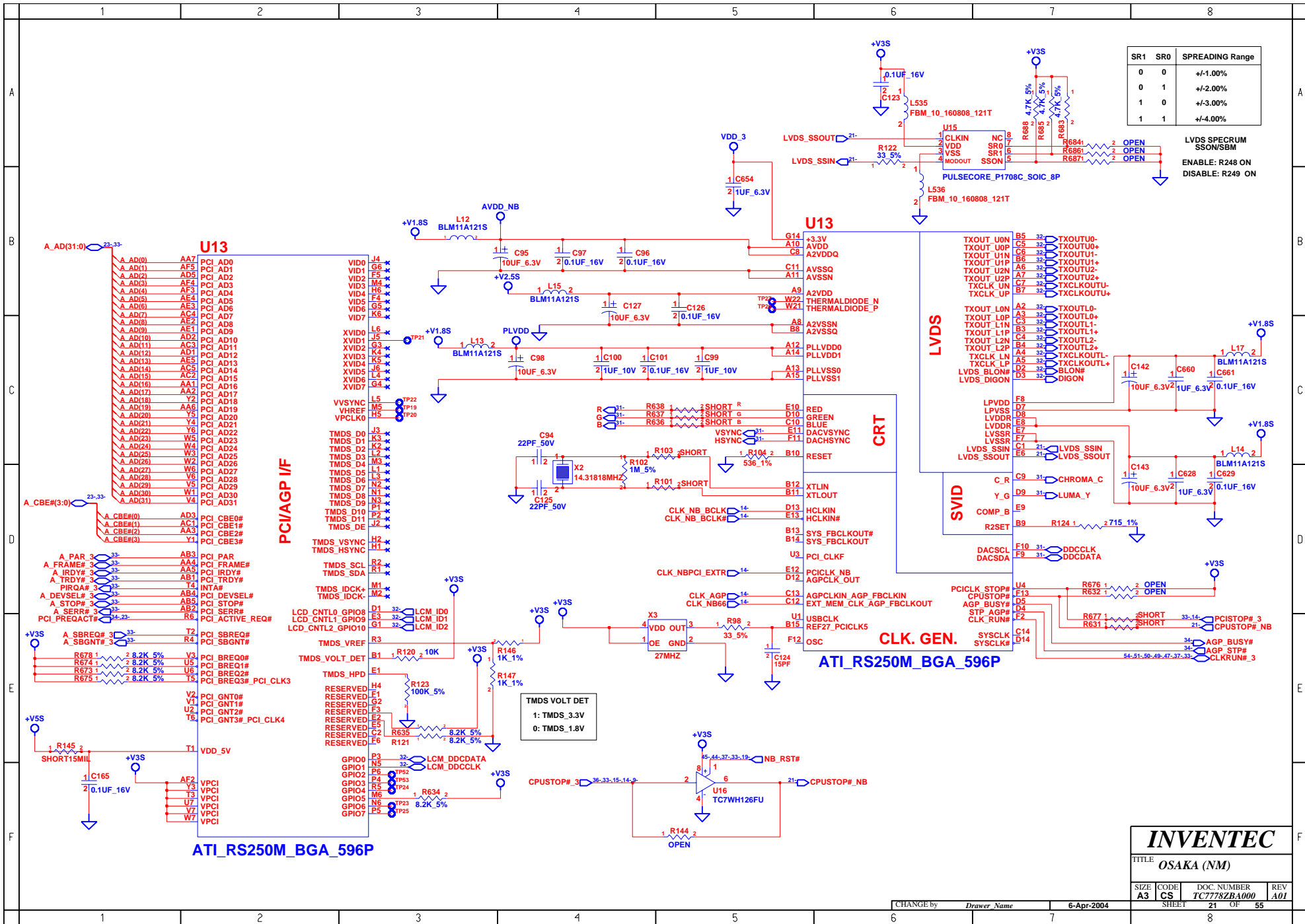
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SIZE A3	CODE CS	DOC. NUMBER TC7778ZBA000	REV A01
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CHANGE by Drawer Name 2-Apr-2004



1. All signals ratio W:S=1:2 (except exit from chip can be 1:1)
2. DDR clock and Data strobe should keep 1:3 ratio from other signals
3. Each DDR memory group is defined by byte-wise and include data strobes and mask signals. Each group match length within 100 mil and less than 4".



SR1	SRO	SPREADING Range
0	0	+/-1.00%
0	1	+/-2.00%
1	0	+/-3.00%
1	1	+/-4.00%

LVDS SPECTRUM
SSON/SSM
ENABLE: R248 ON
DISABLE: R249 ON

TMDS VOLT DET
1: TMDS_3.3V
0: TMDS_1.8V

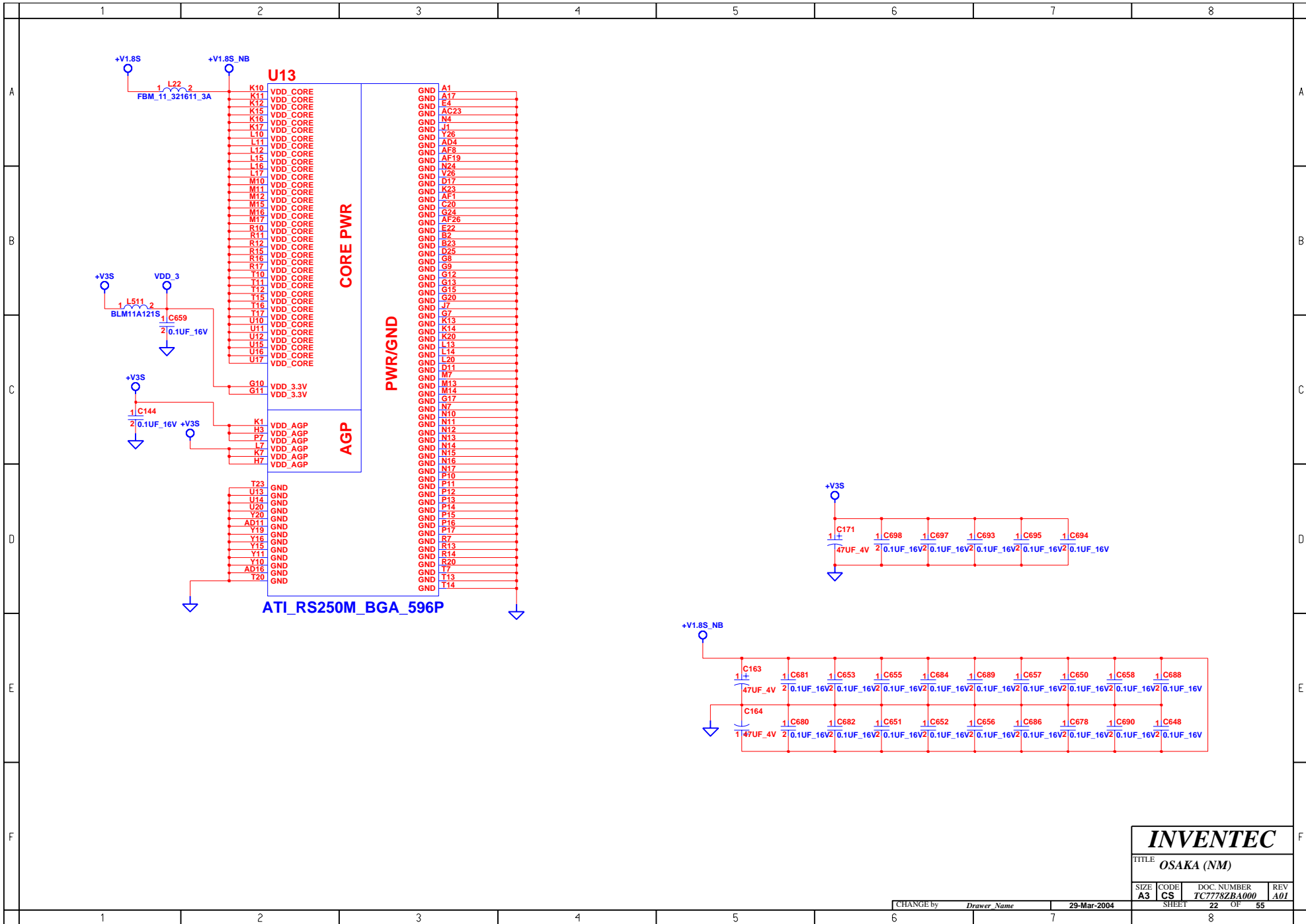
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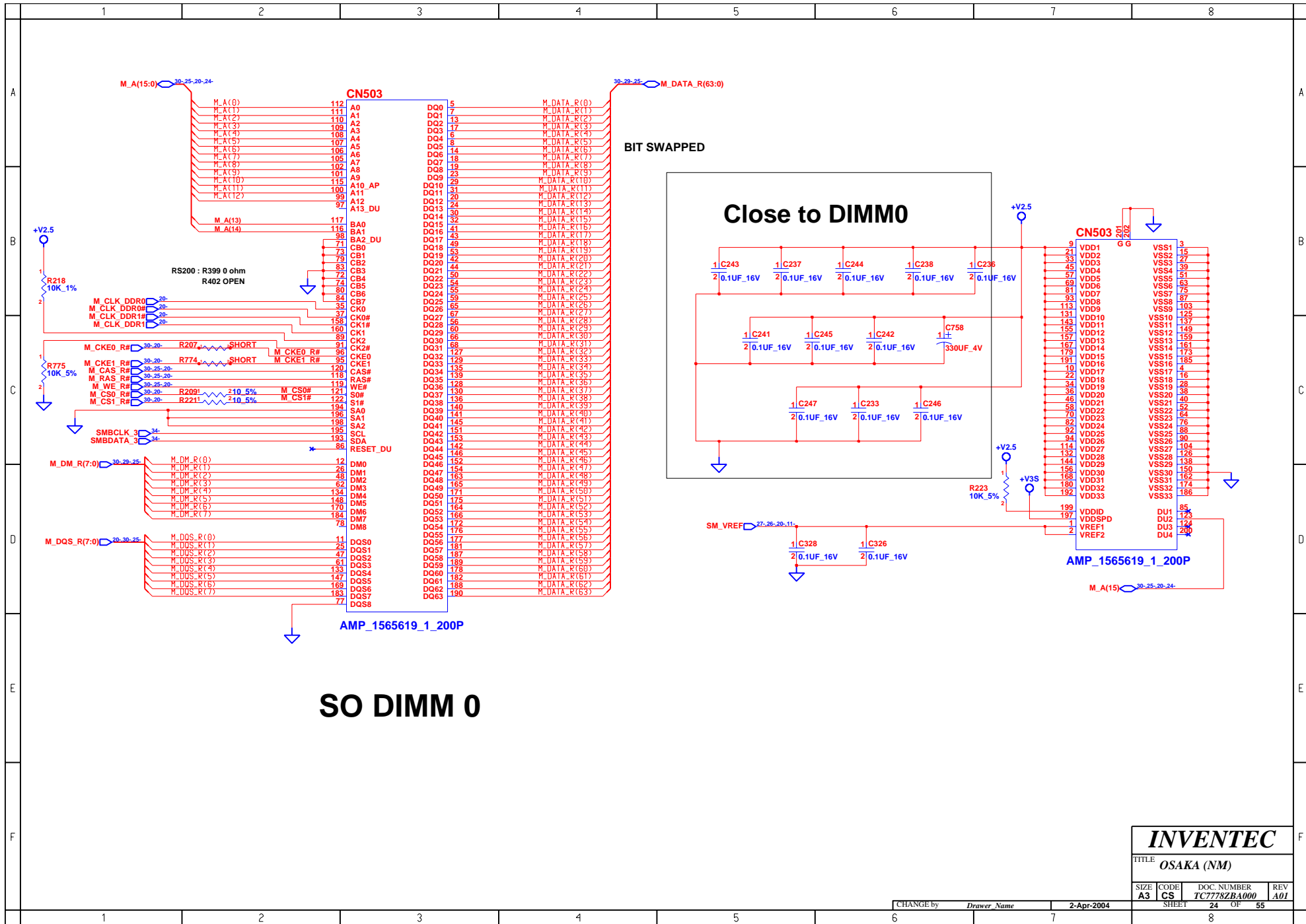
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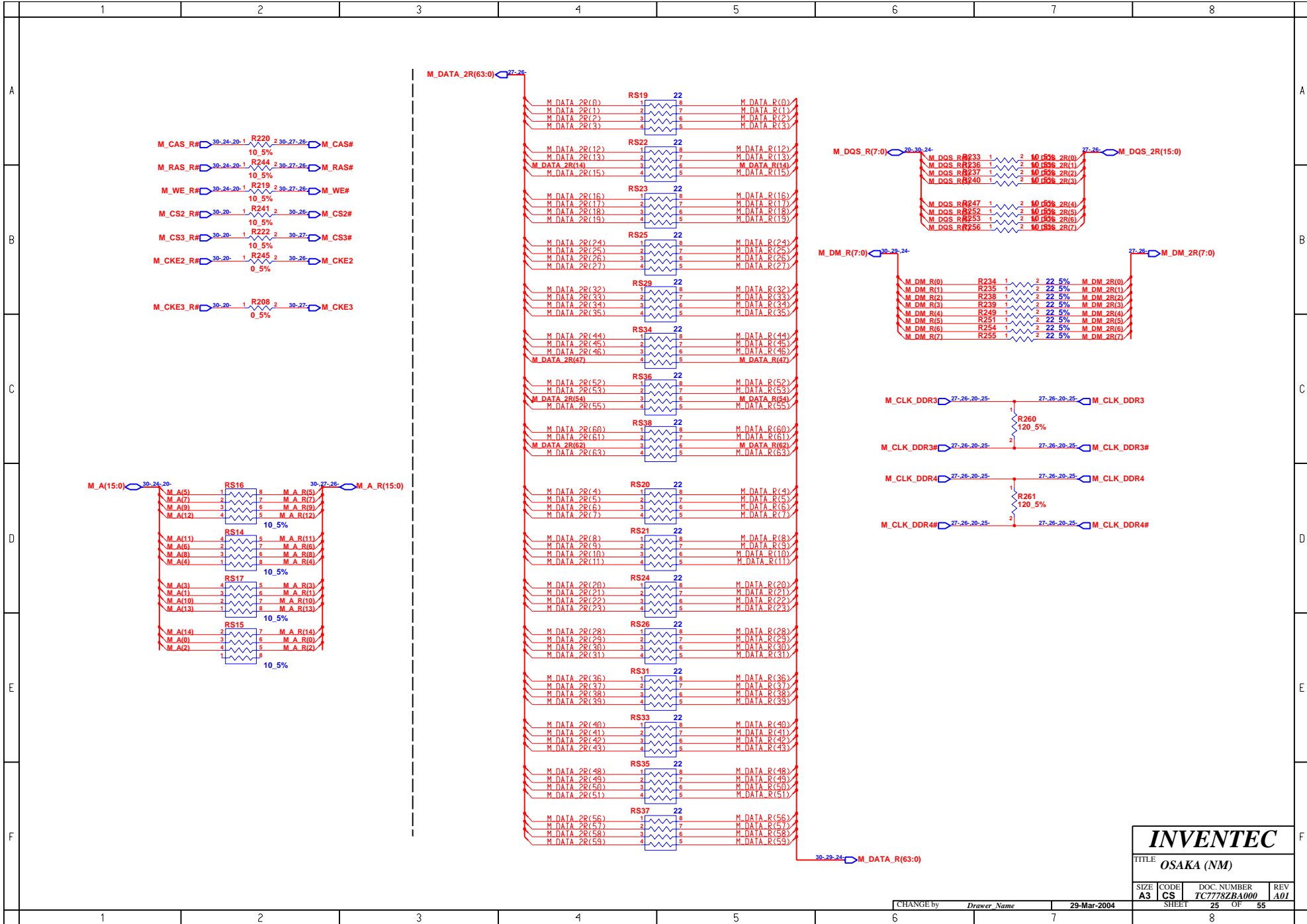
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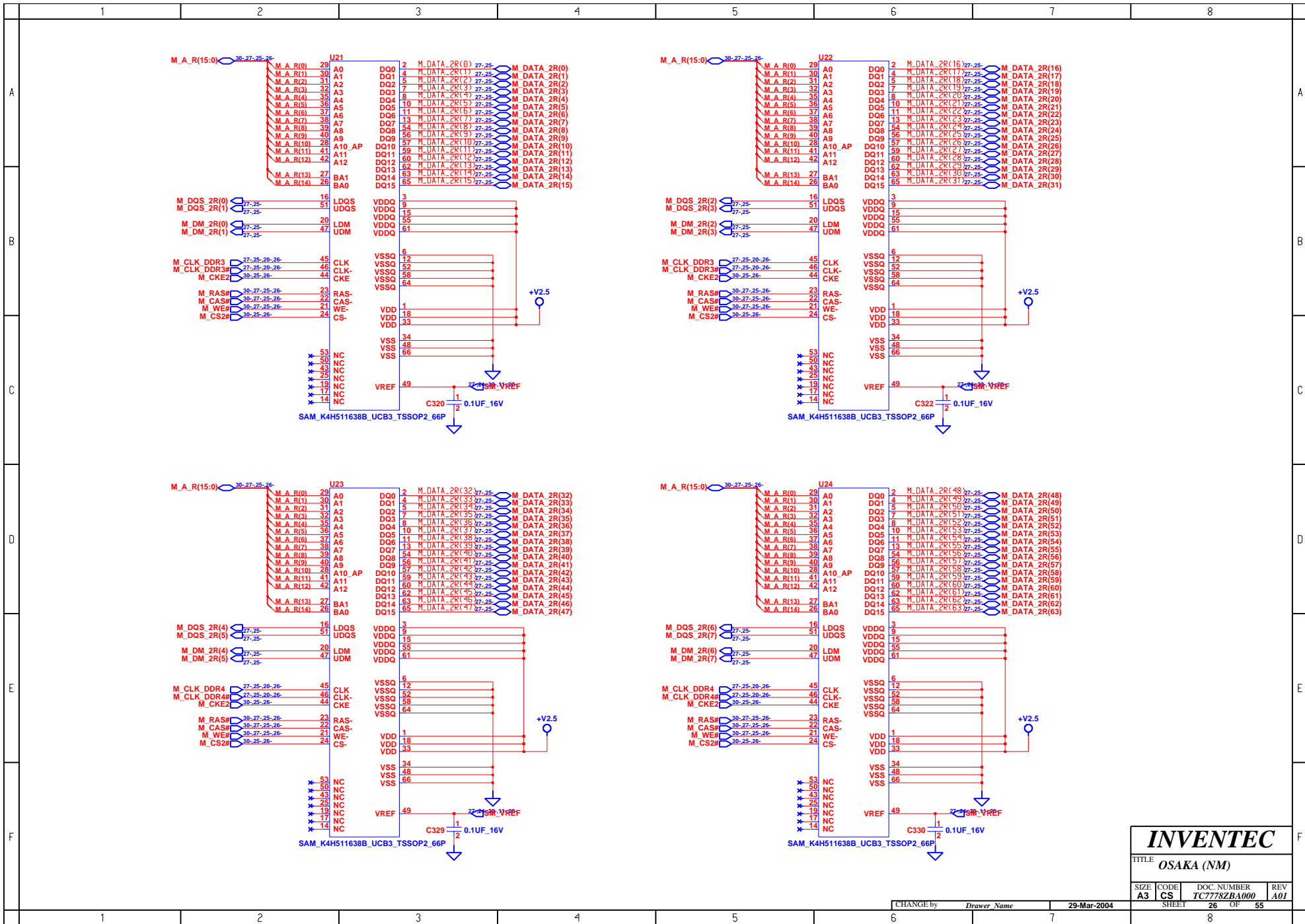


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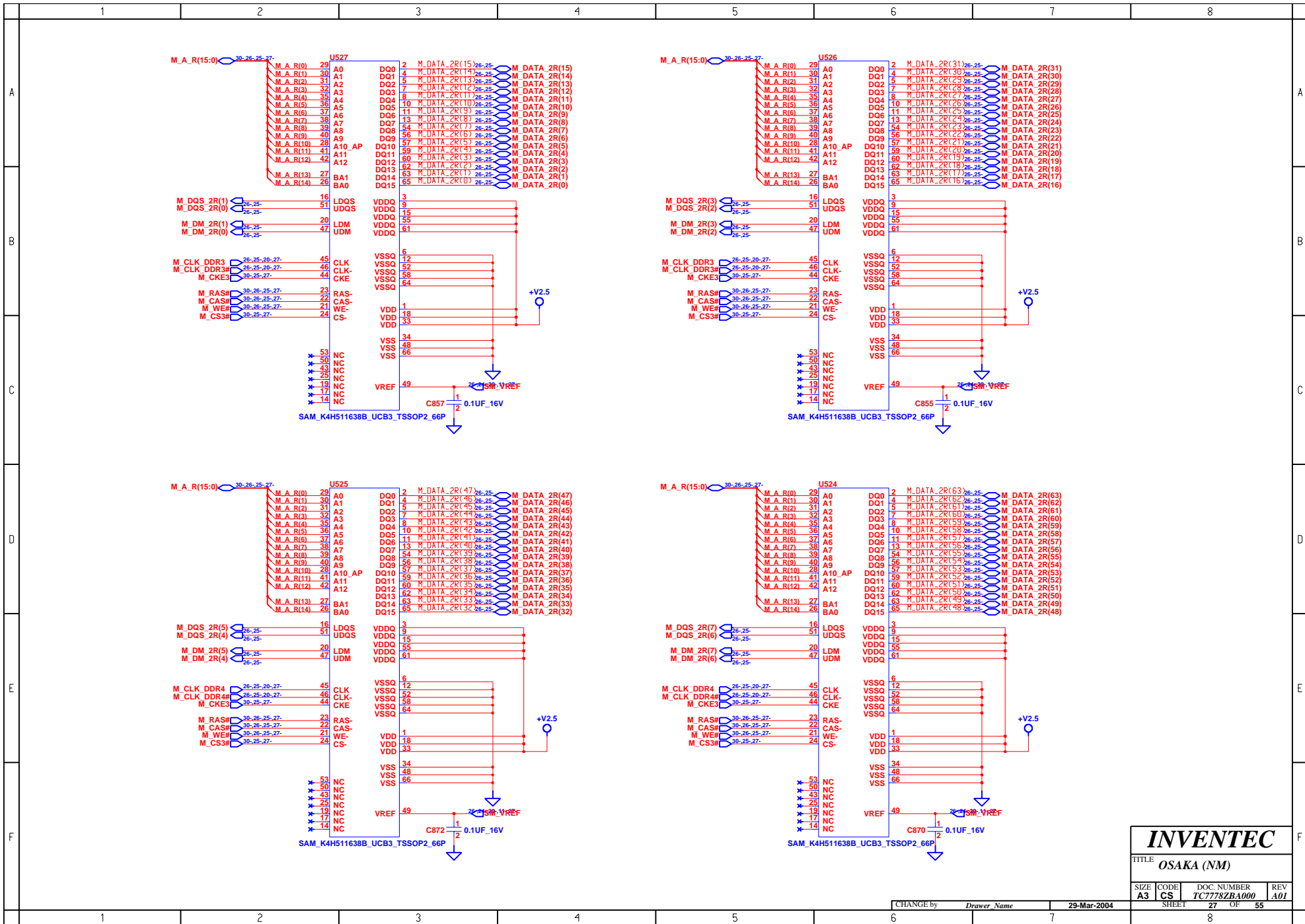
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INVENTEC

TITLE OSAKA (NM)

SIZE	CODE	DOC. NUMBER	REV
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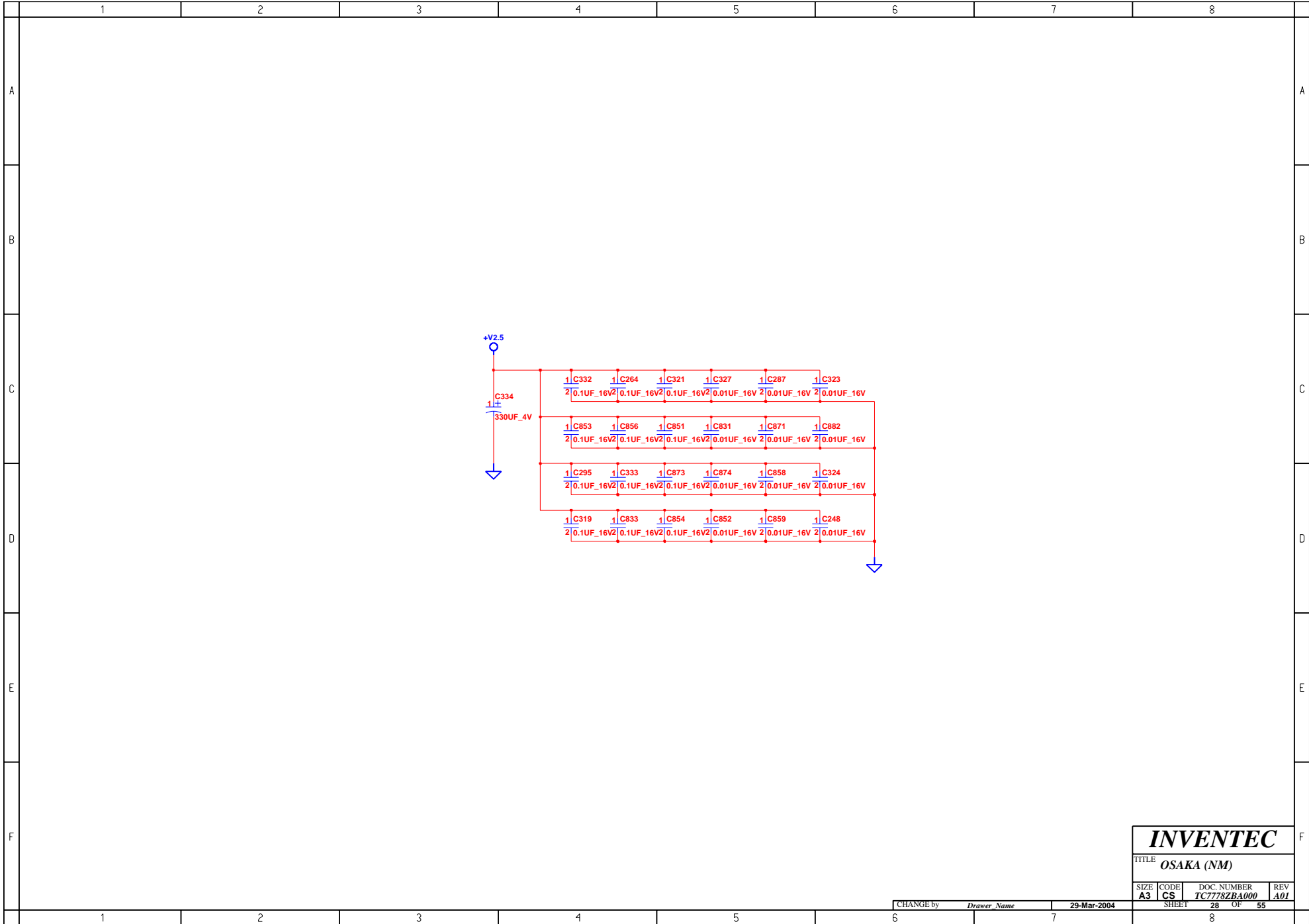


INVENTEC

TITLE OSAKA (NM)

SIZE	CODE	DOC. NUMBER	REV
A3	CS	TC7782BA000	A01

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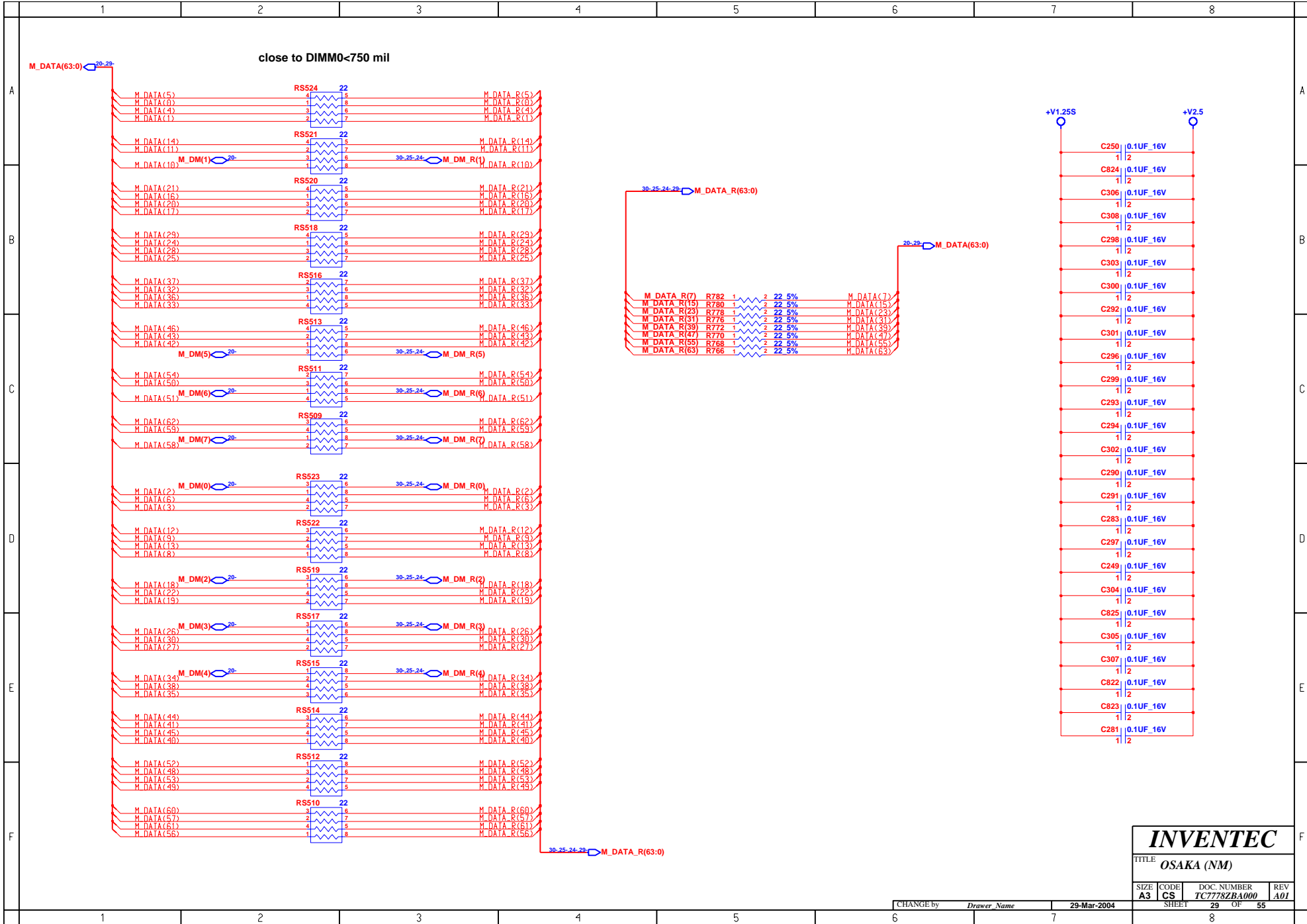
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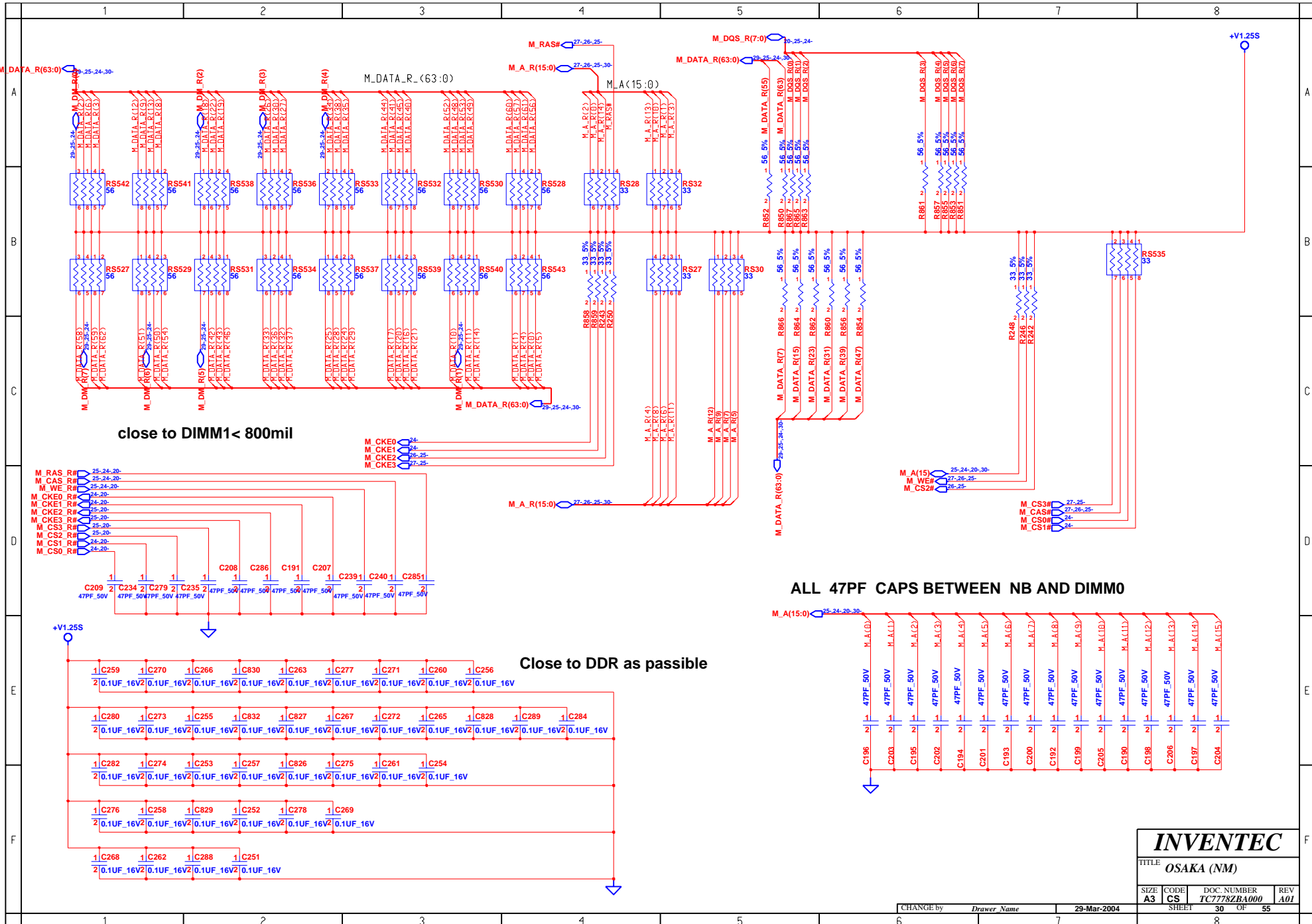
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INVENTEC			
TITLE OSAKA (NM)			
SIZE A3	CODE CS	DOC. NUMBER TC7778ZBA000	REV A01
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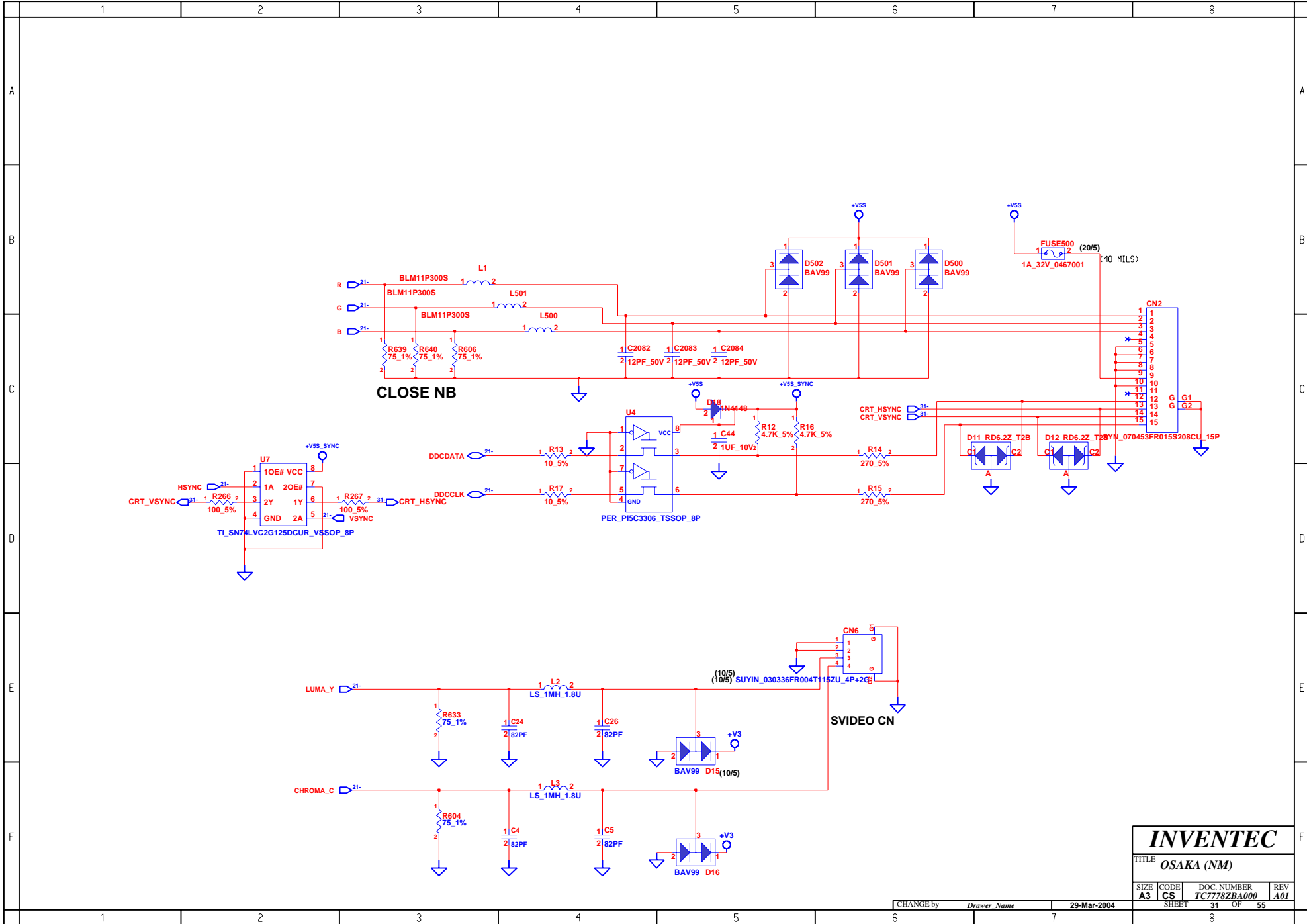


close to DIMM1 < 800mil

ALL 47PF CAPS BETWEEN NB AND DIMM0

Close to DDR as possible

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TITLE OSAKA (NM)			
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INVENTEC

TITLE OSAKA (NM)

SIZE A3	CODE CS	DOC NUMBER TC7778ZBA000	REV A01
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A

B

C

D

E

F

A

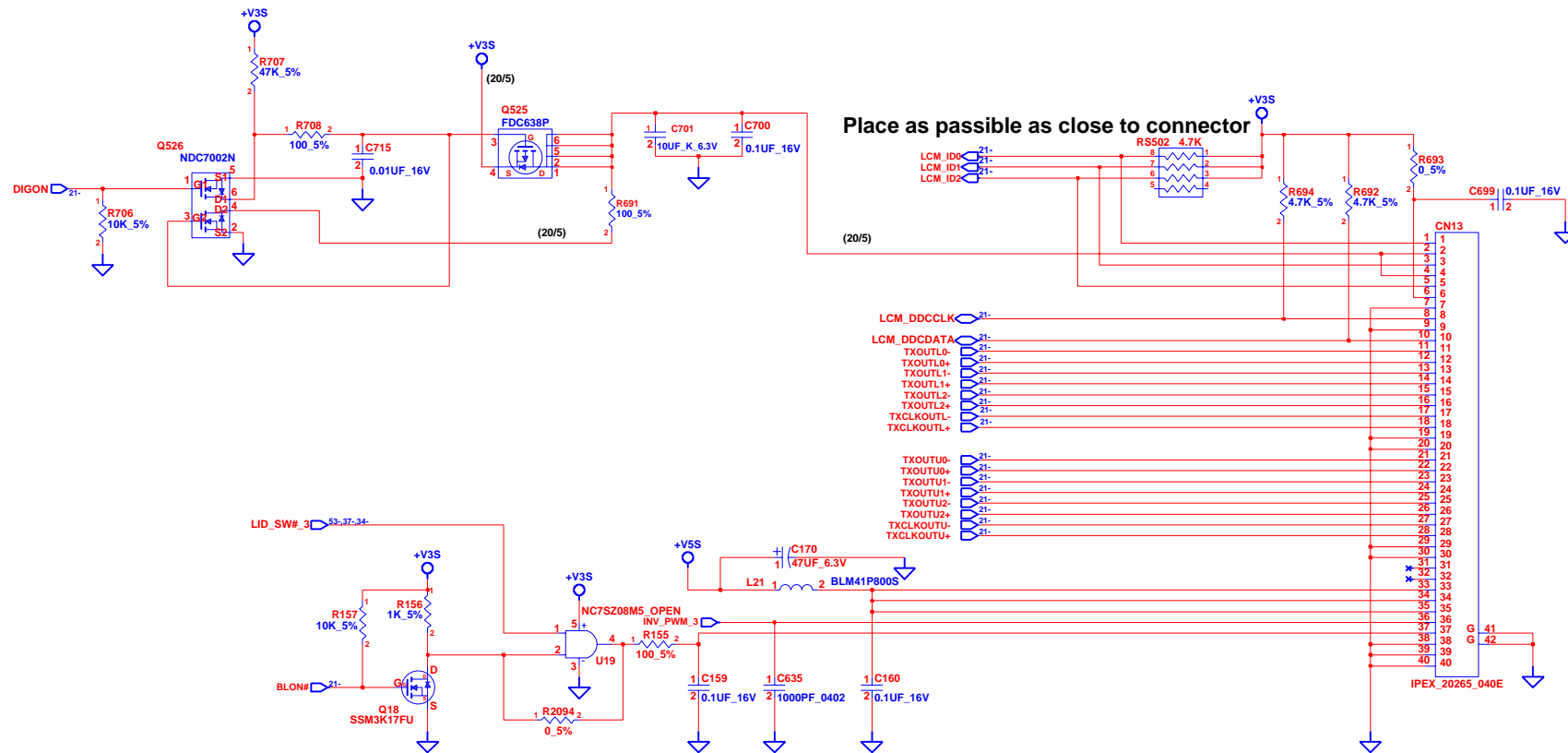
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C

D

E

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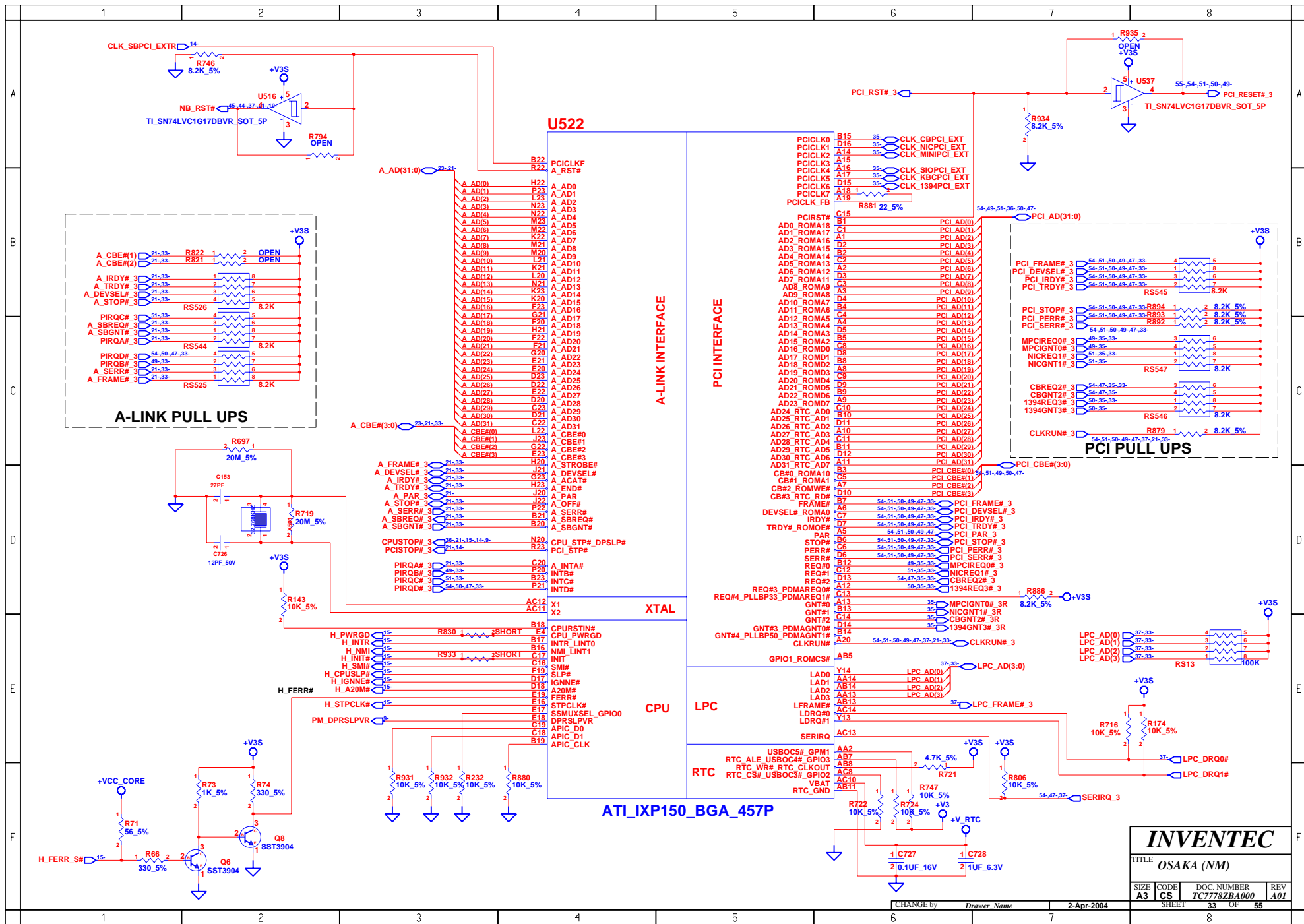


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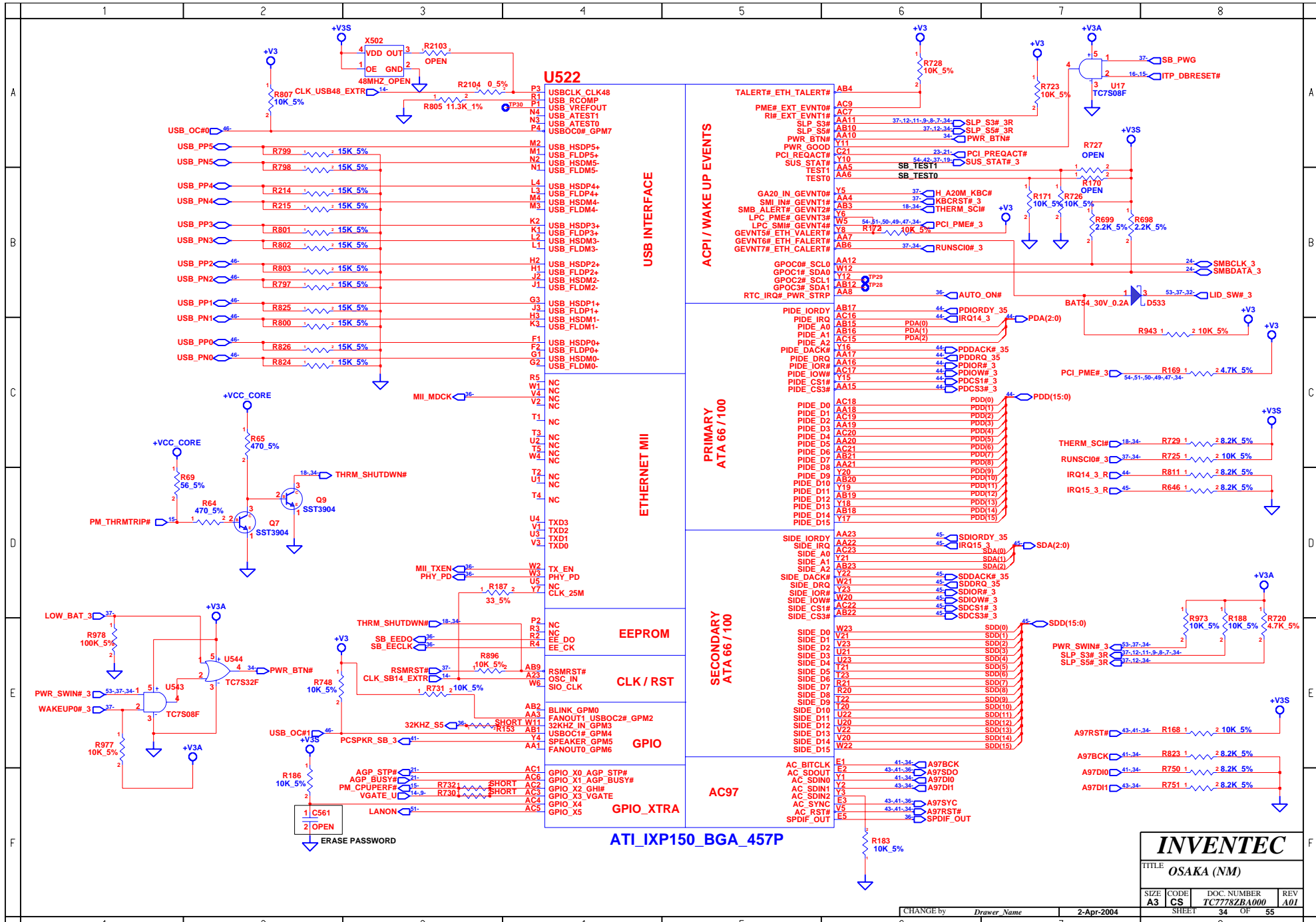
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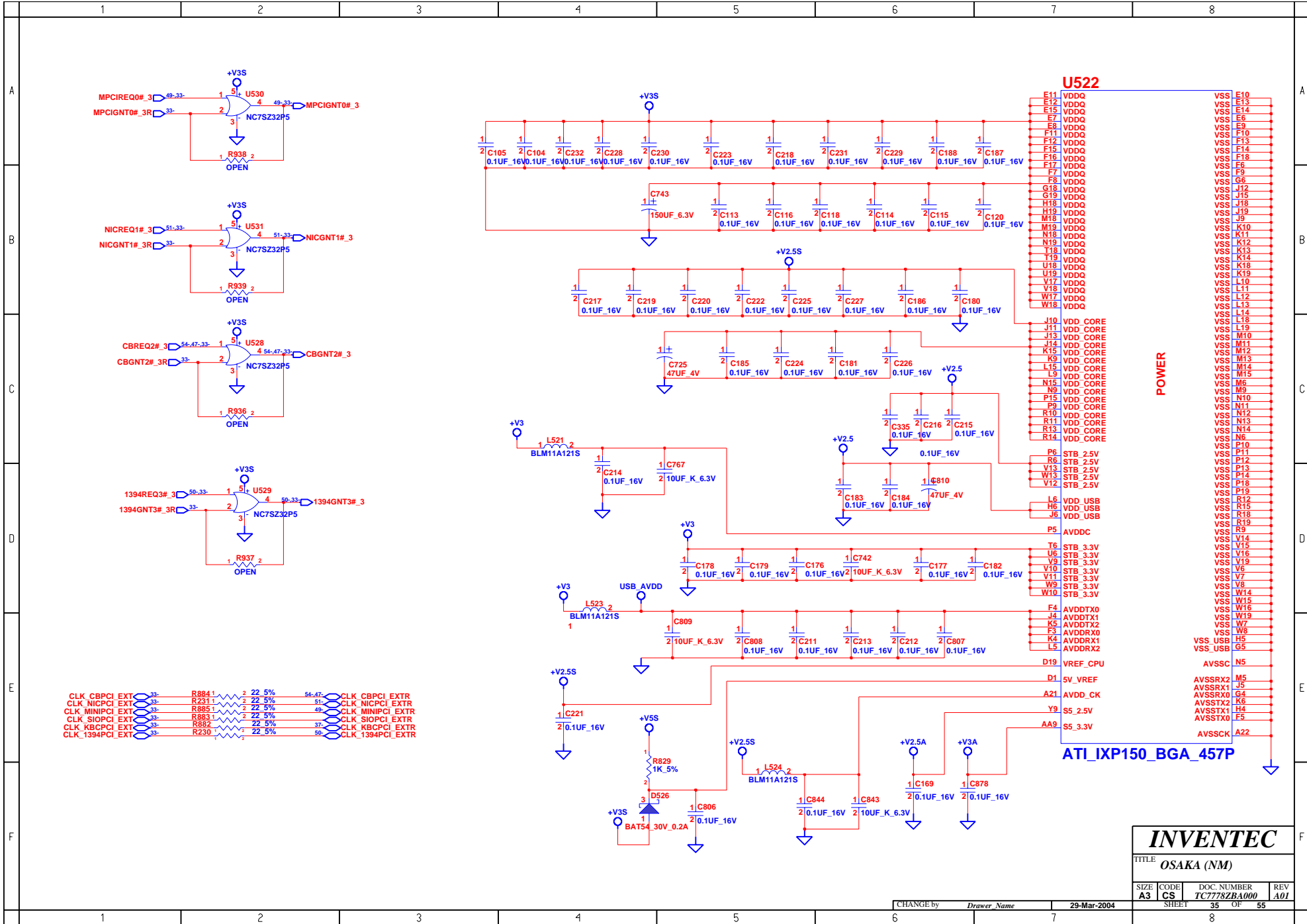
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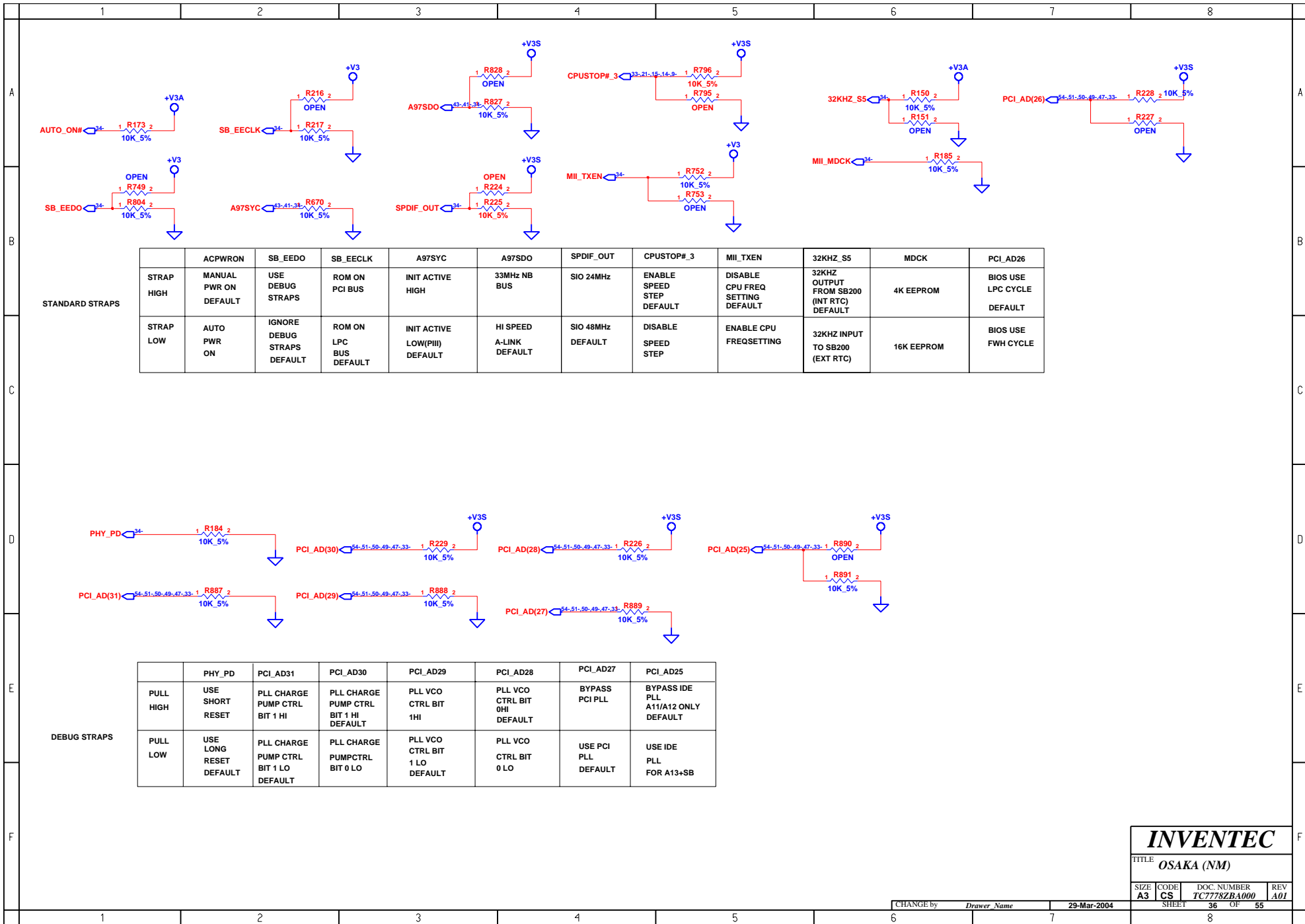
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SIZE A3	CODE CS	DOC. NUMBER TC77782BA000	REV A01
CHANGE by Drawer Name		29-Mar-2004	
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STANDARD STRAPS

	ACPWRON	SB_EEDO	SB_EECLK	A97SYC	A97SDO	SPDIF_OUT	CPUSTOP#_3	MII_TXEN	32KHZ_S5	MDCK	PCI_AD26
STRAP HIGH	MANUAL PWR ON DEFAULT	USE DEBUG STRAPS	ROM ON PCI BUS	INIT ACTIVE HIGH	33MHz NB BUS	SIO 24MHz	ENABLE SPEED STEP DEFAULT	DISABLE CPU FREQ SETTING DEFAULT	32KHZ OUTPUT FROM SB200 (INT RTC) DEFAULT	4K EEPROM	BIOS USE LPC CYCLE DEFAULT
STRAP LOW	AUTO PWR ON	IGNORE DEBUG STRAPS DEFAULT	ROM ON LPC BUS DEFAULT	INIT ACTIVE LOW(PHII) DEFAULT	HI SPEED A-LINK DEFAULT	SIO 48MHz DEFAULT	DISABLE SPEED STEP	ENABLE CPU FREQSETTING	32KHZ INPUT TO SB200 (EXT RTC)	16K EEPROM	BIOS USE FWX CYCLE

DEBUG STRAPS

	PHY_PD	PCI_AD31	PCI_AD30	PCI_AD29	PCI_AD28	PCI_AD27	PCI_AD25
PULL HIGH	USE SHORT RESET	PLL CHARGE PUMP CTRL BIT 1 HI	PLL CHARGE PUMP CTRL BIT 1 HI DEFAULT	PLL VCO CTRL BIT 1HI	PLL VCO CTRL BIT 0HI DEFAULT	BYPASS PCI PLL	BYPASS IDE PLL A11/A12 ONLY DEFAULT
PULL LOW	USE LONG RESET DEFAULT	PLL CHARGE PUMP CTRL BIT 1 LO DEFAULT	PLL CHARGE PUMPCTRL BIT 0 LO	PLL VCO CTRL BIT 1 LO DEFAULT	PLL VCO CTRL BIT 0 LO	USE PCI PLL DEFAULT	USE IDE PLL FOR A13+SB

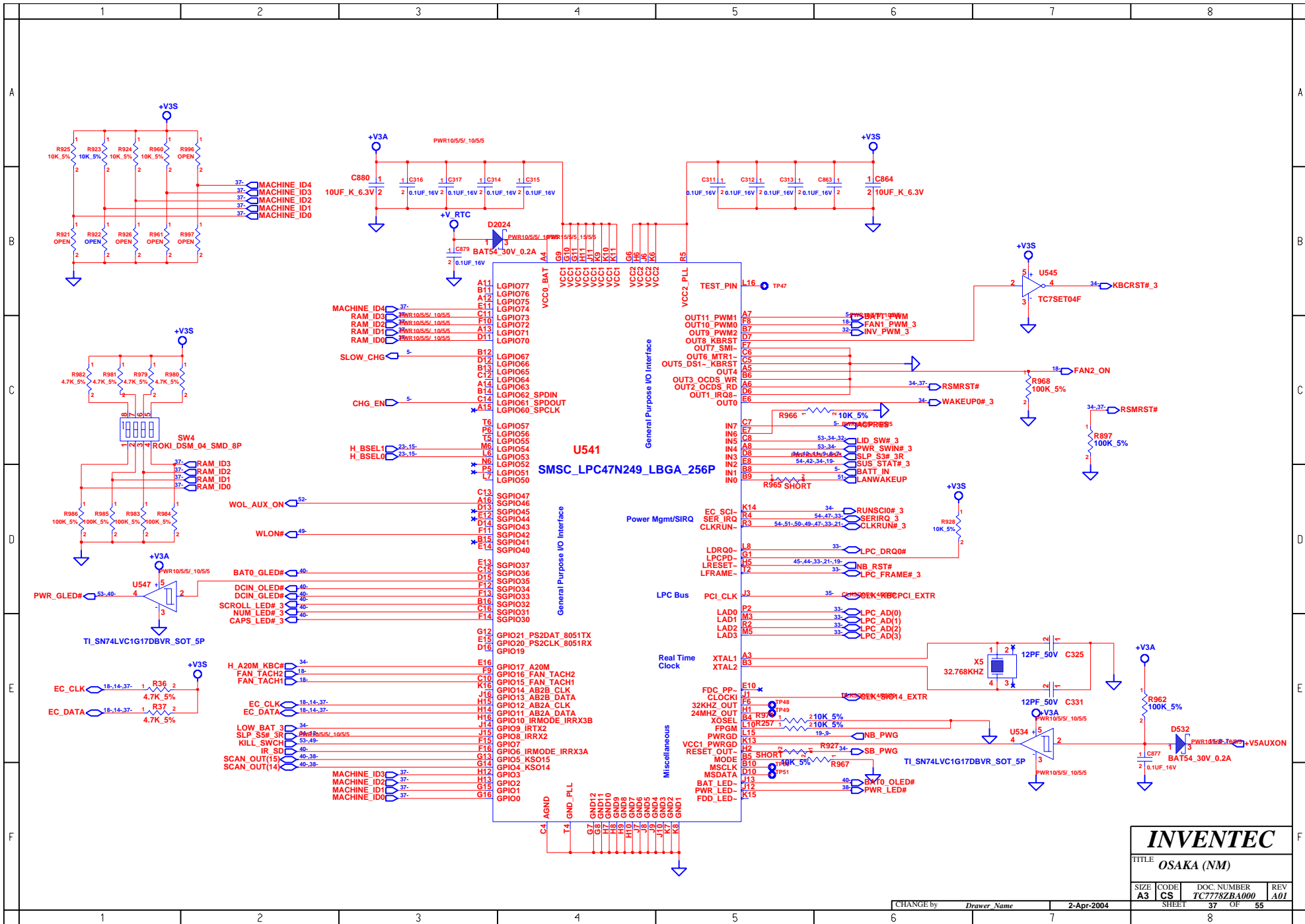
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TITLE OSAKA (NM)

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CHANGE by Drawer Name 29-Mar-2004

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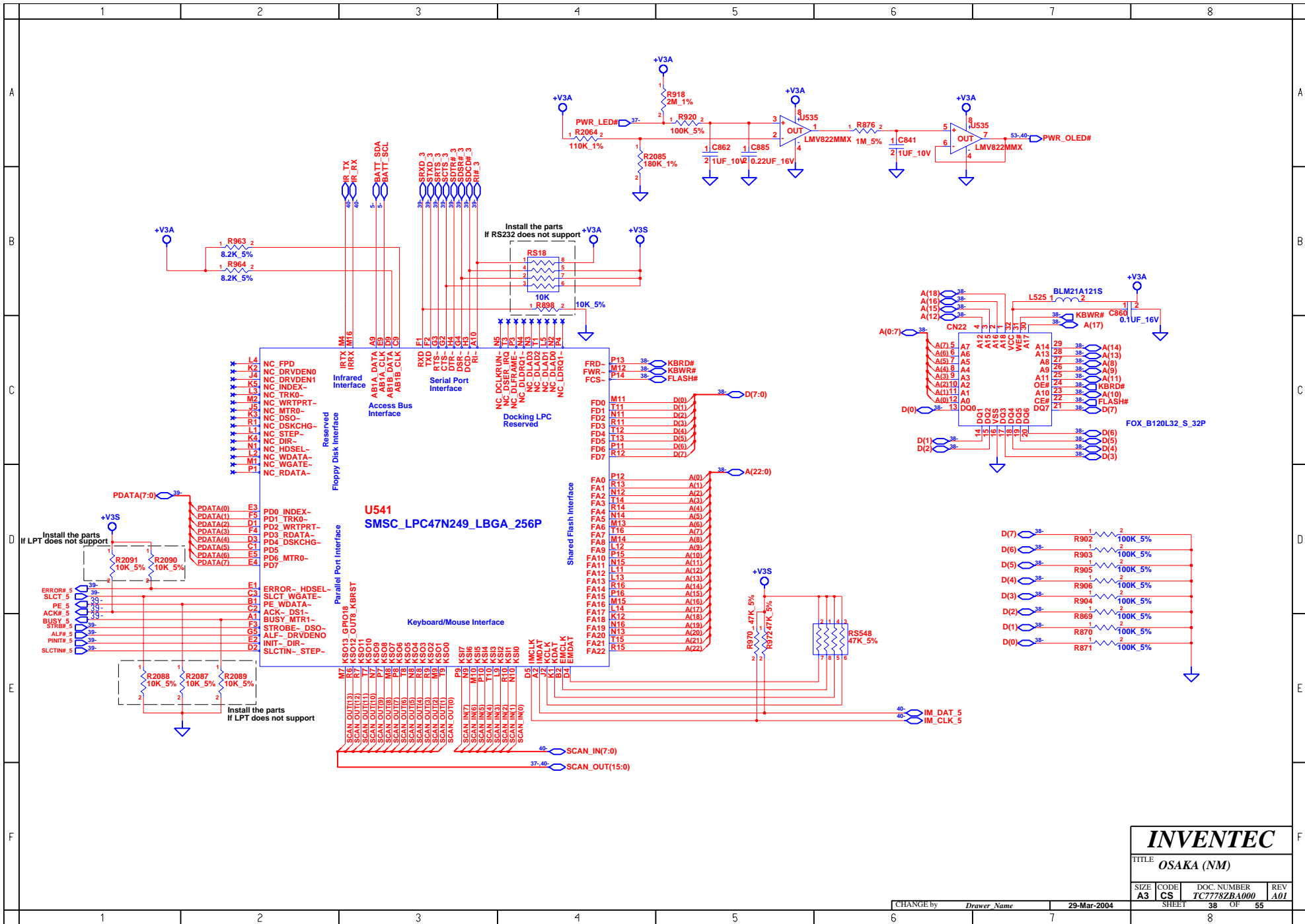


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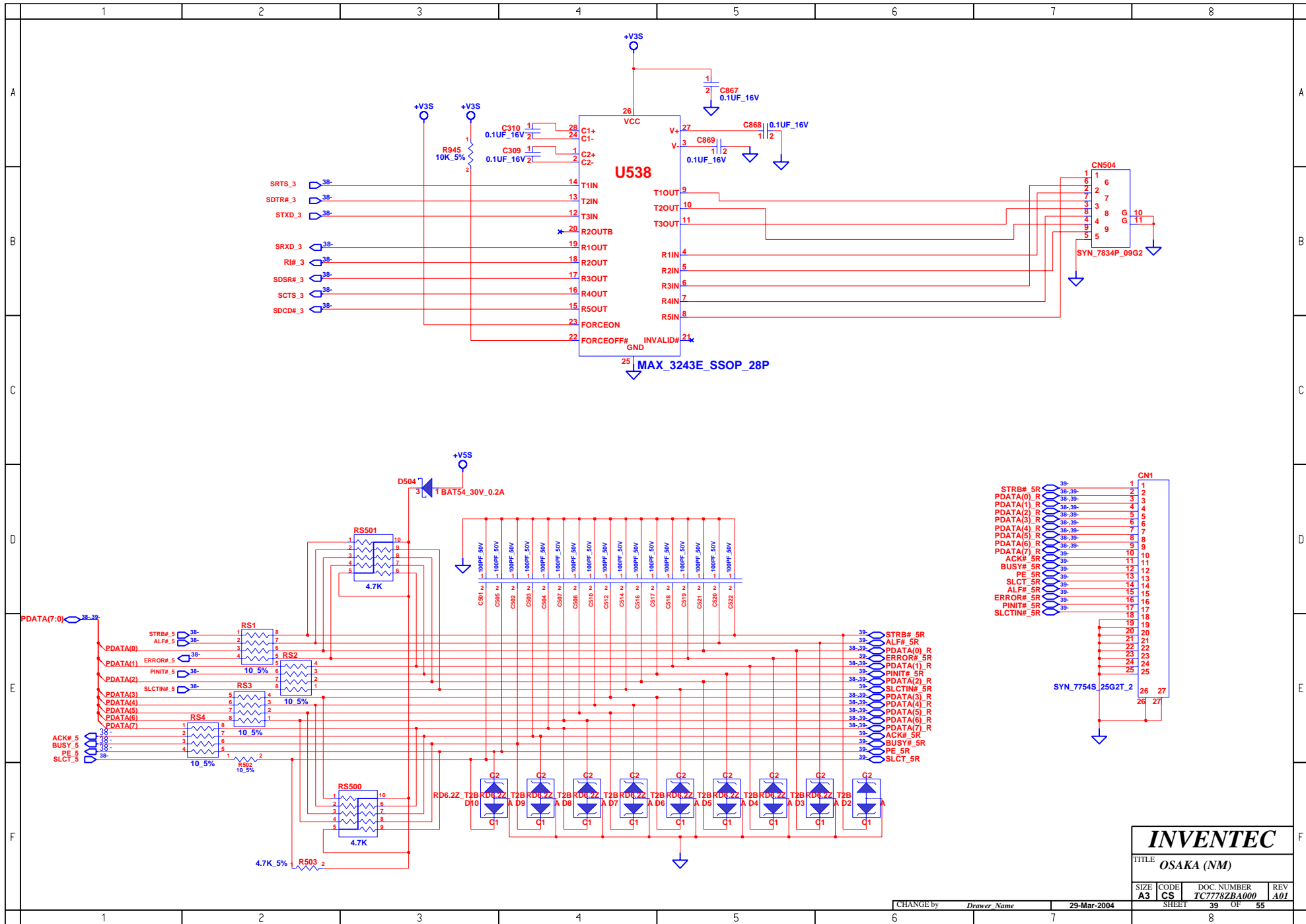
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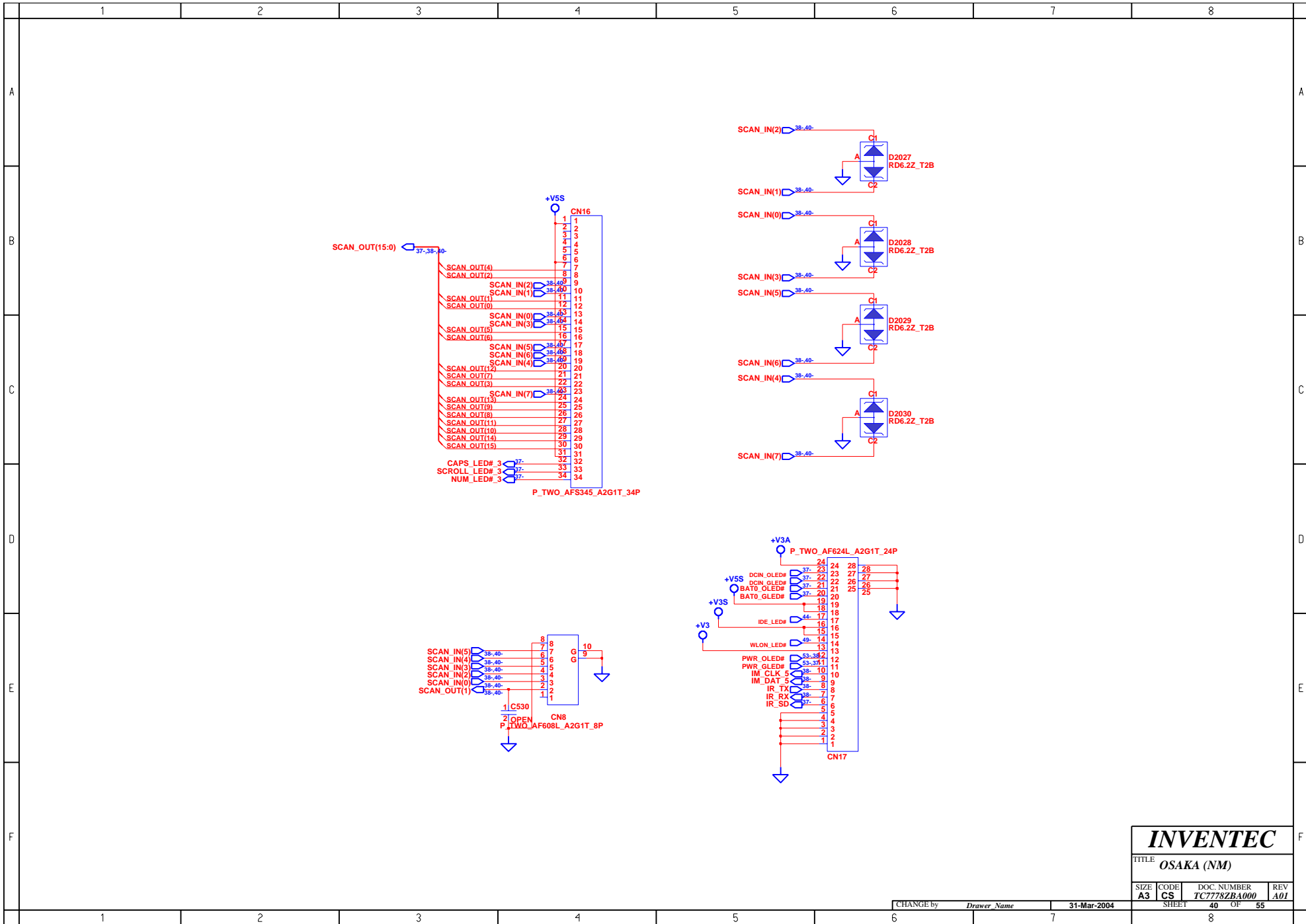
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INVENTEC			
TITLE OSAKA (NM)			
SIZE A3	CODE CS	DOC. NUMBER TC778ZBA000	REV A01
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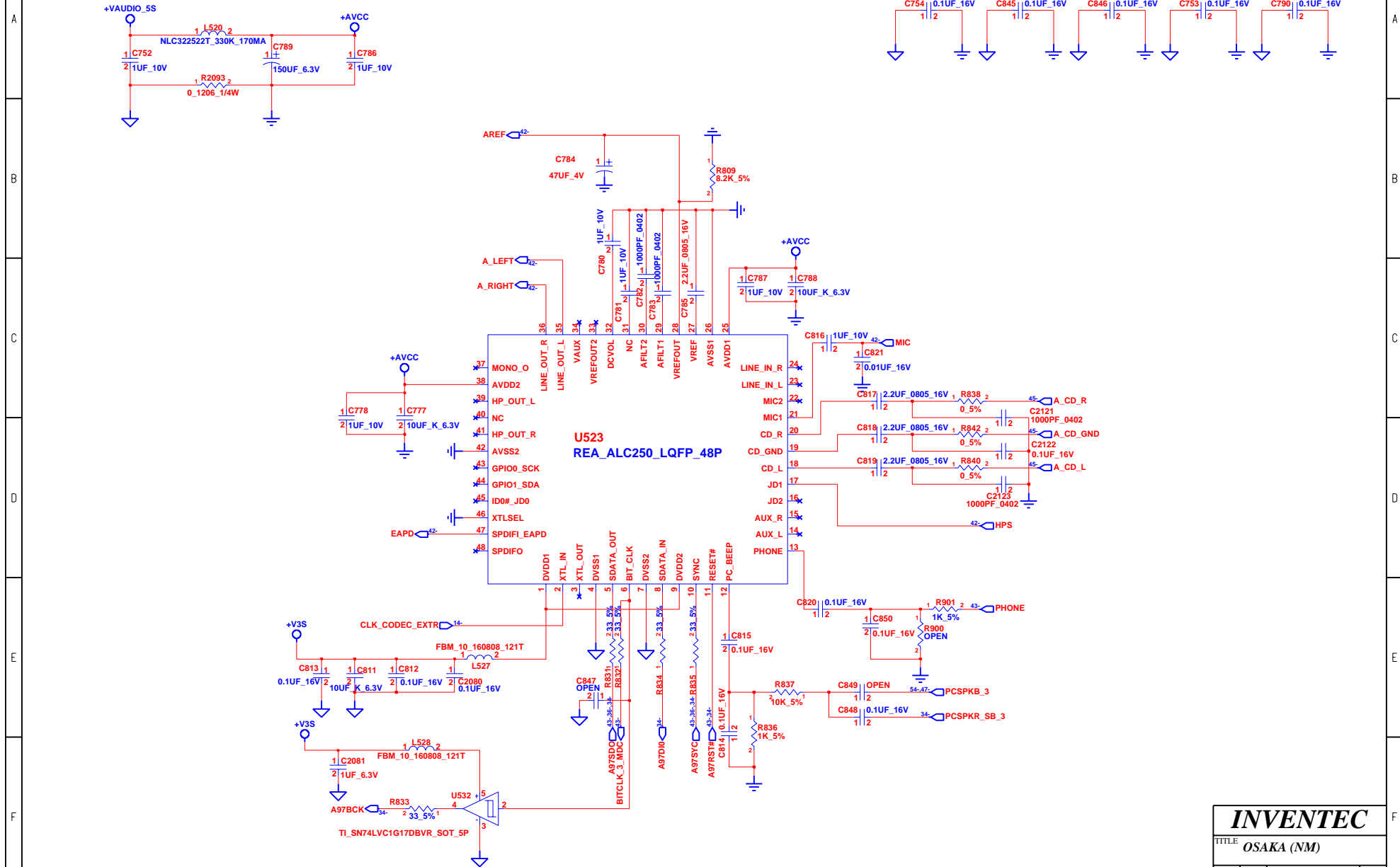
INVENTEC

TITLE OSAKA (NM)

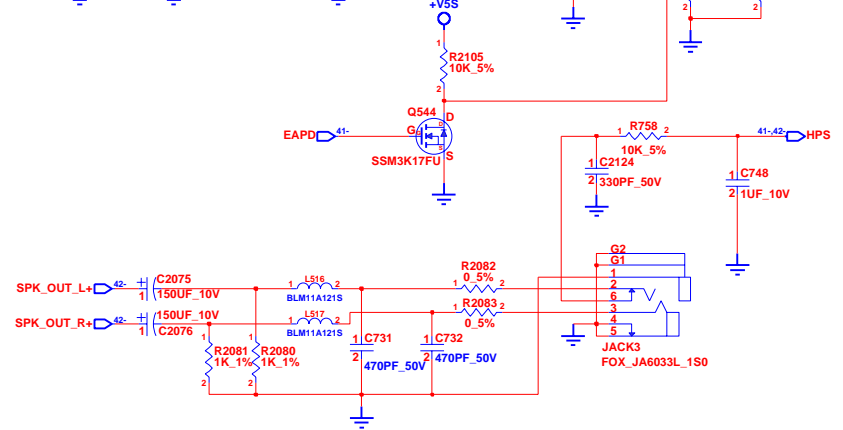
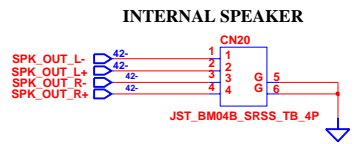
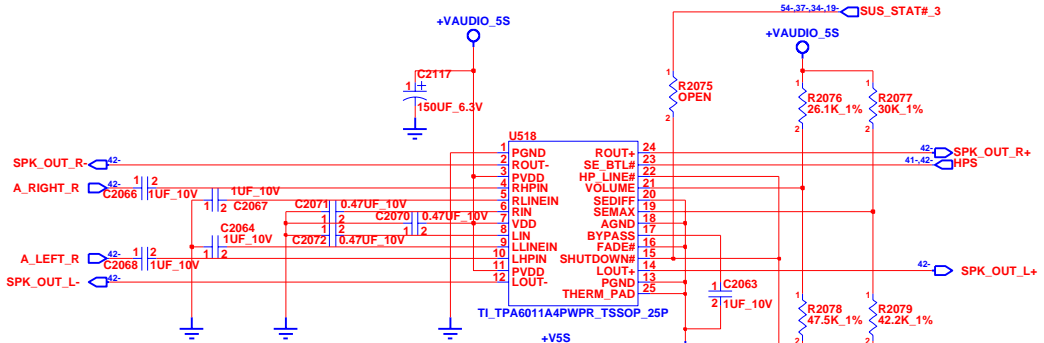
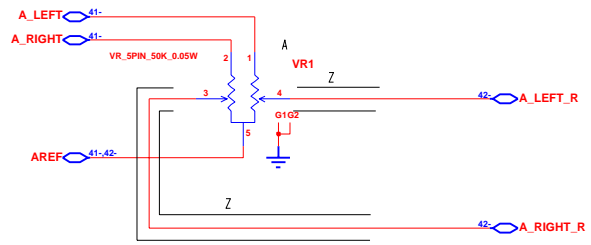
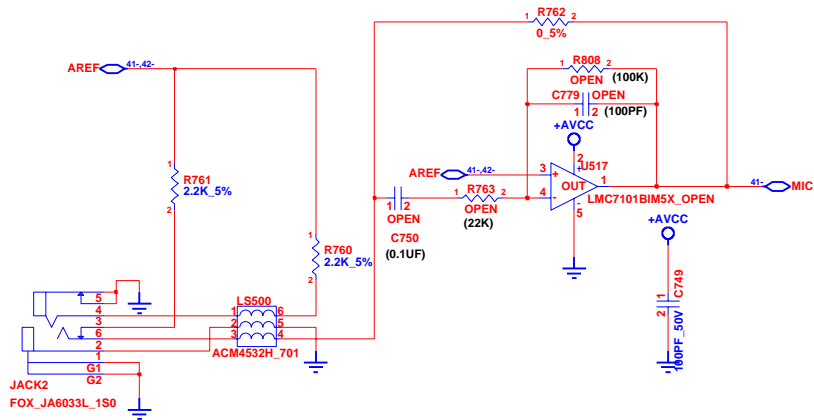
SIZE A3	CODE CS	DOC. NUMBER TC778ZBA000	REV A01
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CHANGE by *Drawer Name* 31-Mar-2004

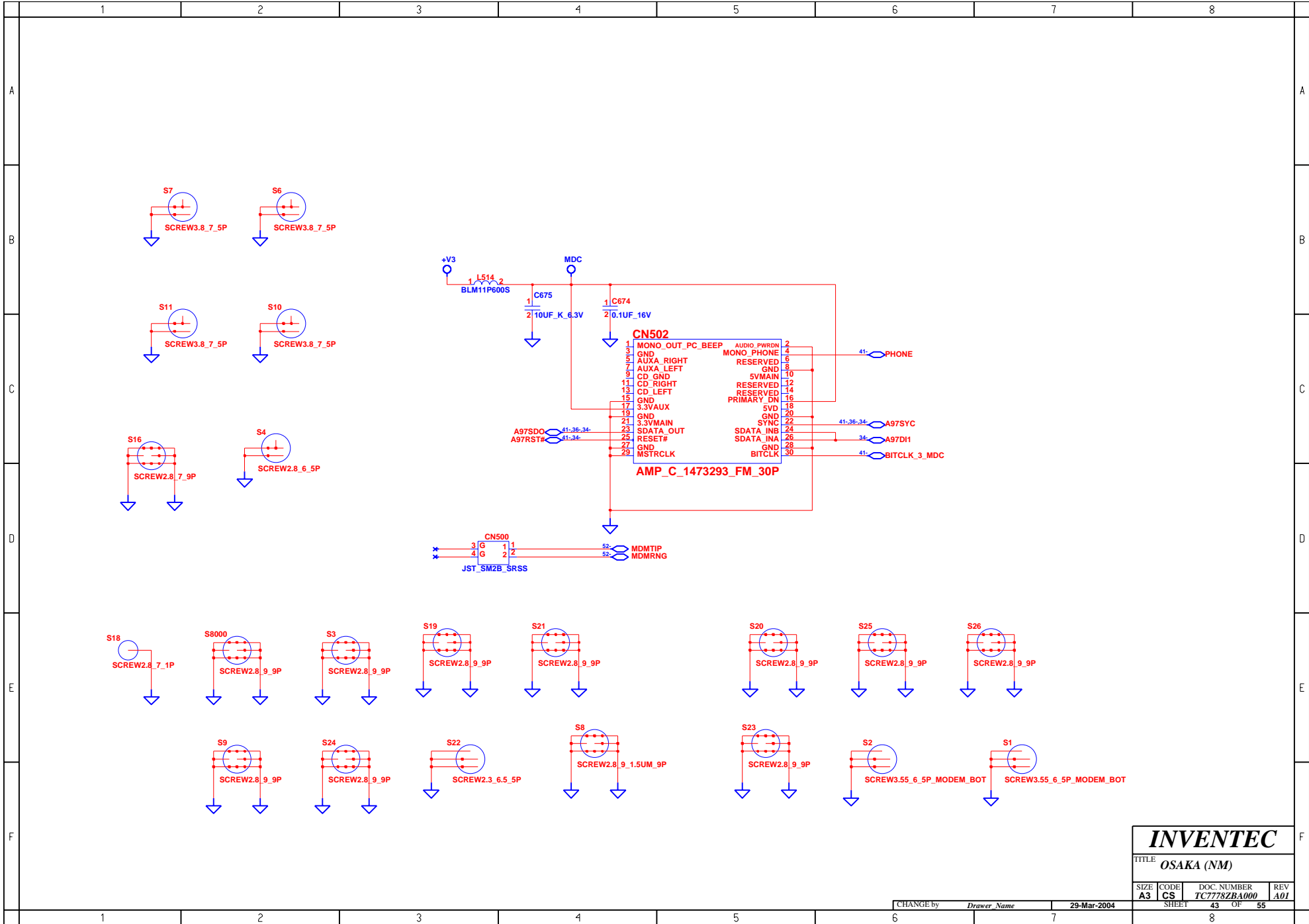
SHEET 40 OF 55



INVENTEC			
TITLE OSAKA (NM)			
SIZE A3	CODE CS	DOC. NUMBER TC77782BA000	REV A01
CHANGE by Drawer Name		2-Apr-2004	
SHEET		41 OF 55	



INVENTEC			
TITLE OSAKA (NM)			
SIZE A3	CODE CS	DOC. NUMBER TC7778ZBA000	REV A01
CHANGE by Drawer Name		6-Apr-2004	SHEET 42 OF 55



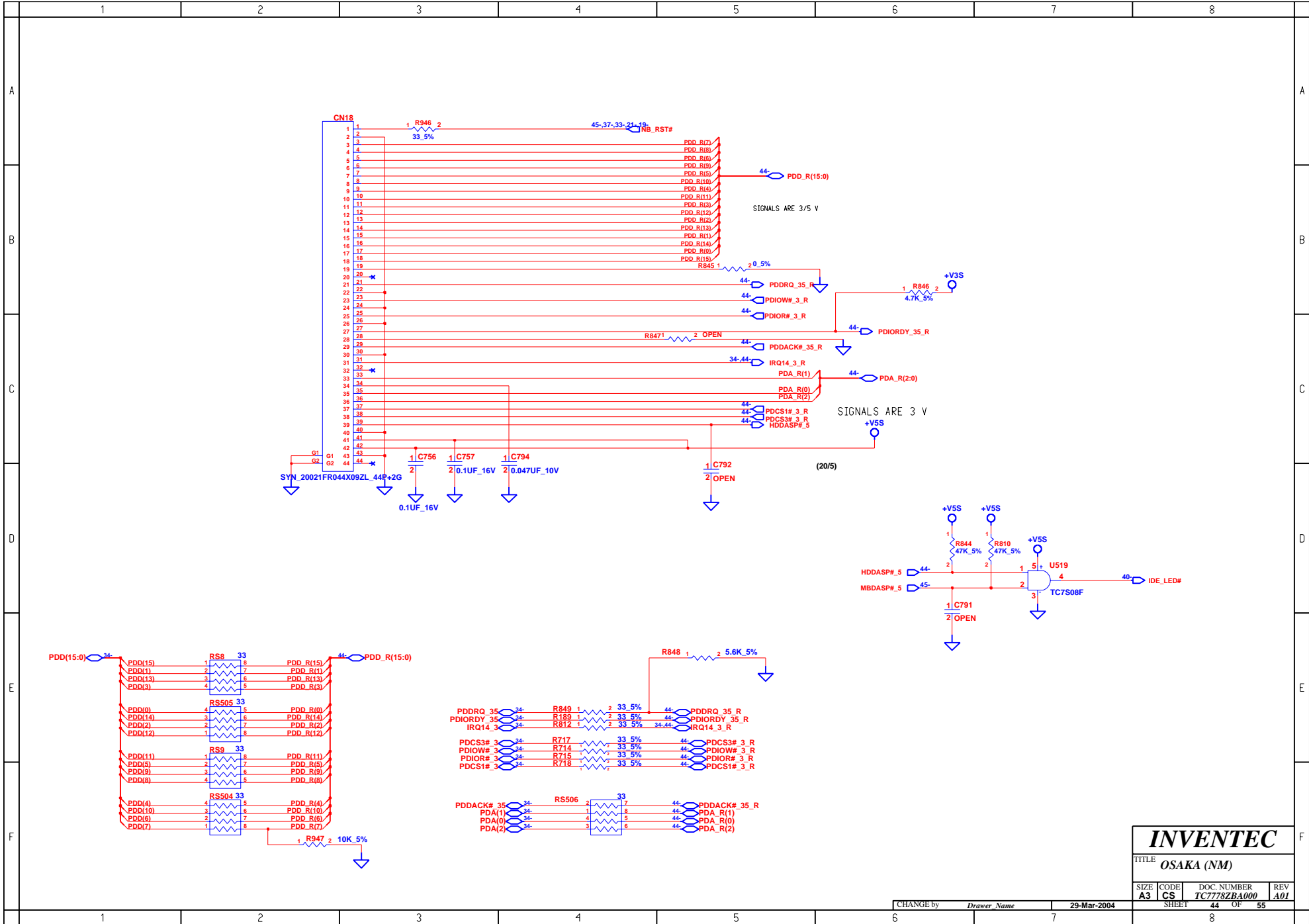
INVENTEC

TITLE OSAKA (NM)

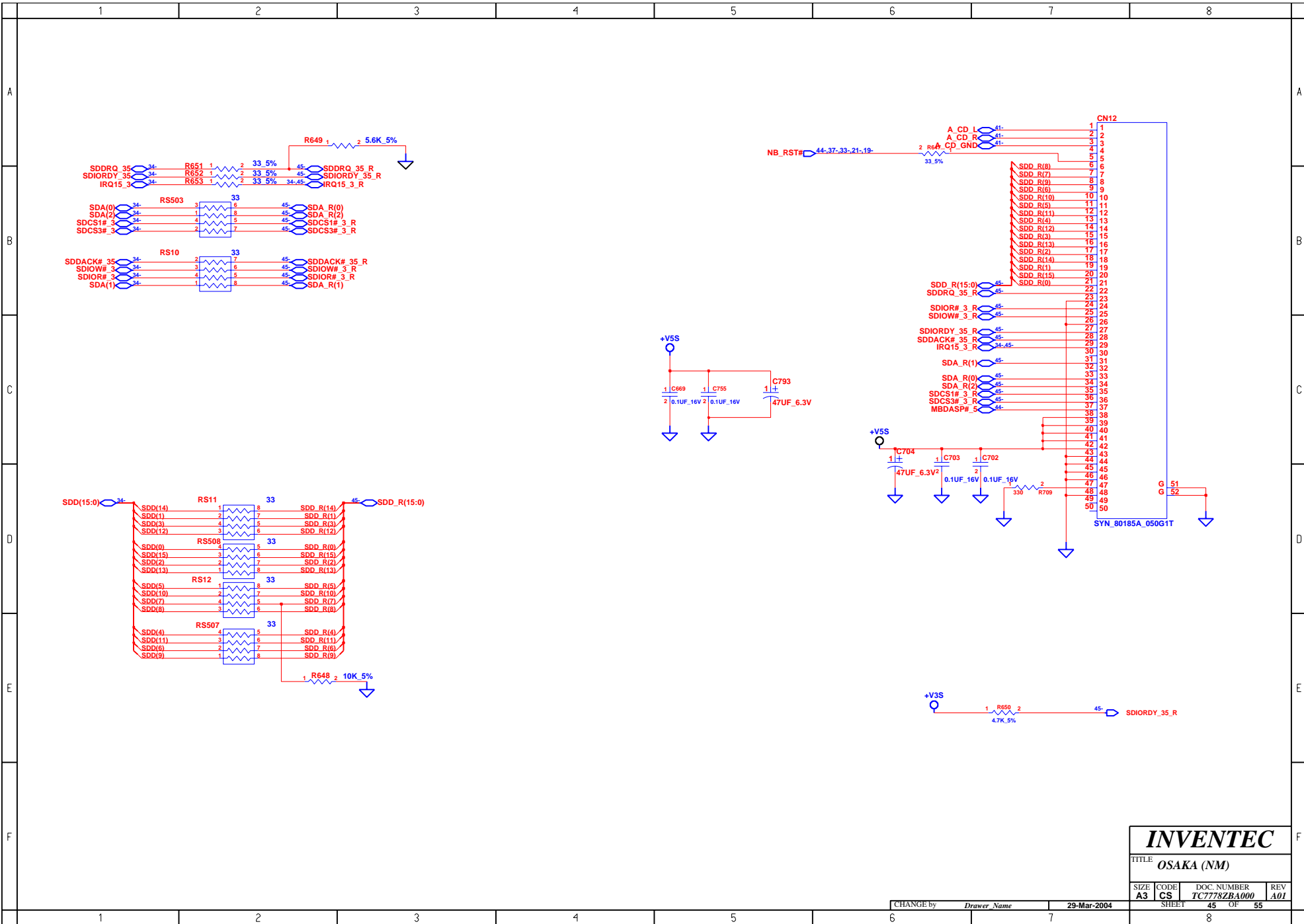
SIZE A3	CODE CS	DOC. NUMBER TC7778ZBA000	REV A01
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CHANGE by *Drawer Name* 29-Mar-2004

SHEET 43 OF 55



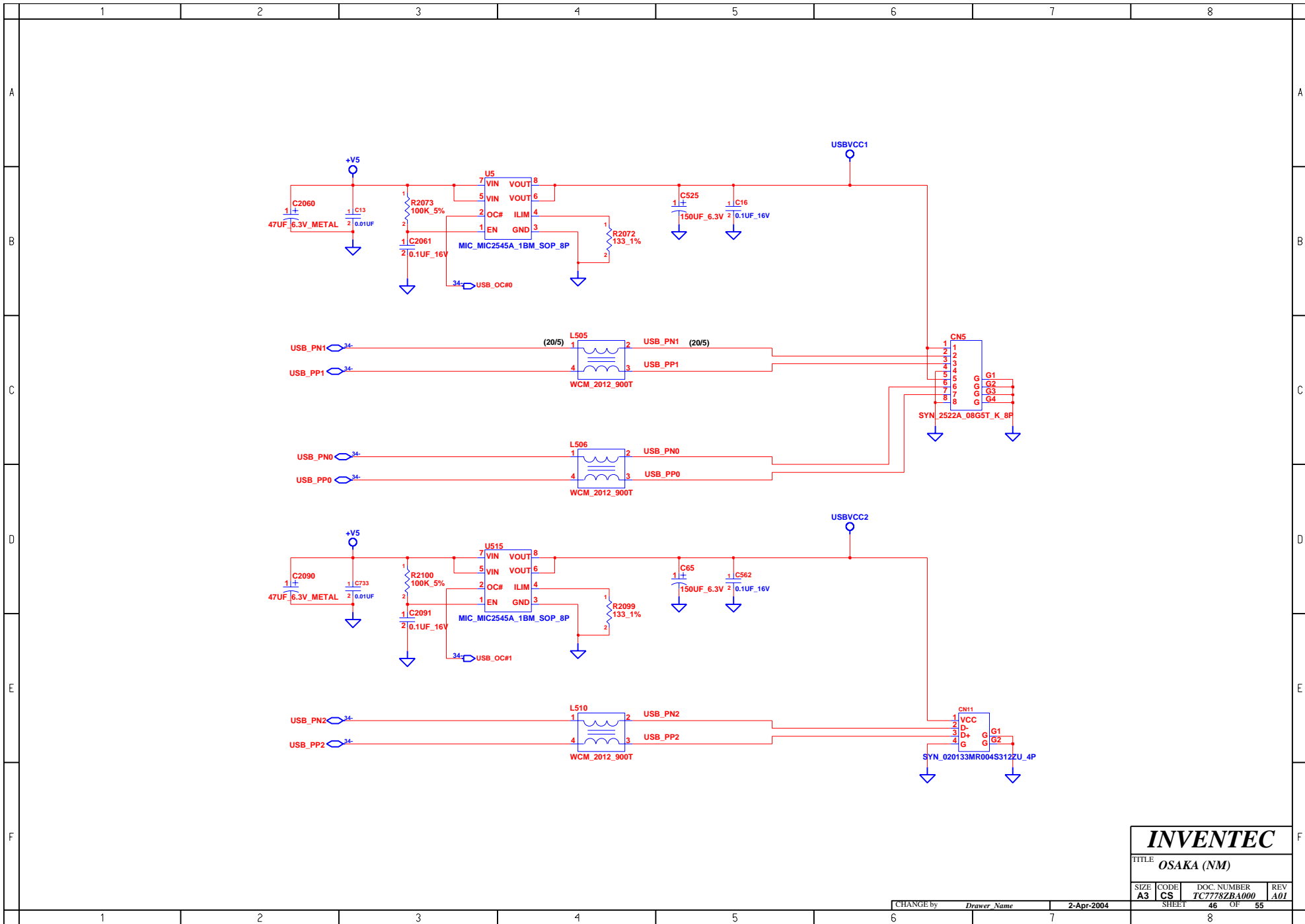
INVENTEC			
TITLE OSAKA (NM)			
SIZE A3	CODE CS	DOC. NUMBER TC7778ZBA000	REV A01
CHANGE by Drawer Name		29-Mar-2004	SHEET 44 OF 55



INVENTEC

TITLE OSAKA (NM)

SIZE A3	CODE CS	DOC. NUMBER TC7778ZBA000	REV A01
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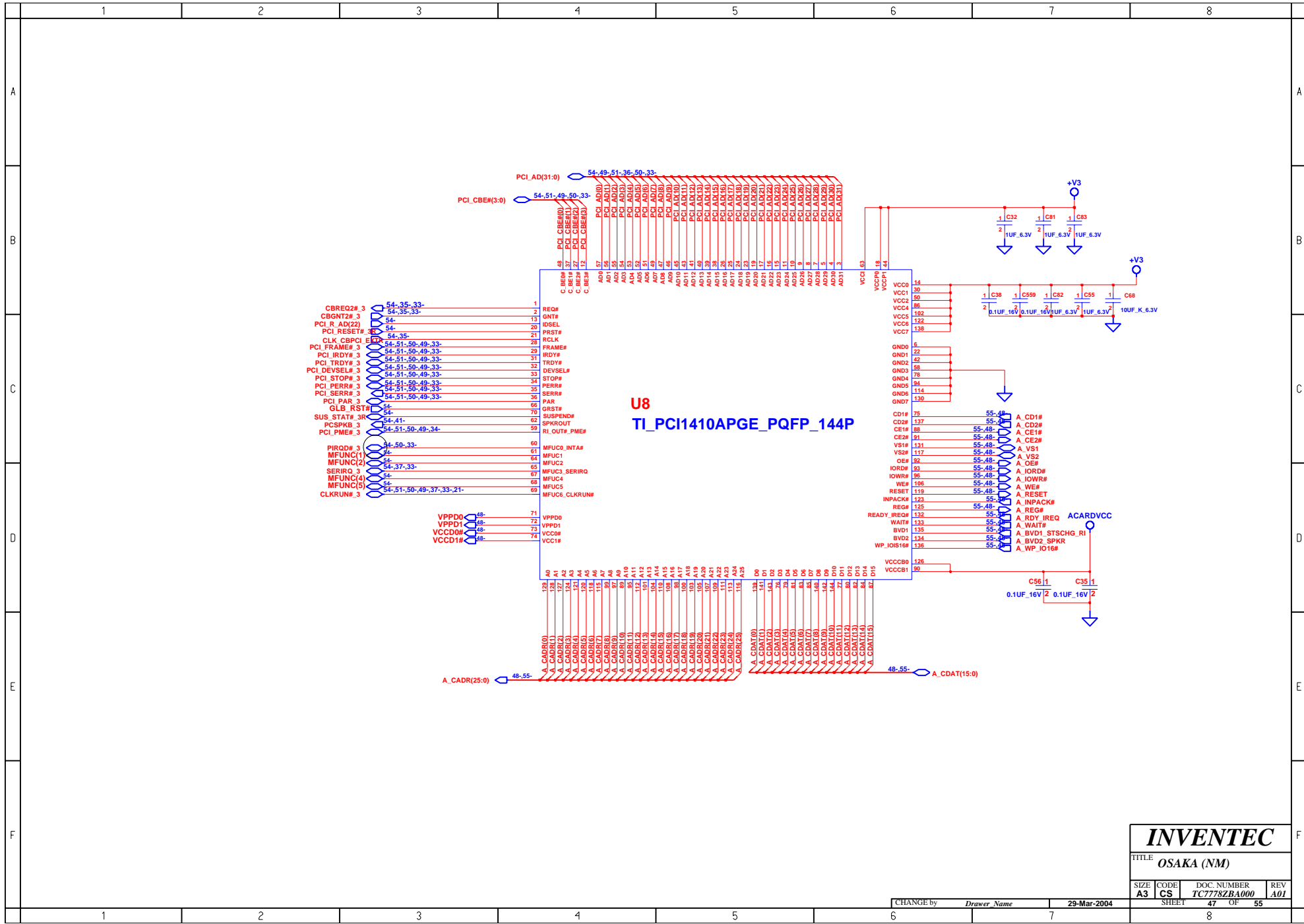
INVENTEC

TITLE
OSAKA (NM)

SIZE A3	CODE CS	DOC. NUMBER TC7778ZBA000	REV A01
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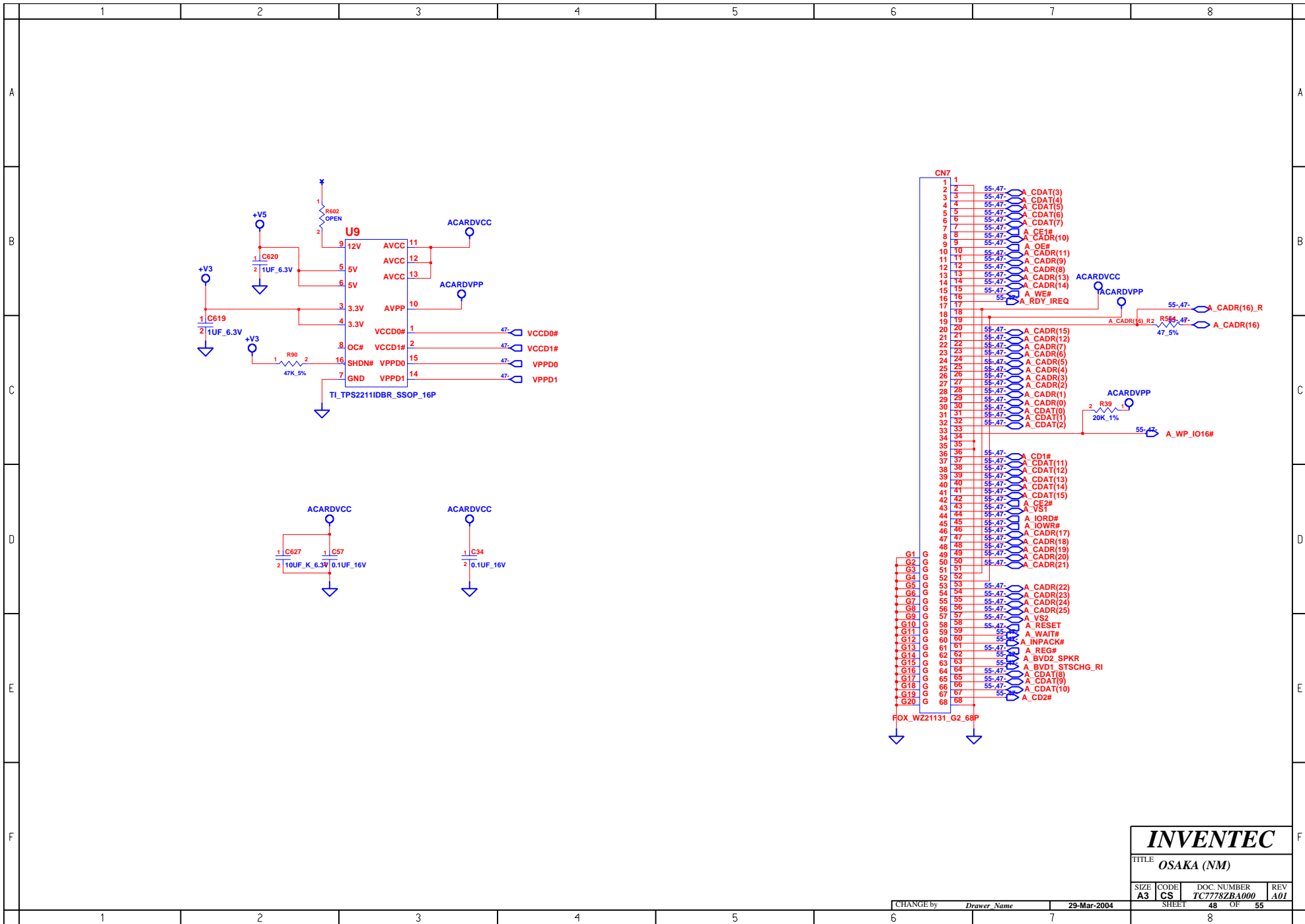
CHANGE by *Drawer Name* 2-Apr-2004

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U8
TI PCI1410APGE_PQFP_144P

INVENTEC			
TITLE OSAKA (NM)			
SIZE A3	CODE CS	DOC. NUMBER TC7778ZBA000	REV A01
CHANGE by <i>Drawer Name</i>		29-Mar-2004	SHEET 47 OF 55

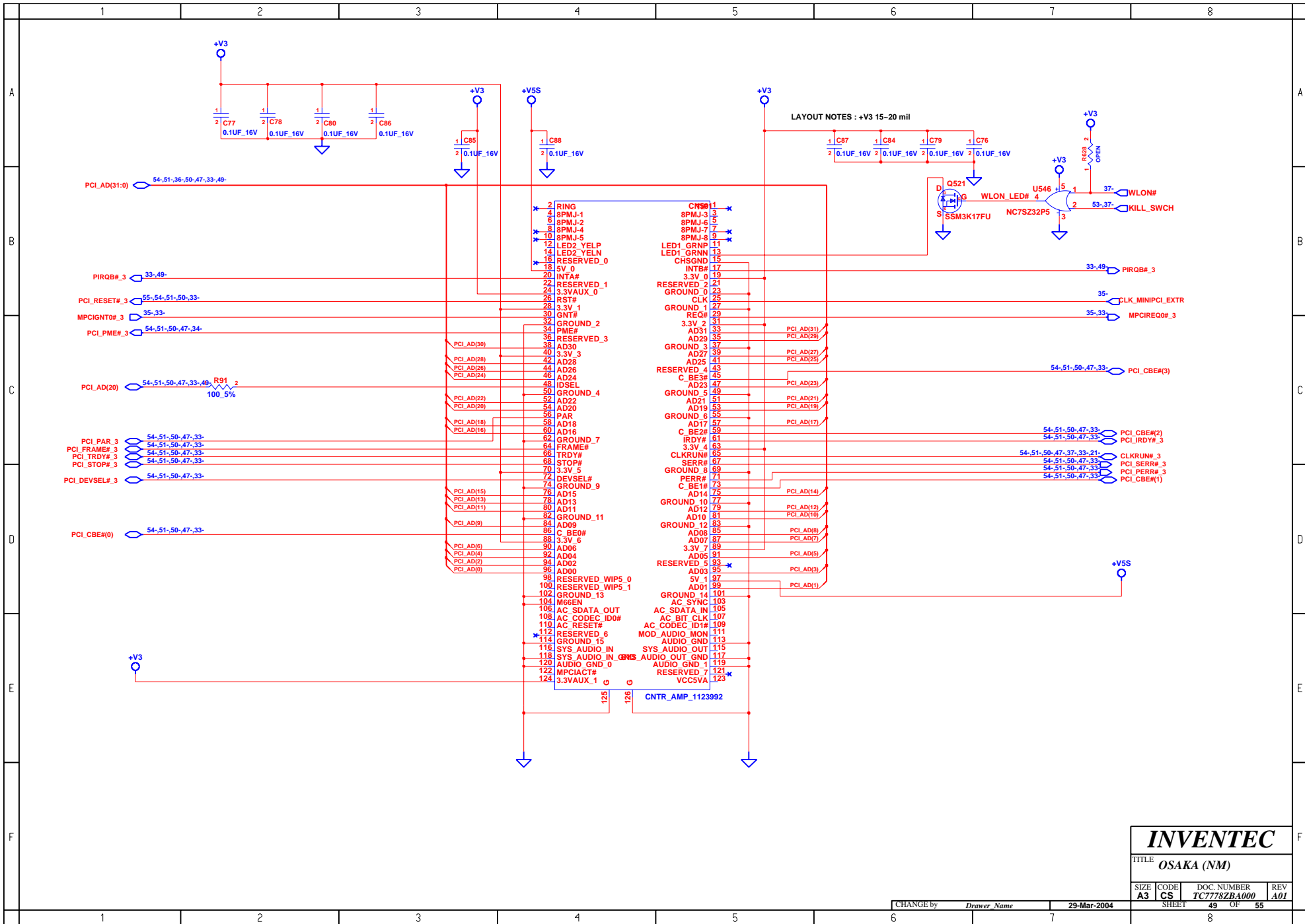


INVENTEC

TITLE
OSAKA (NM)

SIZE	CODE	DOC. NUMBER	REV
A3	CS	TC778ZBA000	A01

CHANGE by *Drawer Name* 29-Mar-2004 SHEET 48 OF 55

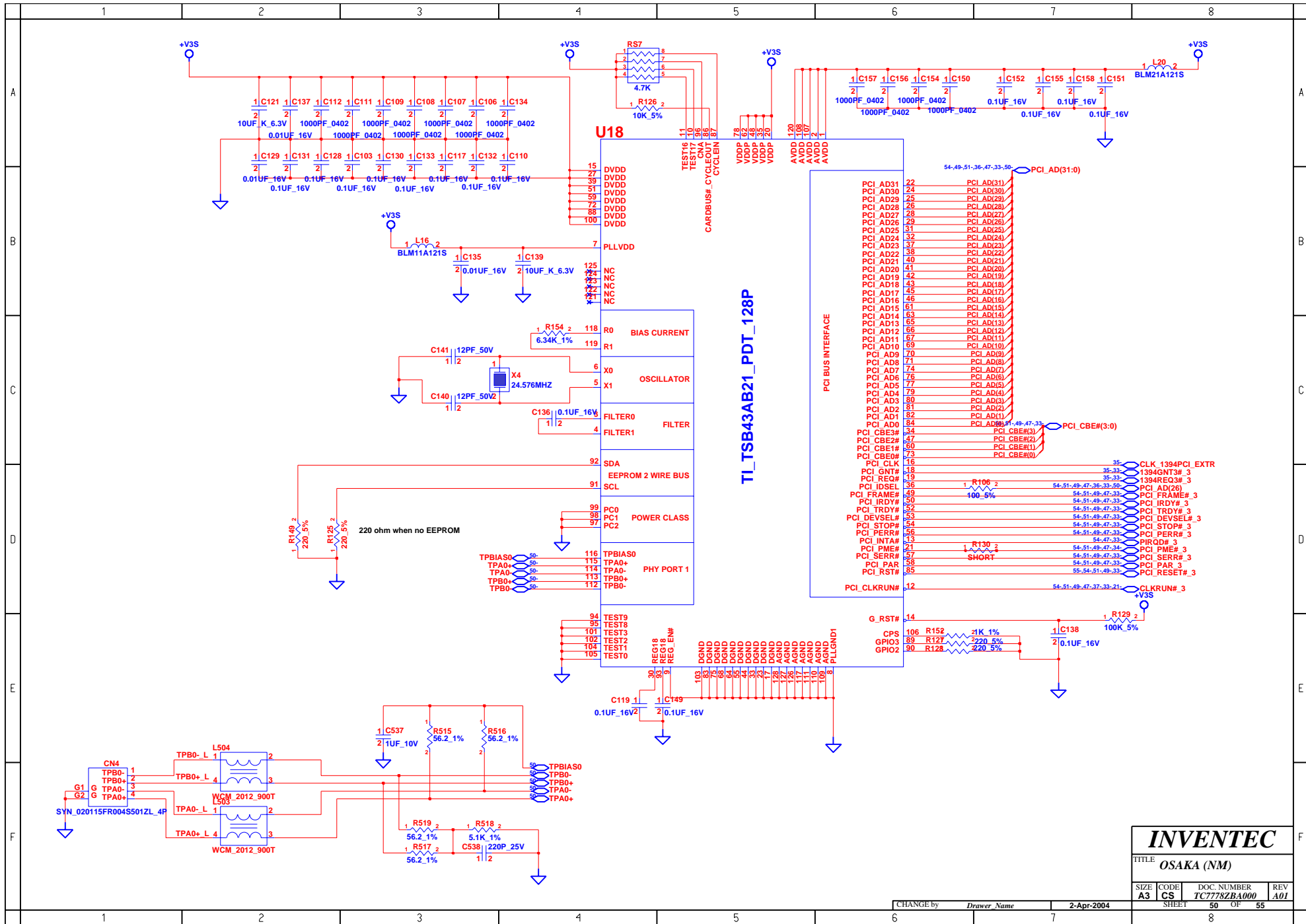


INVENTEC

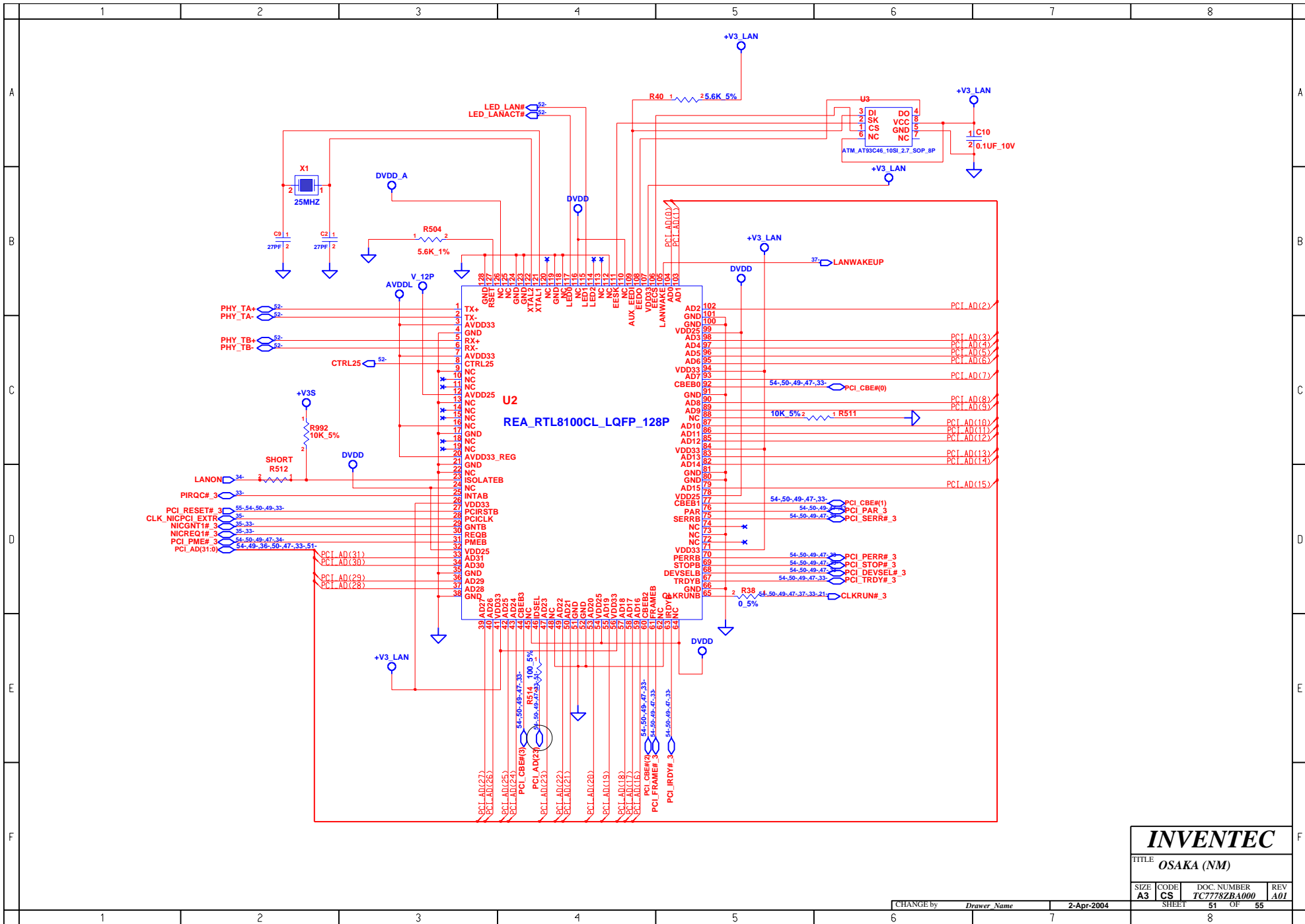
TITLE OSAKA (NM)

SIZE	CODE	DOC. NUMBER	REV
A3	CS	TC778ZBA000	A01

CHANGE by *Drawer Name* 29-Mar-2004 SHEET 49 OF 55



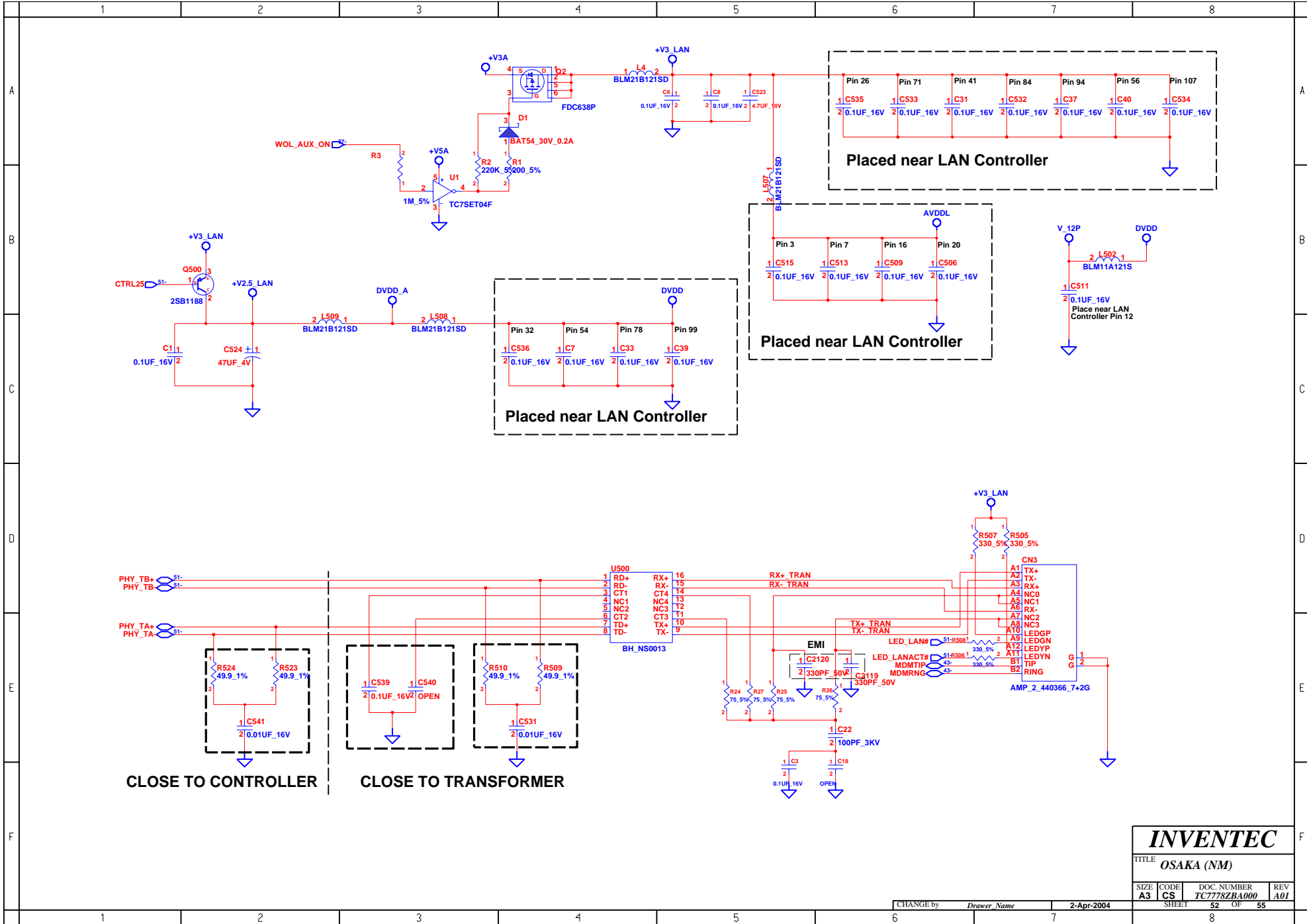
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TITLE OSAKA (NM)			
SIZE A3	CODE CS	DOC. NUMBER TC7778ZBA000	REV A01
CHANGE by Drawer Name		2-Apr-2004	
SHEET 50		OF 55	



INVENTEC

TITLE OSAKA (NM)

SIZE	CODE	DOC. NUMBER	REV
A3	CS	TC7782BA000	A01



INVENTEC

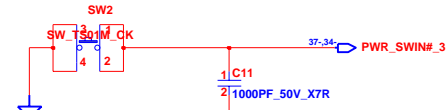
TITLE OSAKA (NM)

SIZE	CODE	DOC. NUMBER	REV
A3	CS	TC778ZBA000	A01

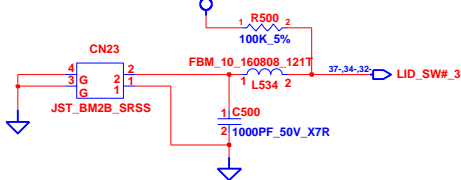
CHANGE by Drawer Name 2-Apr-2004

SHEET 52 OF 55

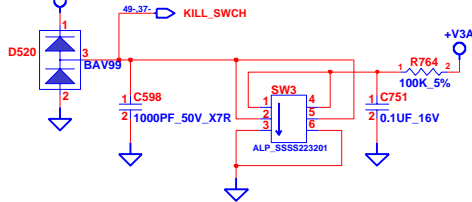
POWER SWITCH



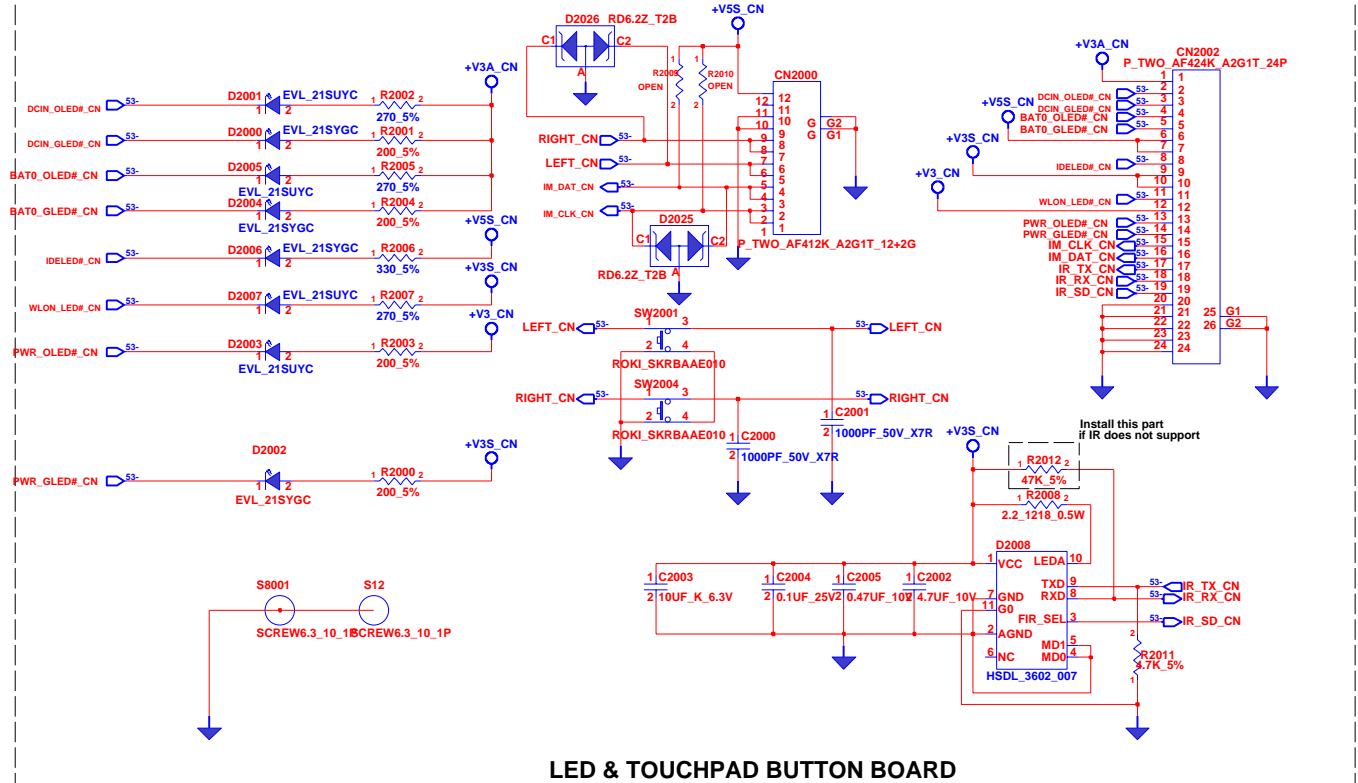
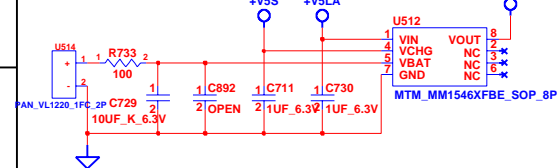
LID SWITCH



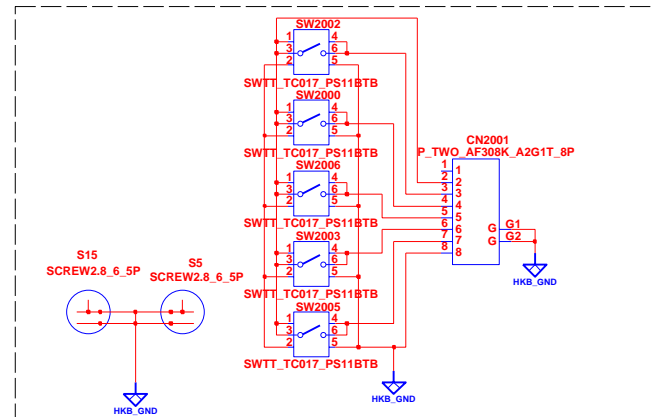
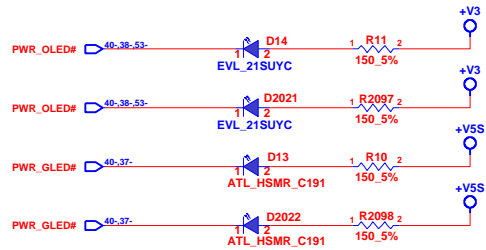
KILL SWITCH



RTC BATTERY



LED & TOUCHPAD BUTTON BOARD



HOTKEY BOARD

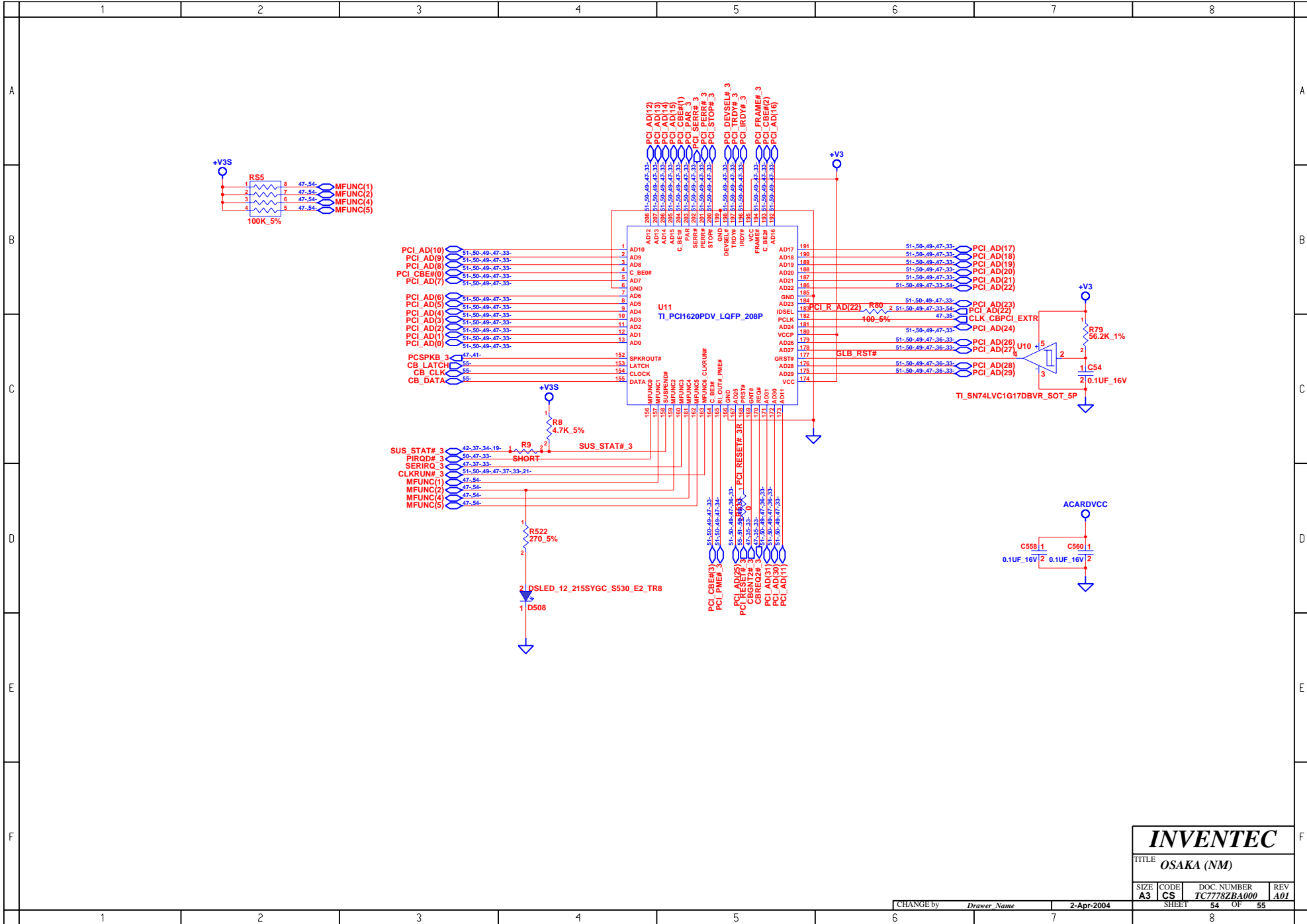
INVENTEC

TITLE: OSAKA (NM)

SIZE: A3 CODE: CS DOC. NUMBER: TC7778ZBA000 REV: A01

SHEET: 53 OF 55

CHANGE by: Drawer Name 29-Mar-2004



INVENTEC

TITLE
OSAKA (NM)

SIZE A3	CODE CS	DOC. NUMBER TC7778ZBA000	REV A01
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CHANGE by *Drawer Name* 2-Apr-2004

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