

1 2 3 4 5 6 7 8

A A

B B

C C

D D

E E

F F

S-SERIES

Zygo(D) & Zodiac(D) & Ikon

PV_Build (A01)

2008.04.02

DATE	CHANGE NO.	REV

DRAWER	EE	DATE	POWER	DATE	INVENTEC			
DESIGN								
CHECK								
RESPONSIBLE								
TITLE					<i>S-SERIES - Discrete</i>			
SIZE =	3	VER :			SIZE	CODE	DOC. NUMBER	REV
FILE NAME :	XXXX-XXXXXX-XX				A3	CS	1310A21614	A01
P/N	XXXXXXXXXXXX				SHEET	1	OF	54

1 2 3 4 5 6 7 8

Table Of Contents

Page	Page	Page
5- DC & Battery Charger.	15- Clock Generator.	36- 15" ODD Extend/B.
6- Select & Battery CONN.	16- CPU Penryn-1.	37- HDD & ODD CONN&Accelerometer.
7- System Power (+V3A/+V5A).	17- CPU Penryn-2.	38- USB CONN.
8- System Power (+V1.8/+VCCP) .	18- CPU Penryn-3.	39- KBC & BIOS ROM.
9- Graphic Power (+VDD_CORE & +VPCIE).	19- XDP & Thermal & Fan.	40- Internal Keyboard & TouchPad CONN.
10- System Power (+V1.5S) .	20- N/B Cantiga-1.	41- Audio CODEC & Earphone & Speaker.
11- CPU Power (+VCC_CORE).	21- N/B Cantiga-2.	42- Audio MIC & MDC CONN.
12- DDR Termination Voltage(+V0.9S).	22- N/B Cantiga-3.	43- Giga LAN controller.
13- Power (Sleep: +V5S/+V3S/+V1.8S).	23- N/B Cantiga-4.	44- Magnetic & RJ45 CONN.
14- Power (Sequence).	24- N/B Cantiga-5.	45- Mini Card(WLAN/Robson)/BT/UWB/Web-CAM.
	25- N/B Cantiga-6.	46- New Card & 4 in 1 Card (SD/MMC/MS/XD).
	26- DDR2-DIMM0.	47- LEDs & Buttons & SW/B.
	27- DDR2-DIMM1.	48- Screws / Crack testing circuit.
	28- DDR2-DAMPING.	49- AMD M82SE-1.
	29- VGA CONN.	50- AMD M82SE-2.
	30- LCM CONN.	51- AMD M82SE-3.
	31- S/B ICH9-1.	52- AMD M82SE-4.
	32- S/B ICH9-2.	53- Video RAM-1 (GDDR2).
	33- S/B ICH9-3.	54- Video RAM-2 (GDDR2).
	34- S/B ICH9-4.	
	35- S/B ICH9-5.	

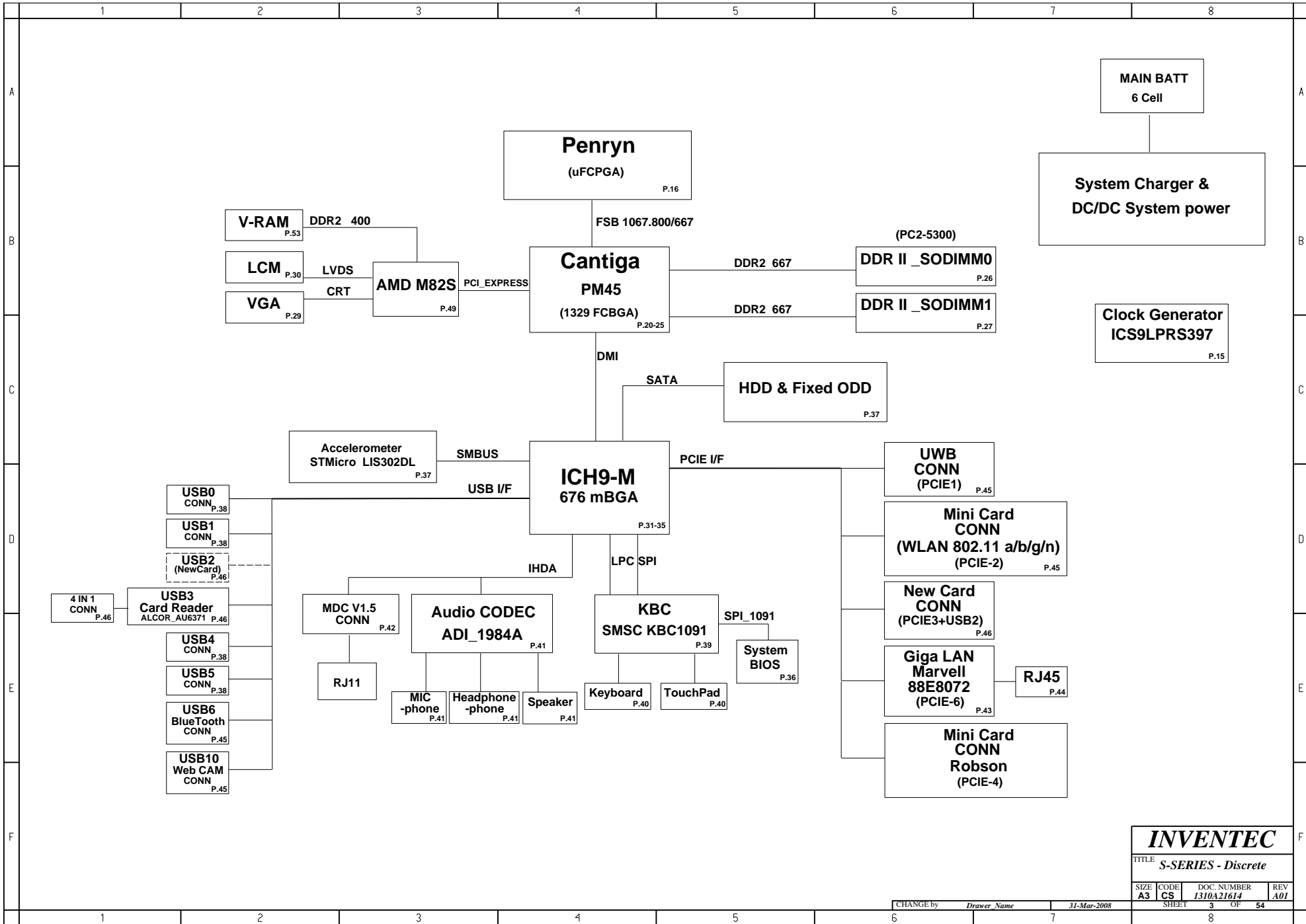
INVENTEC

TITLE *S-SERIES - Discrete*

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01

CHANGE by *Drawer Name* 31-Mar-2008

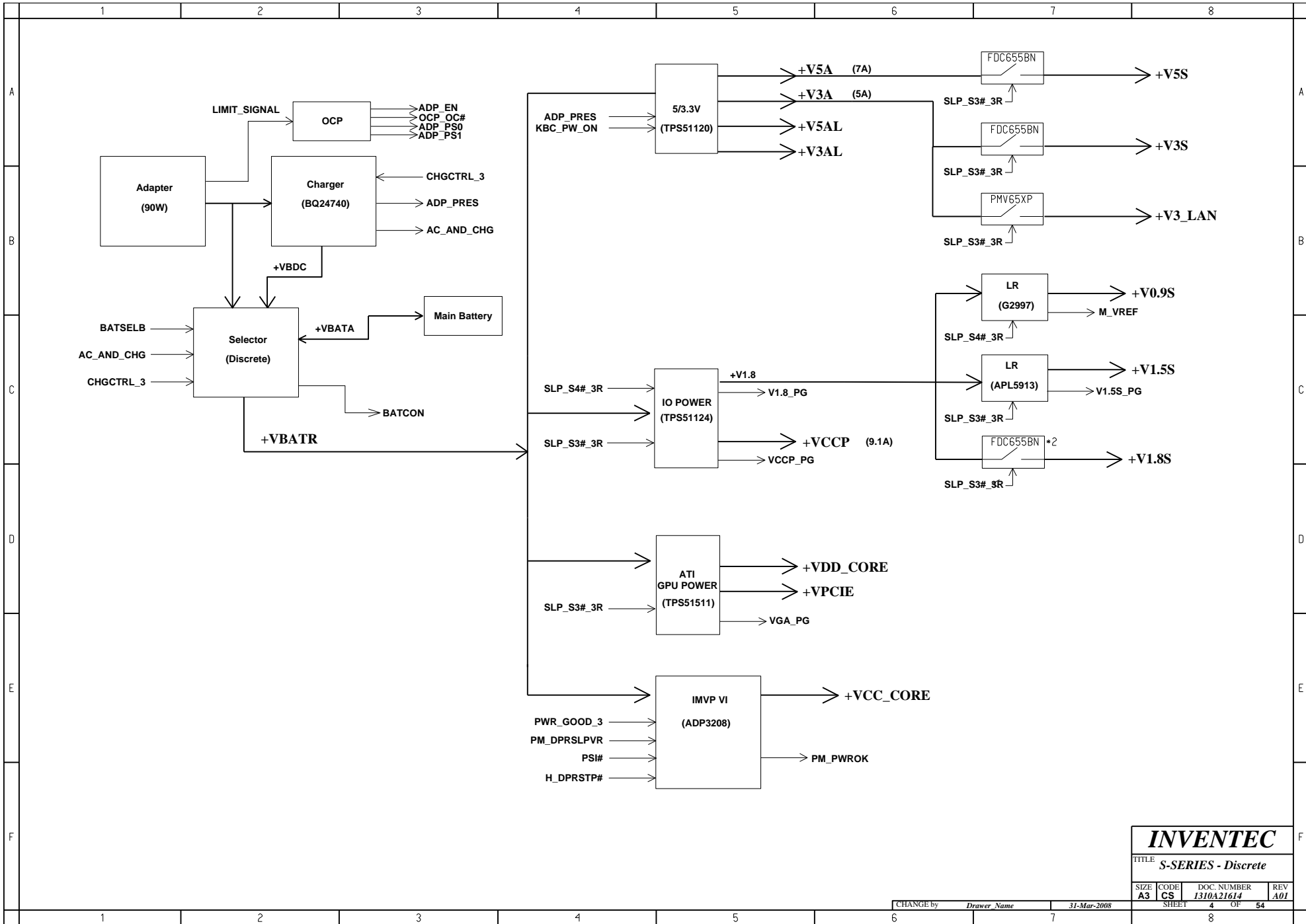
SHEET 2 OF 54



INVENTEC

TITLE **S-SERIES - Discrete**

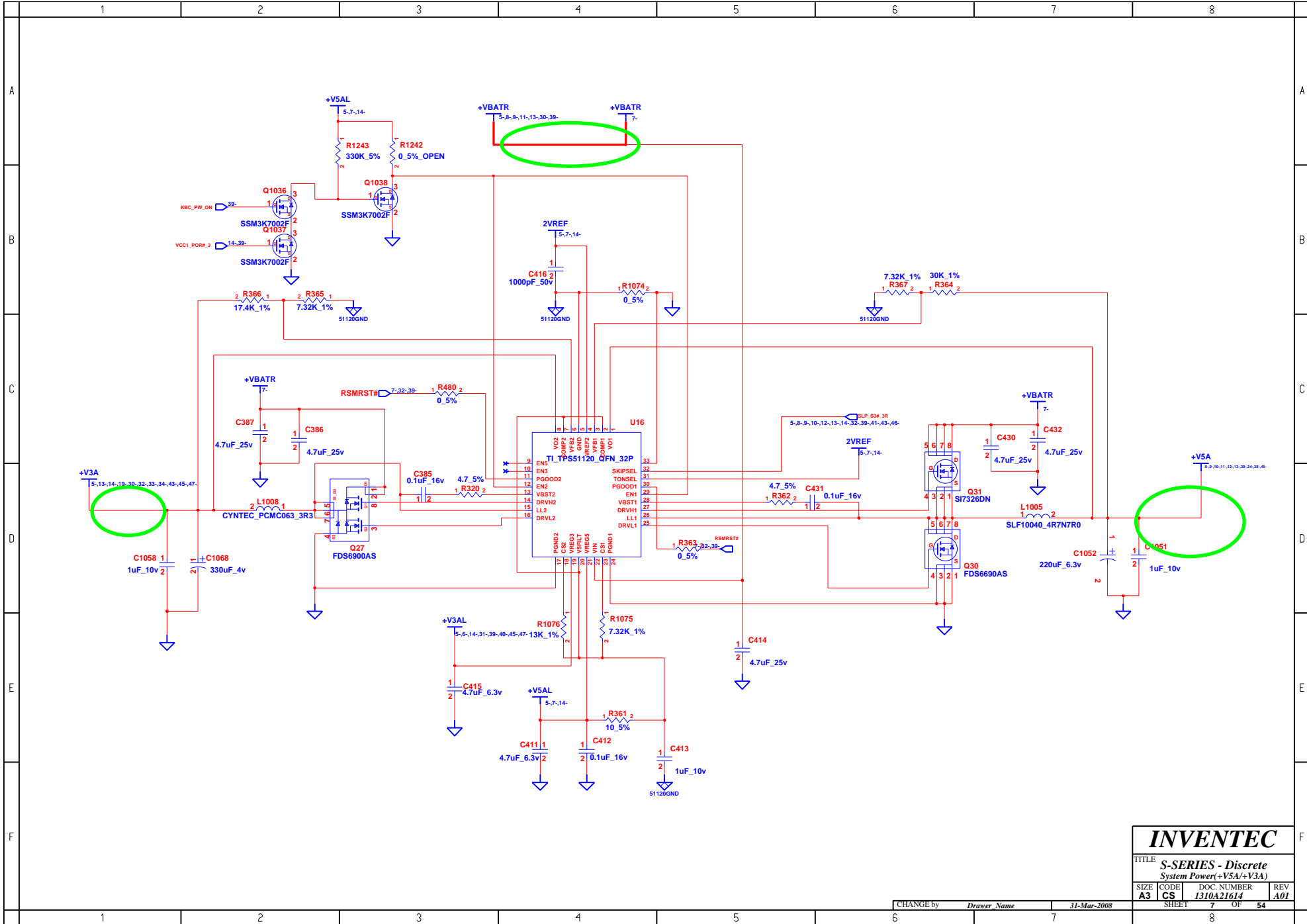
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01



INVENTEC

TITLE **S-SERIES - Discrete**

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01



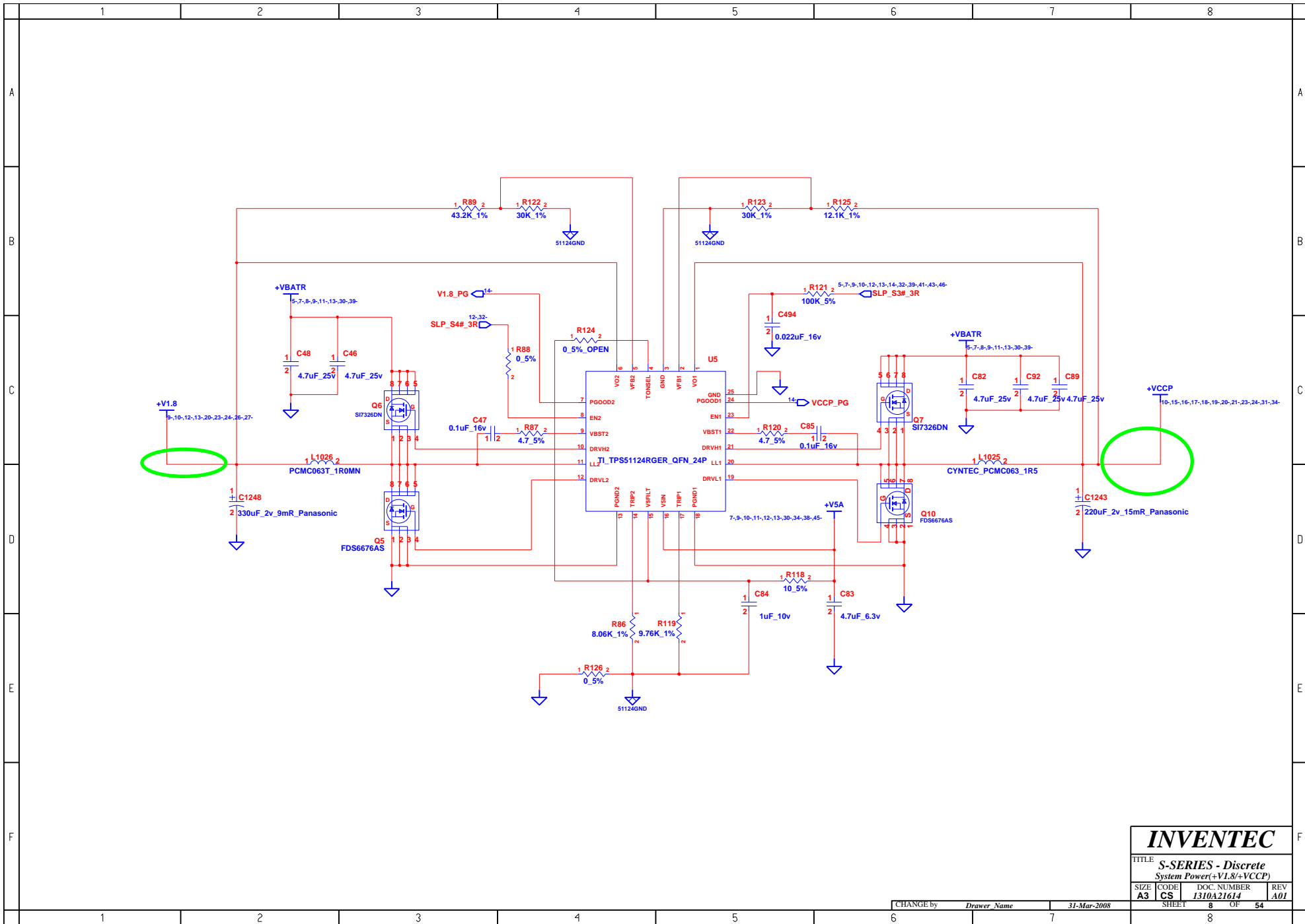
INVENTEC

TITLE
S-SERIES - Discrete
 System Power(+VSA/+V3A)

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01

CHANGE by *Drawer Name* 31-Mar-2008

SHEET 7 OF 54

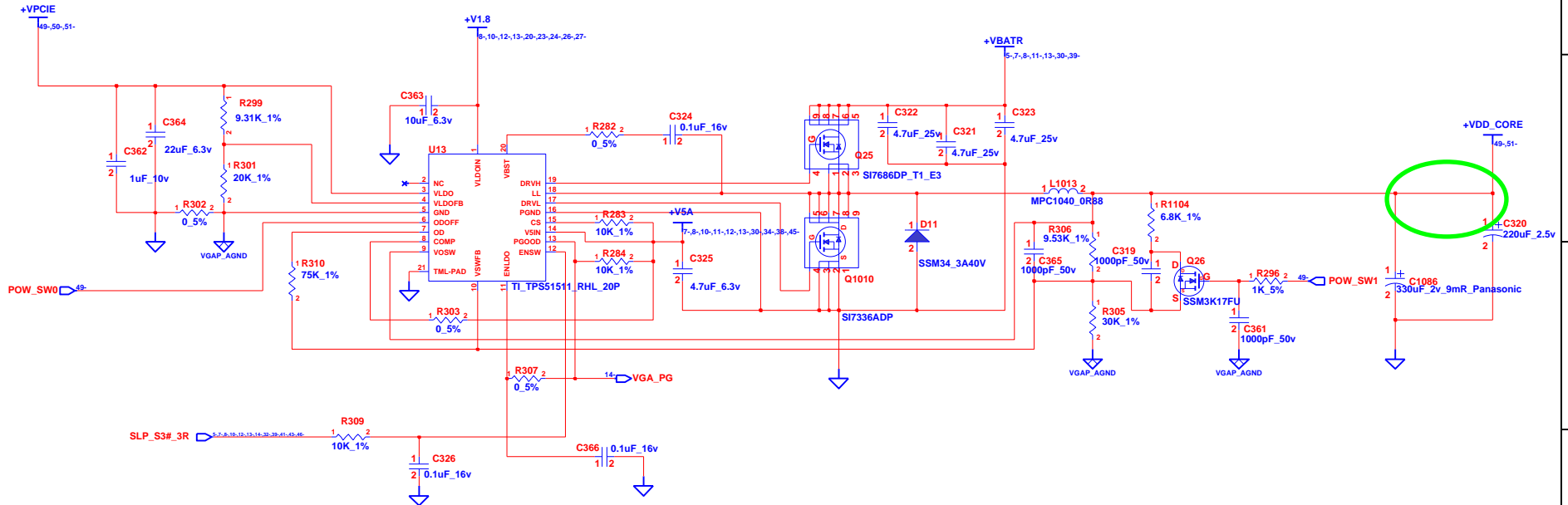


INVENTEC

TITLE
S-SERIES - Discrete
 System Power(+V1.8/+VCCP)

SIZE A3	CODE CS	DOC. NUMBER 1310A21614	REV A01
-------------------	-------------------	----------------------------------	-------------------

POW_SW1	POW_SW0	+VDD_CORE
0	0	1.1V
0	1	1.0V
1	0	0.9V

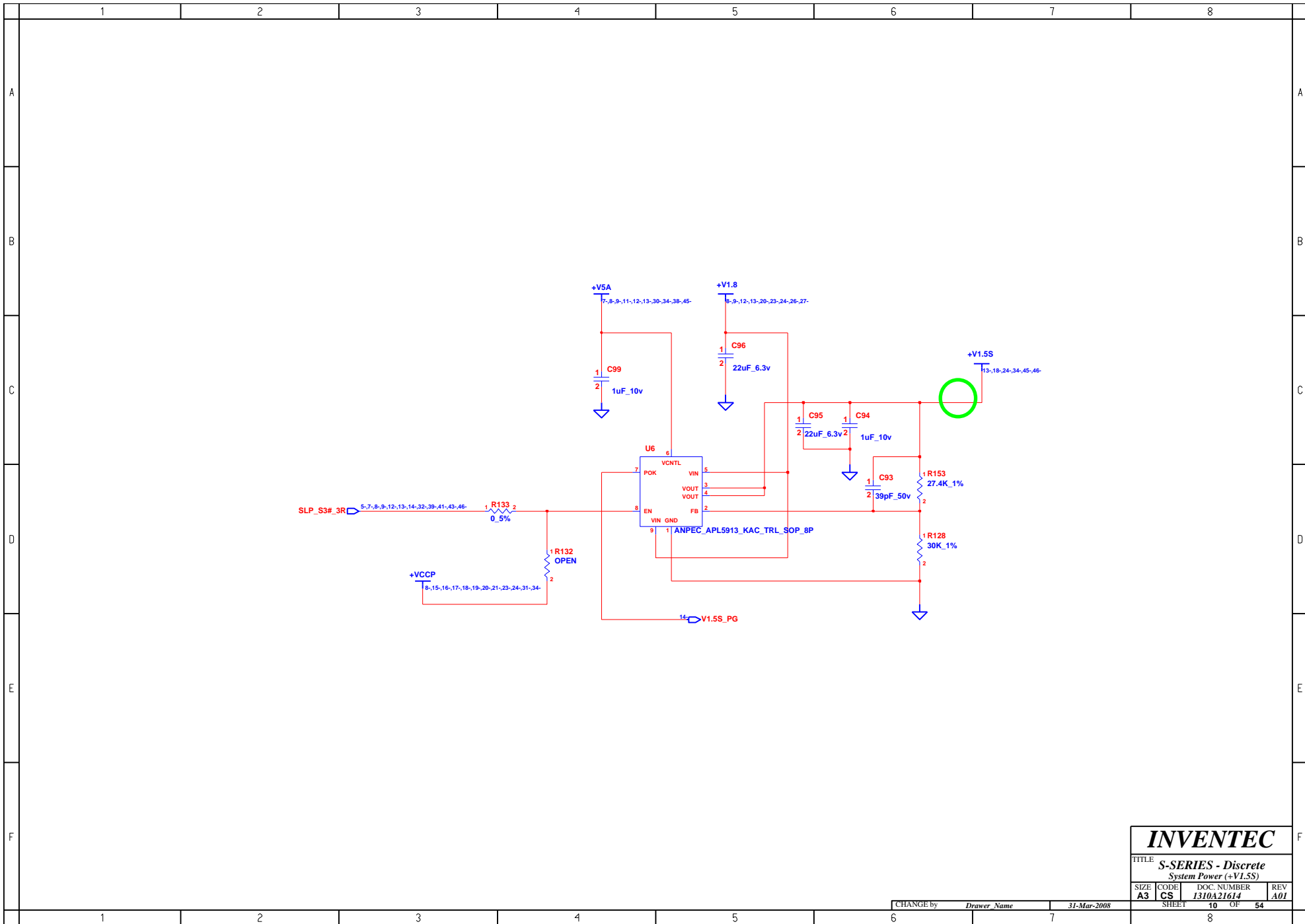


INVENTEC

TITLE
S-SERIES - Discrete
 Graphic Power (+VDD_CORE & +VPCIE)

SIZE A3	CODE CS	DOC. NUMBER 1310A21614	REV A01
-------------------	-------------------	----------------------------------	-------------------

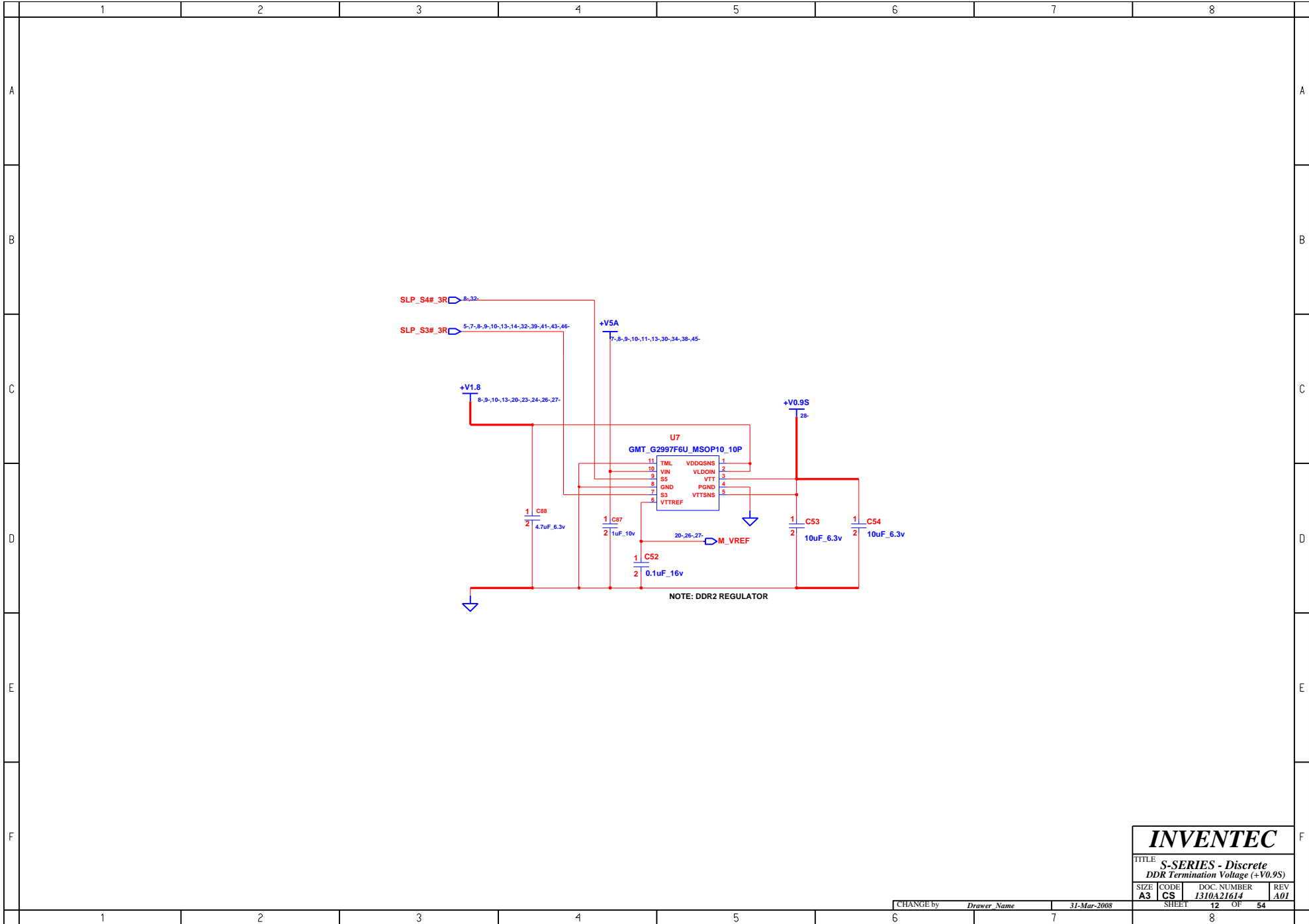
CHANGE by *Drawer Name* 31-Mar-2008 SHEET 9 OF 54



INVENTEC

TITLE
S-SERIES - Discrete
 System Power (+V1.5S)

SIZE A3	CODE CS	DOC. NUMBER 1310A21614	REV A01
-------------------	-------------------	----------------------------------	-------------------

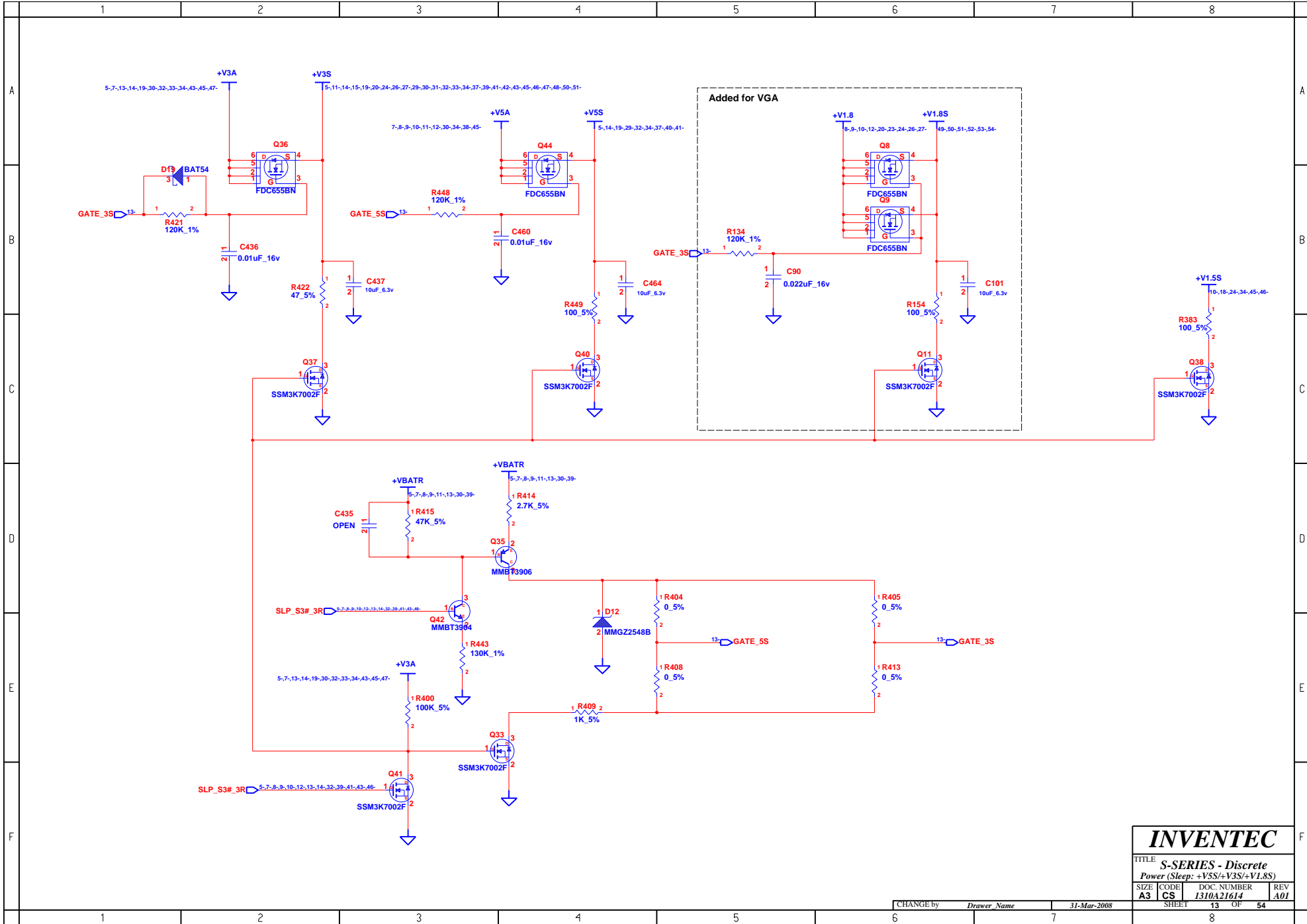


INVENTEC

TITLE **S-SERIES - Discrete**
DDR Termination Voltage (+V0.9S)

SIZE A3	CODE CS	DOC. NUMBER 1310A21614	REV A01
----------------	----------------	-------------------------------	----------------

CHANGE by *Drawer Name* 31-Mar-2008 SHEET 12 OF 54



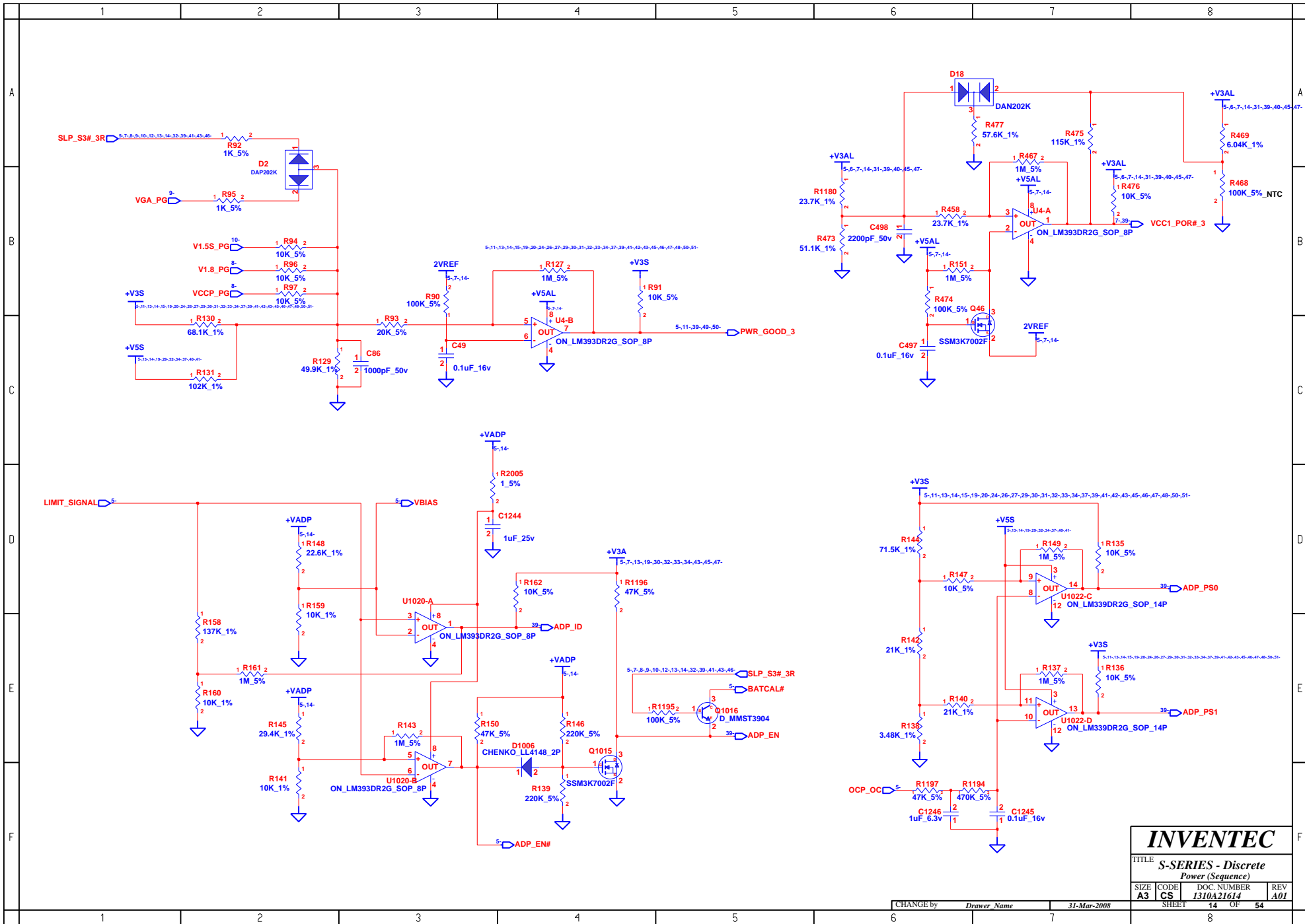
INVENTEC

TITLE
S-SERIES - Discrete
 Power (Sleep: +V5S/+V3S/+V1.8S)

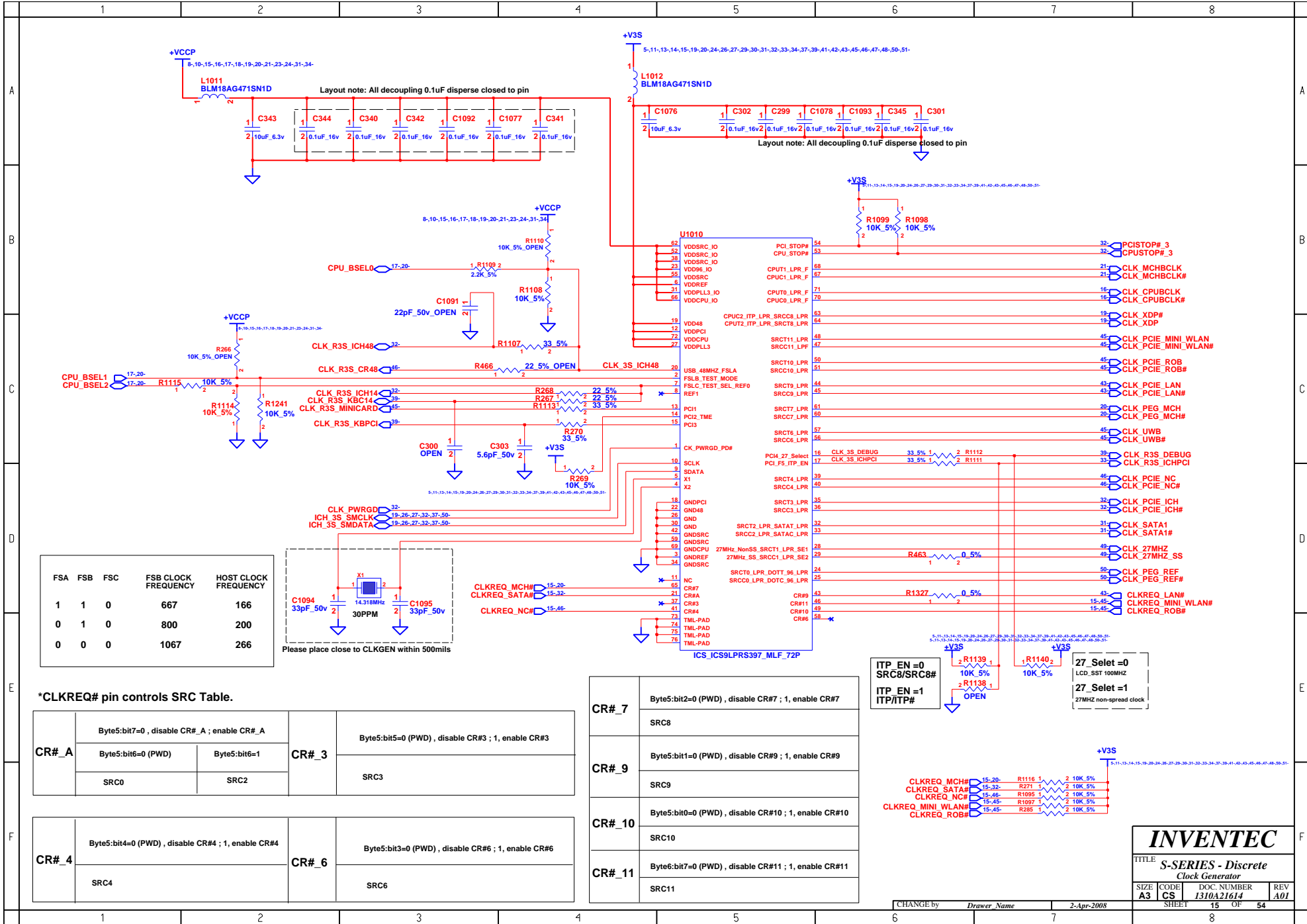
SIZE A3	CODE CS	DOC NUMBER I310A21614	REV A01
-------------------	-------------------	---------------------------------	-------------------

CHANGE by *Drawer Name* 31-Mar-2008

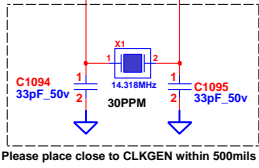
SHEET 13 OF 54



INVENTEC			
TITLE S-SERIES - Discrete Power (Sequence)			
SIZE A3	CODE CS	DOC. NUMBER I310A21614	REV A01
CHANGE by <i>Drawer Name</i>		31-Mar-2008	
		SHEET 14 OF 54	



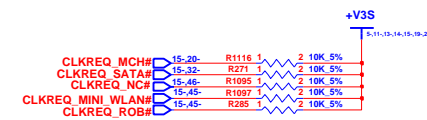
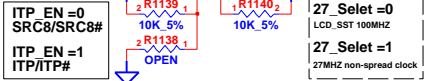
FSA	FSB	FSC	FSB CLOCK FREQUENCY	HOST CLOCK FREQUENCY
1	1	0	667	166
0	1	0	800	200
0	0	0	1067	266



*CLKREQ# pin controls SRC Table.

CR#_A	Byte5:bit7=0 (PWD), disable CR#_A ; enable CR#_A	Byte5:bit6=0 (PWD)	Byte5:bit6=1	CR#_3	Byte5:bit5=0 (PWD), disable CR#3 ; 1, enable CR#3	
		SRC0			SRC3	
CR#_4	Byte5:bit4=0 (PWD), disable CR#4 ; 1, enable CR#4				CR#_6	Byte5:bit3=0 (PWD), disable CR#6 ; 1, enable CR#6
		SRC4			SRC6	

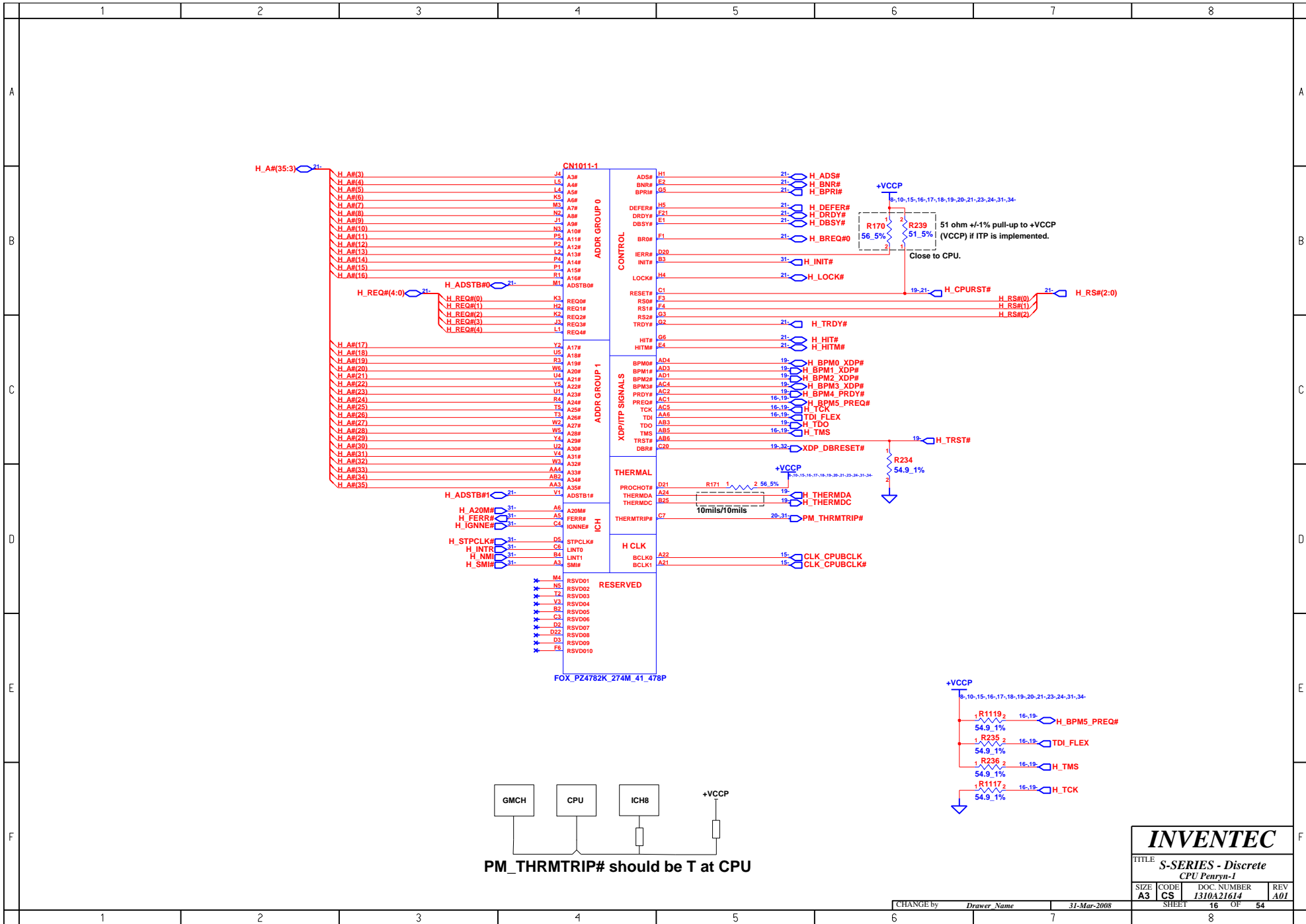
CR#_7	Byte5:bit2=0 (PWD), disable CR#7 ; 1, enable CR#7
	SRC8
CR#_9	Byte5:bit1=0 (PWD), disable CR#9 ; 1, enable CR#9
	SRC9
CR#_10	Byte5:bit0=0 (PWD), disable CR#10 ; 1, enable CR#10
	SRC10
CR#_11	Byte6:bit7=0 (PWD), disable CR#11 ; 1, enable CR#11
	SRC11



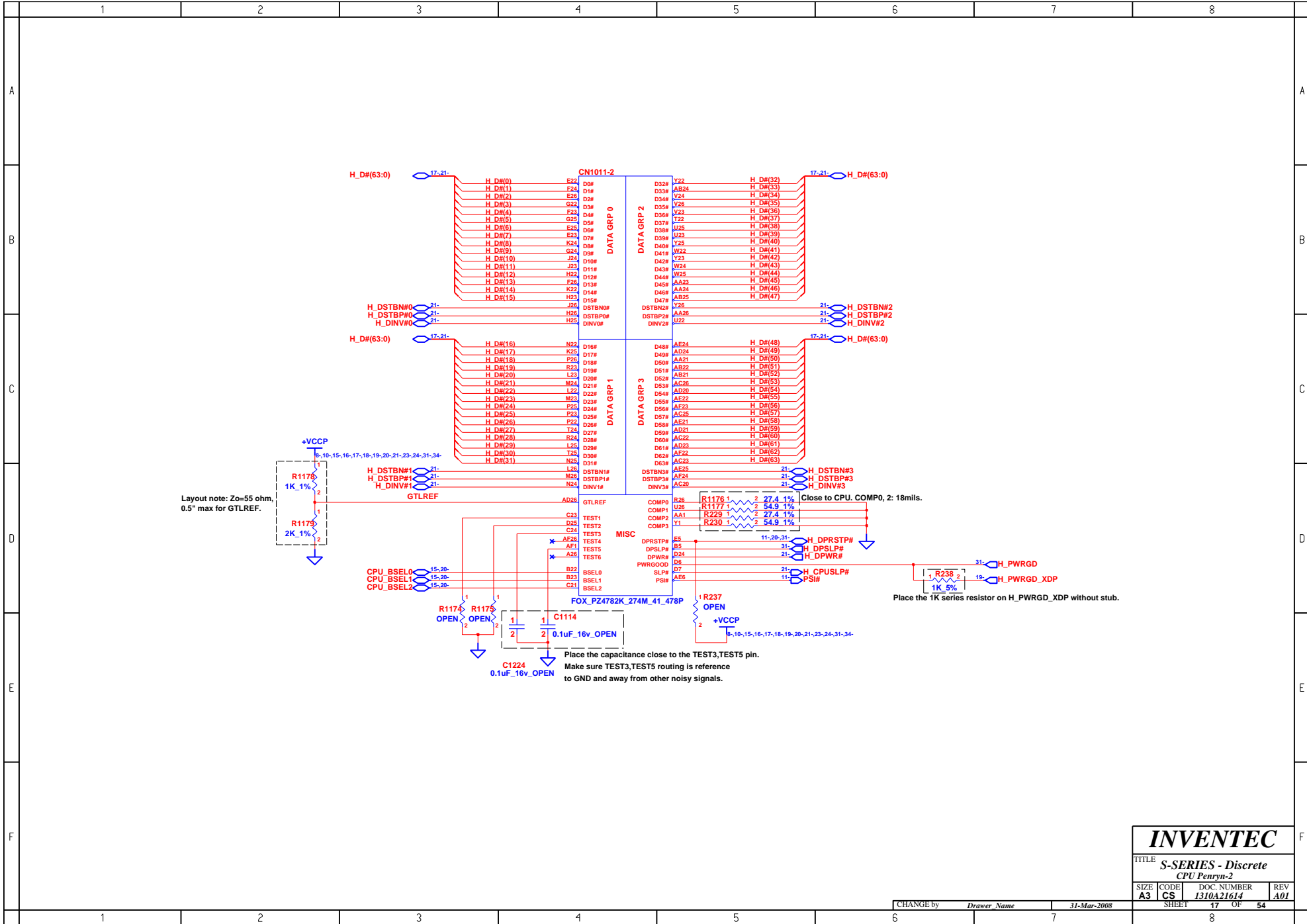
INVENTEC

TITLE: S-SERIES - Discrete Clock Generator

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01



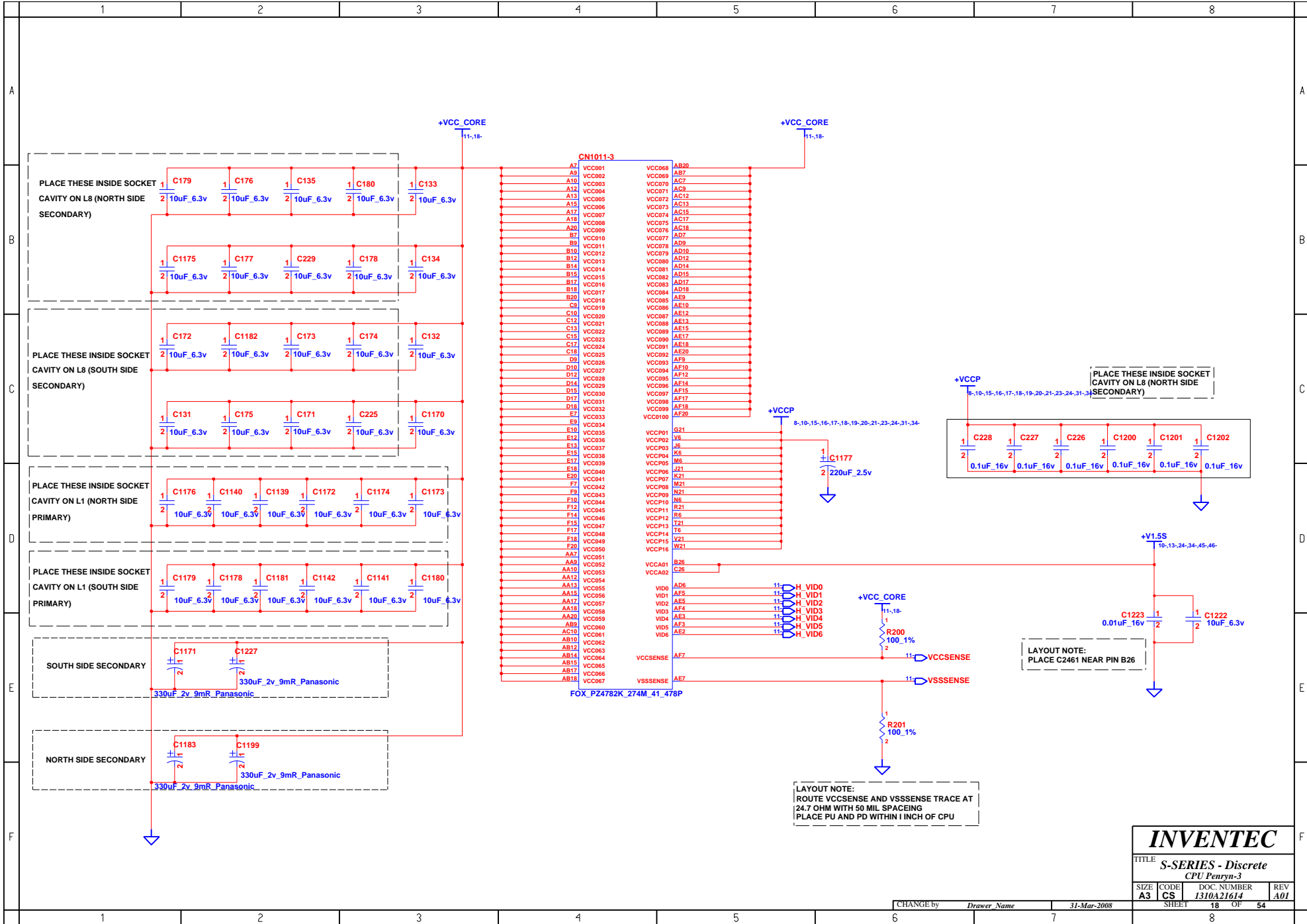
INVENTEC			
TITLE <i>S-SERIES - Discrete</i>			
CPU Penryn-1			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01
CHANGE by		Drawer Name	31-Mar-2008
SHEET		16	OF 54



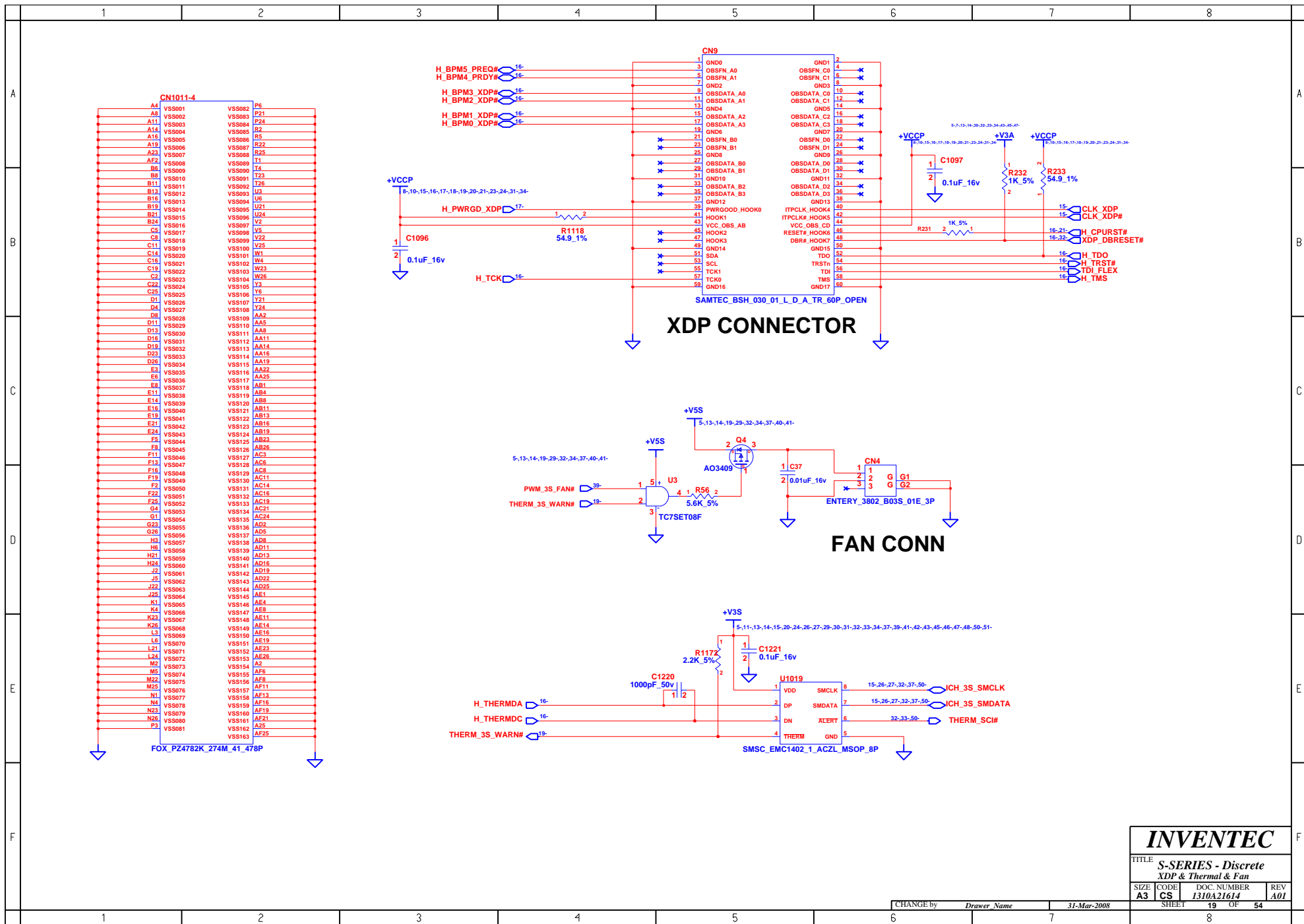
INVENTEC

TITLE
S-SERIES - Discrete
 CPU Penryn-2

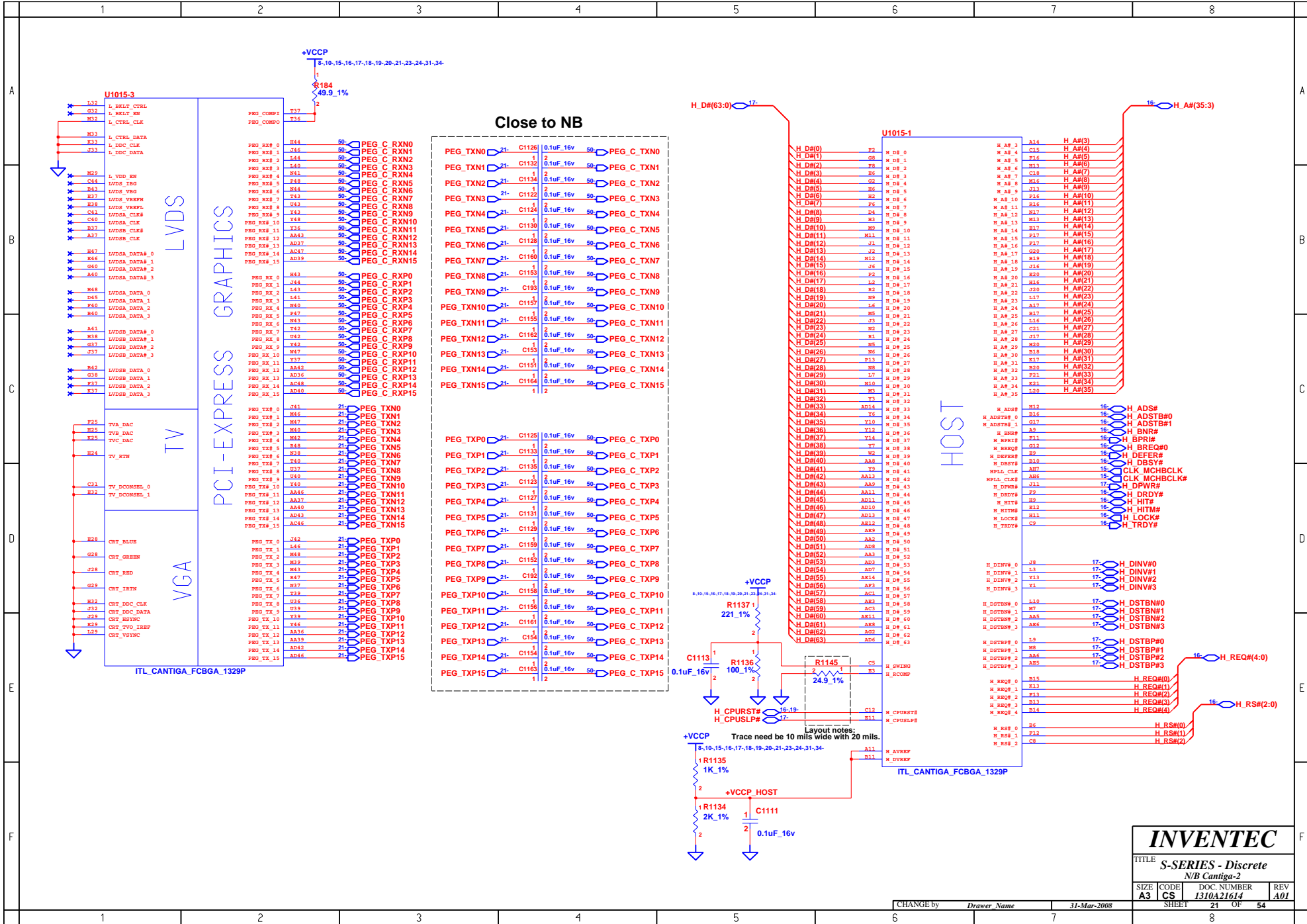
SIZE A3	CODE CS	DOC. NUMBER 1310A21614	REV A01
-------------------	-------------------	----------------------------------	-------------------



INVENTEC			
TITLE S-SERIES - Discrete			
CPU Penryn-3			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01



INVENTEC			
TITLE S-SERIES - Discrete XDP & Thermal & Fan			
SIZE A3	CODE CS	DOC. NUMBER I310A21614	REV A01
CHANGE by <i>Drawer Name</i>		31-Mar-2008	
SHEET		19 OF 54	

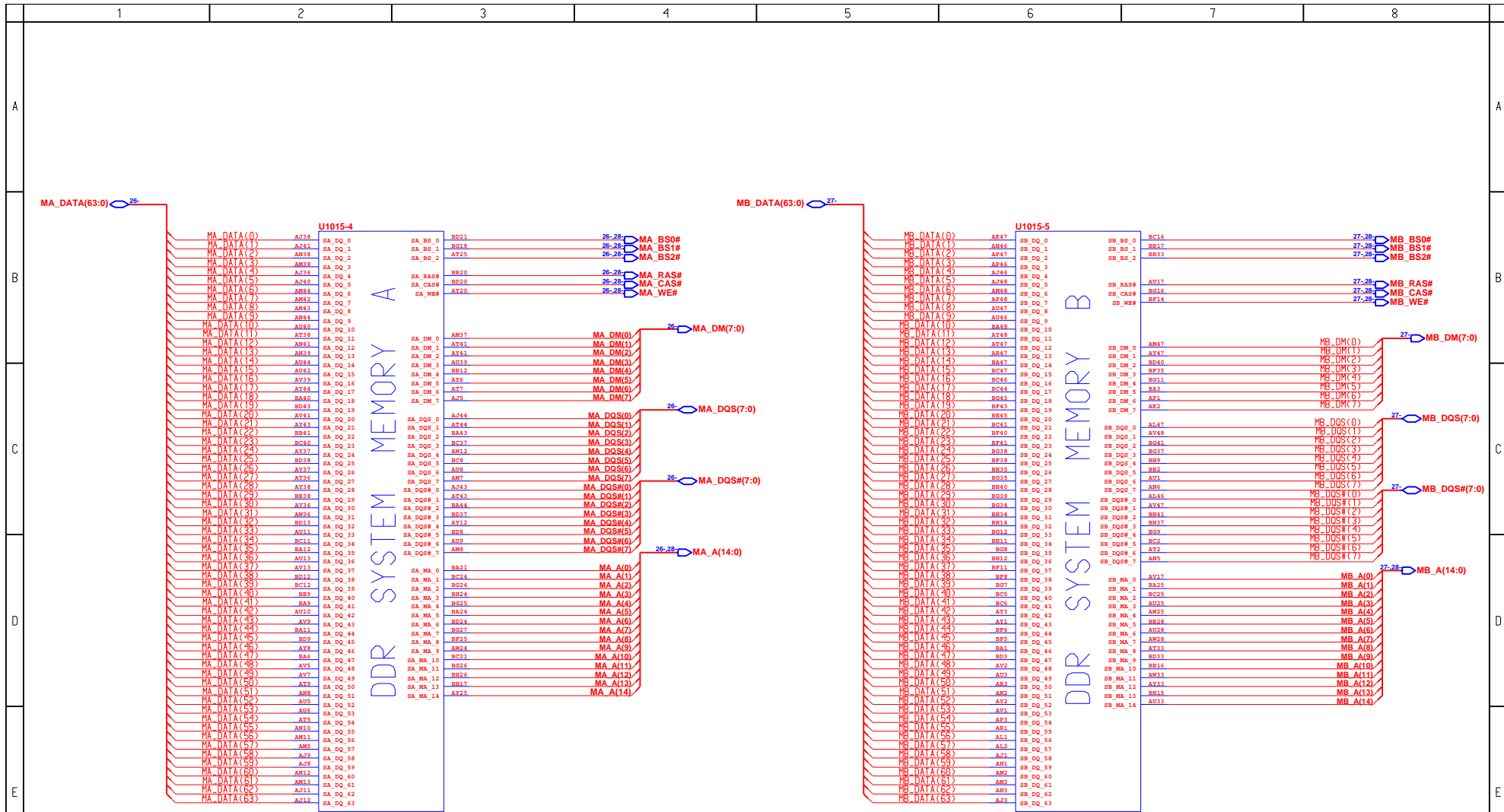


INVENTEC

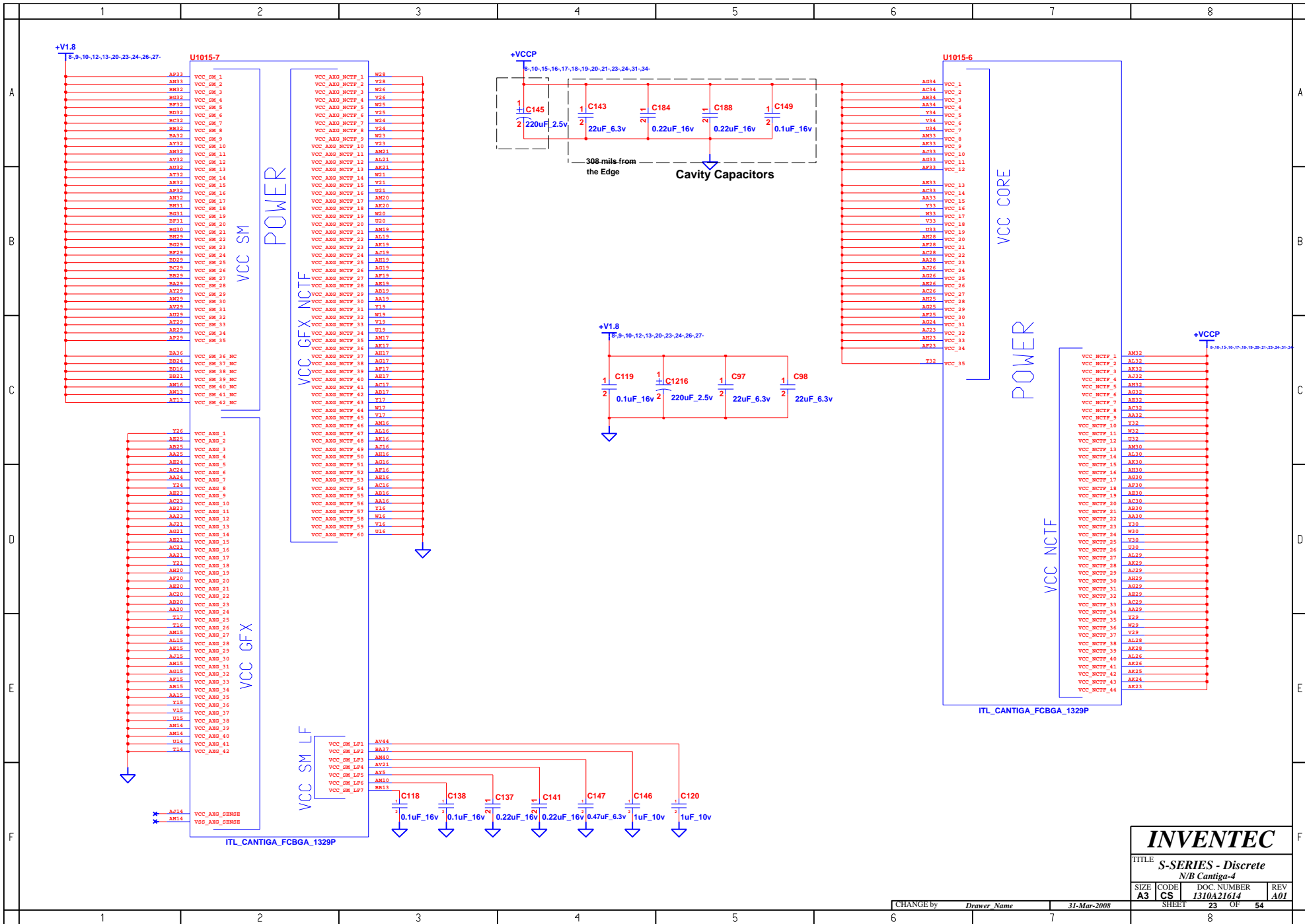
TITLE
S-SERIES - Discrete
N/B Cantiga-2

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01

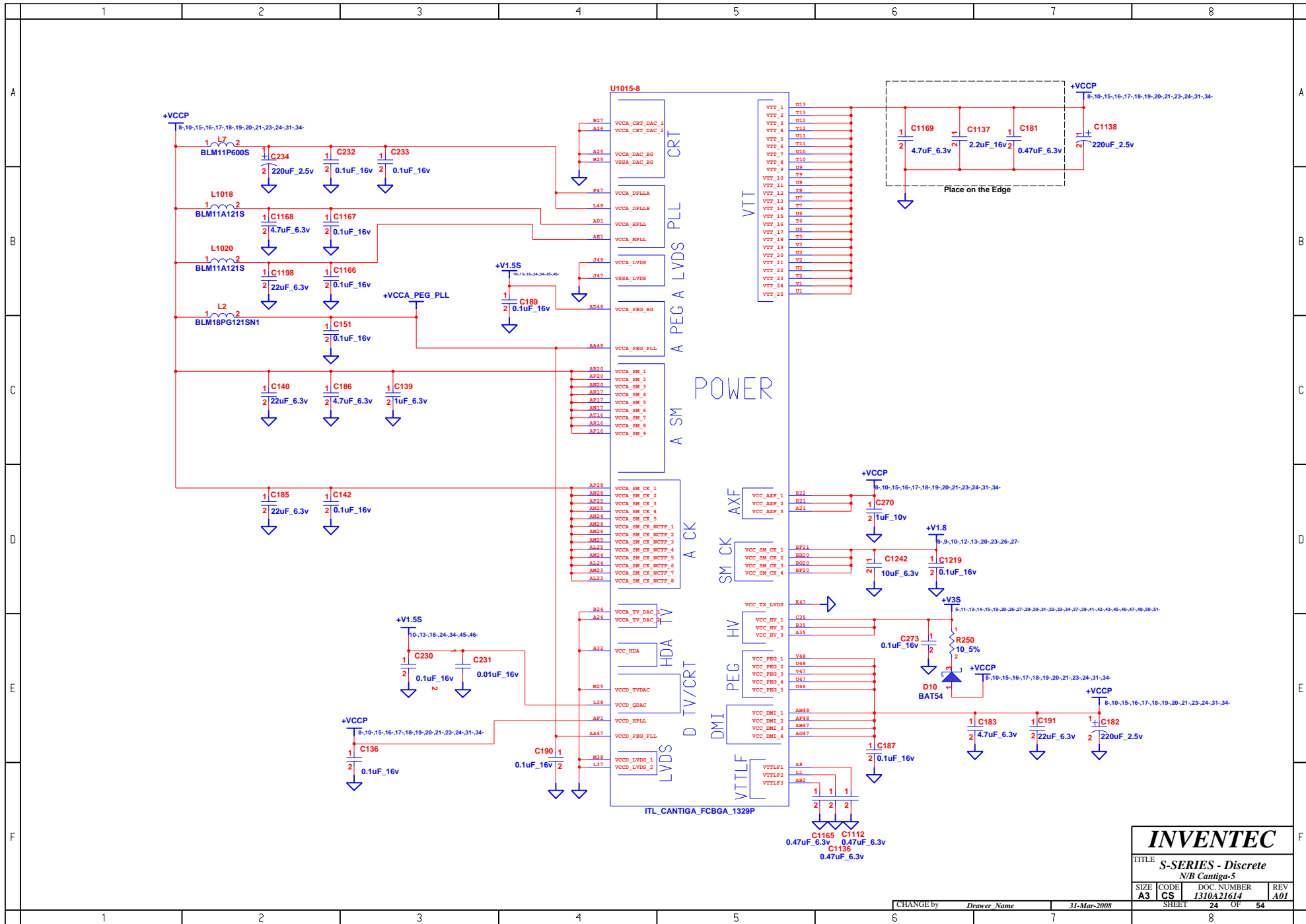
CHANGE by *Drawer Name* 31-Mar-2008 SHEET 21 OF 54



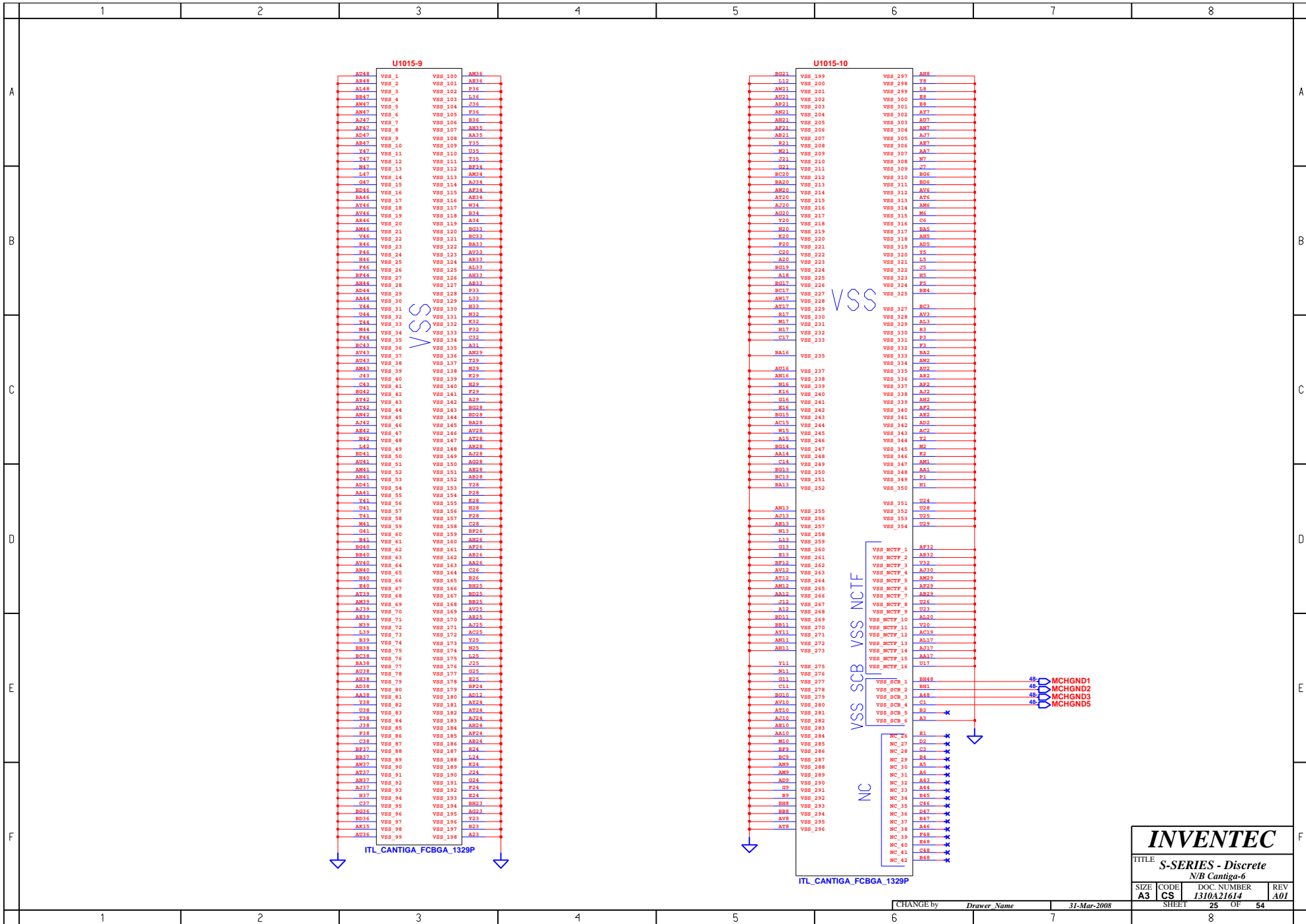
INVENTEC			
TITLE S-SERIES - Discrete N/B Cantiga-3			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01
CHANGE by		Drawer Name	31-Mar-2008
		SHEET	22 OF 54

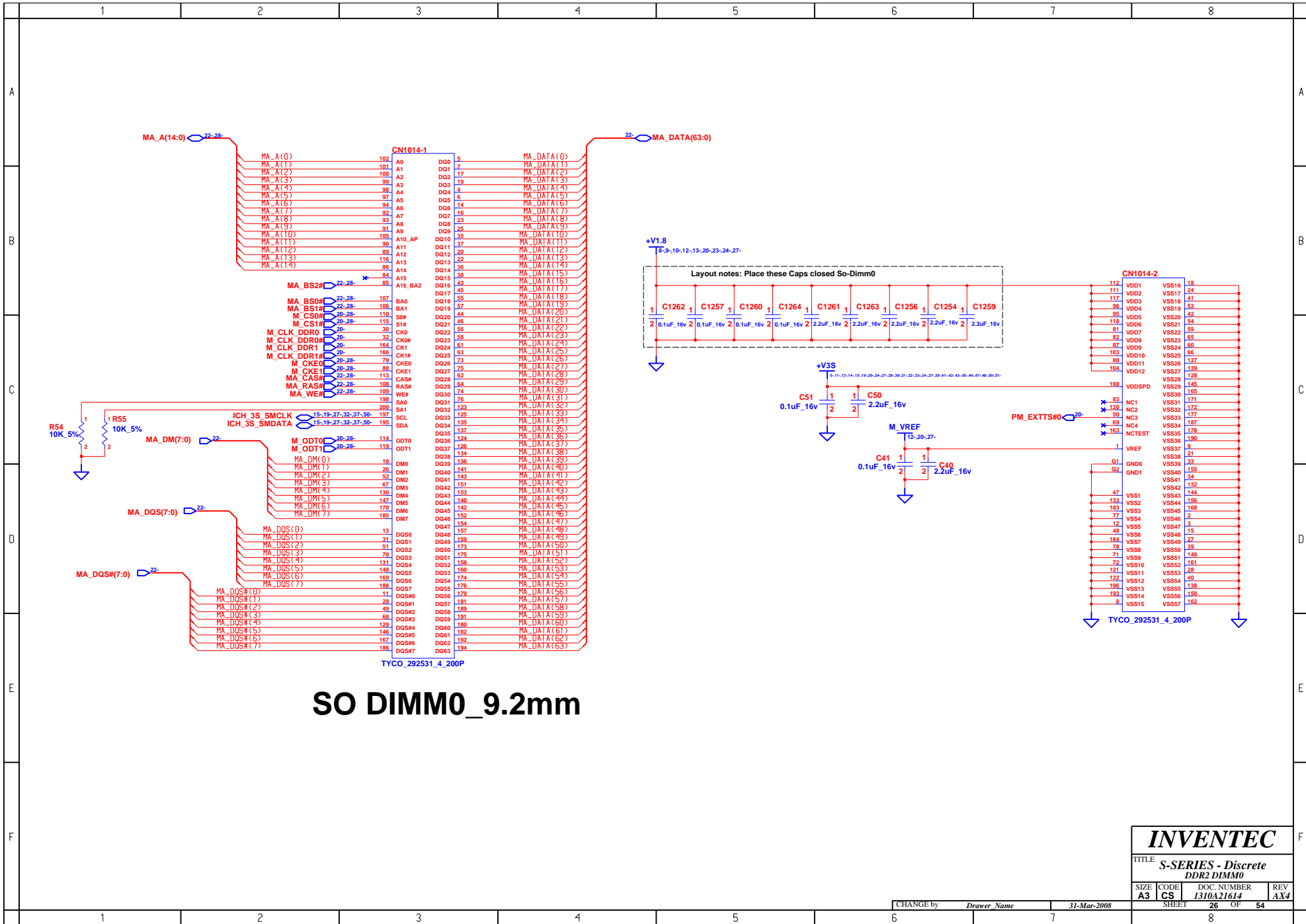


INVENTEC			
TITLE S-SERIES - Discrete N/B Cantiga-4			
SIZE A3	CODE CS	DOC NUMBER 1310A21614	REV A01
CHANGE by <i>Drawer Name</i>		31-Mar-2008	
SHEET 23		OF 54	

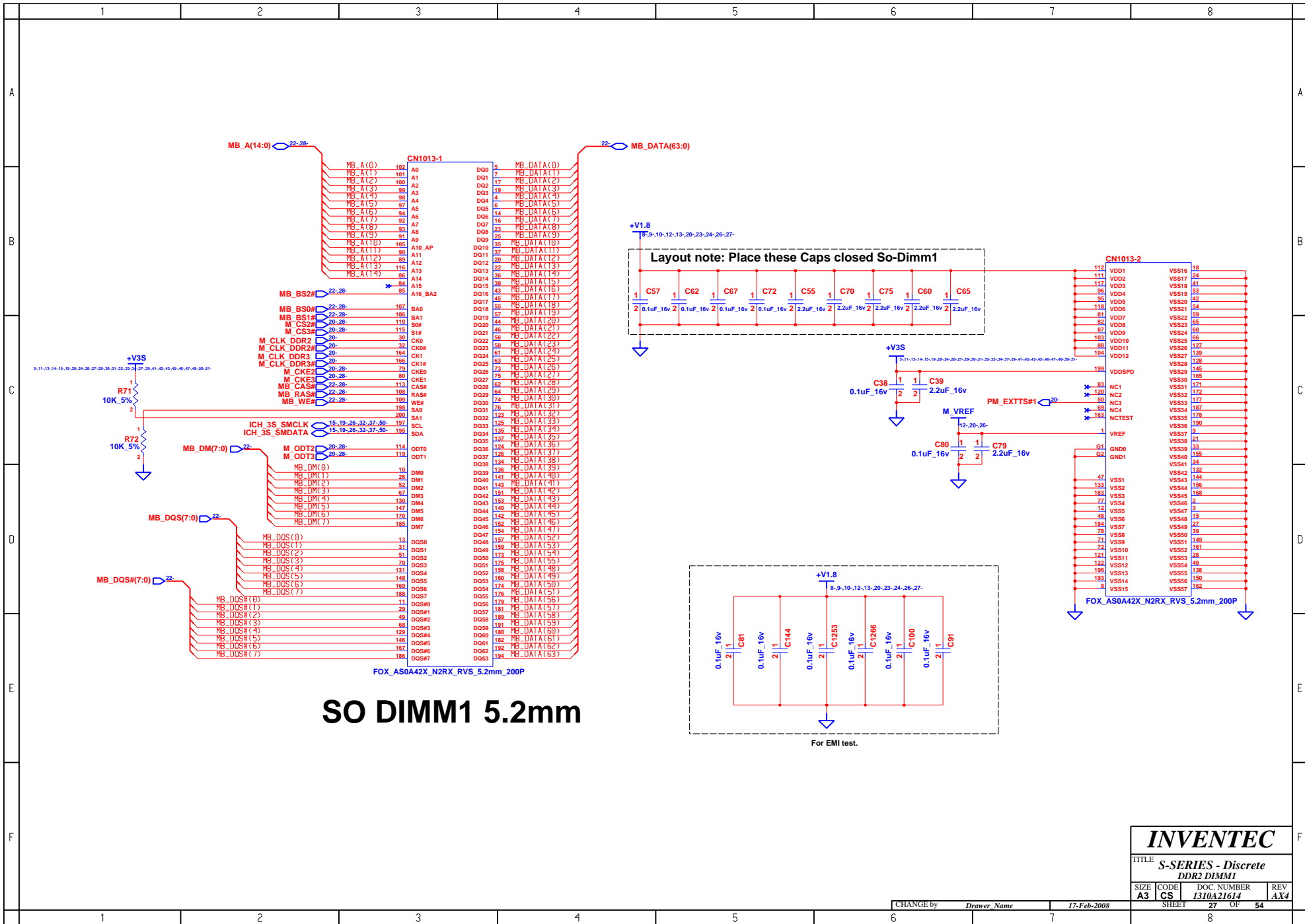


INVENTEC			
TITLE S-SERIES - Discrete N/B Cantiga-S			
SIZE A3	CODE CS	DOC. NUMBER 1310A21614	REV A01
CHANGE by <i>Drawer Name</i>		31-Mar-2008	
SHEET 24		OF 54	

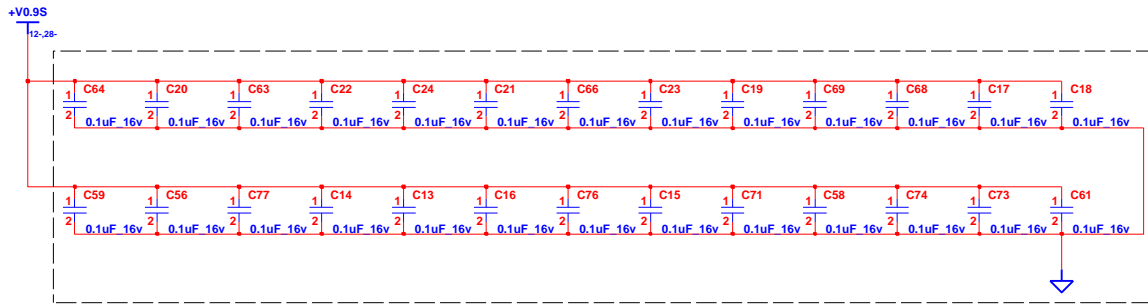




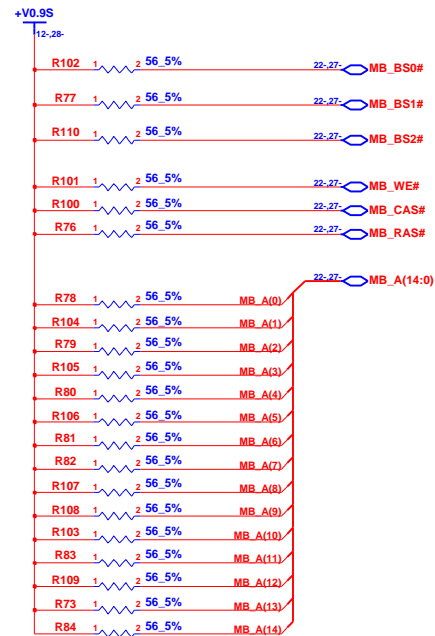
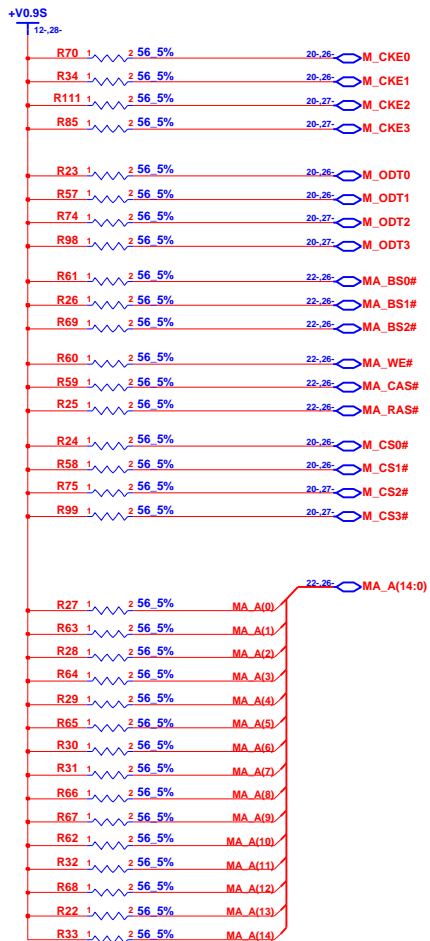
INVENTEC			
TITLE S-SERIES - Discrete DDR2 DIMM0			
SIZE A3	CODE CS	DOC. NUMBER 1310A21614	REV AX4
CHANGE by <i>Drawer Name</i>		31-Mar-2008	SHEET 26 OF 54



INVENTEC			
TITLE S-SERIES - Discrete DDR2 DIMM1			
SIZE A3	CODE CS	DOC. NUMBER 1310A21614	REV AX4
CHANGE by <i>Drawer Name</i>		17-Feb-2008	
SHEET 27		OF 54	



Layout notes : Place one Cap close to every 2 pull up resistor terminated to +V0.9S.



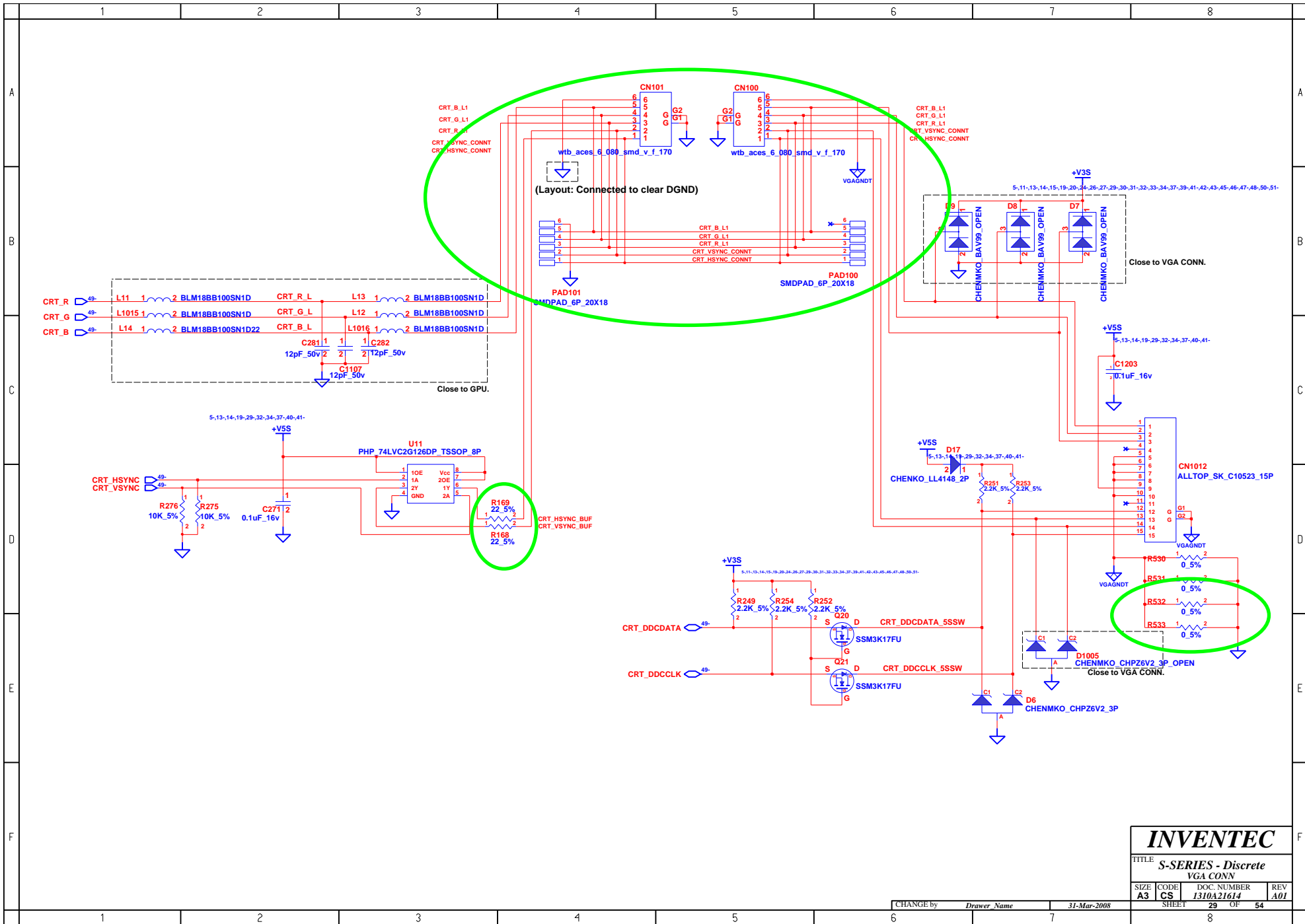
INVENTEC

TITLE
S-SERIES - Discrete
 DDR2 Damping

SIZE A3	CODE CS	DOC. NUMBER I310A21614	REV A01
-------------------	-------------------	----------------------------------	-------------------

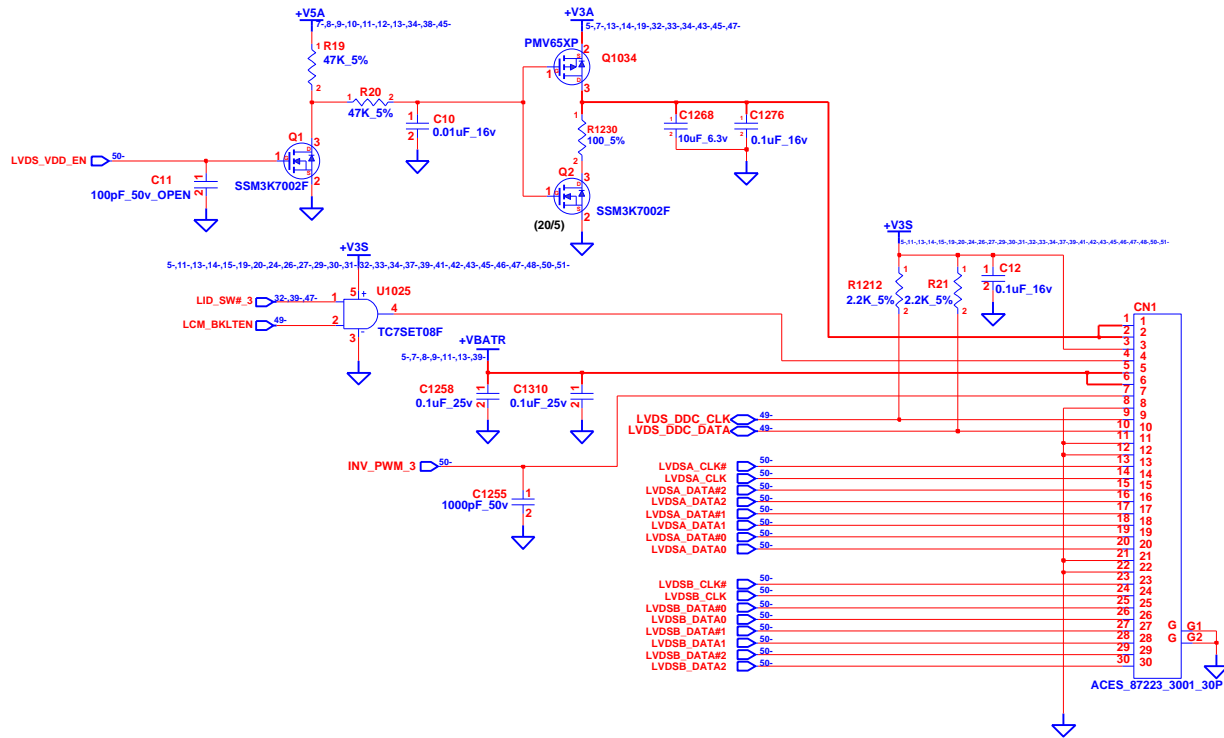
CHANGE by *Drawer Name* 27-Sep-2003

SHEET 28 OF 54



INVENTEC			
TITLE S-SERIES - Discrete			
VGA CONN			
SIZE A3	CODE CS	DOC. NUMBER I310A21614	REV A01

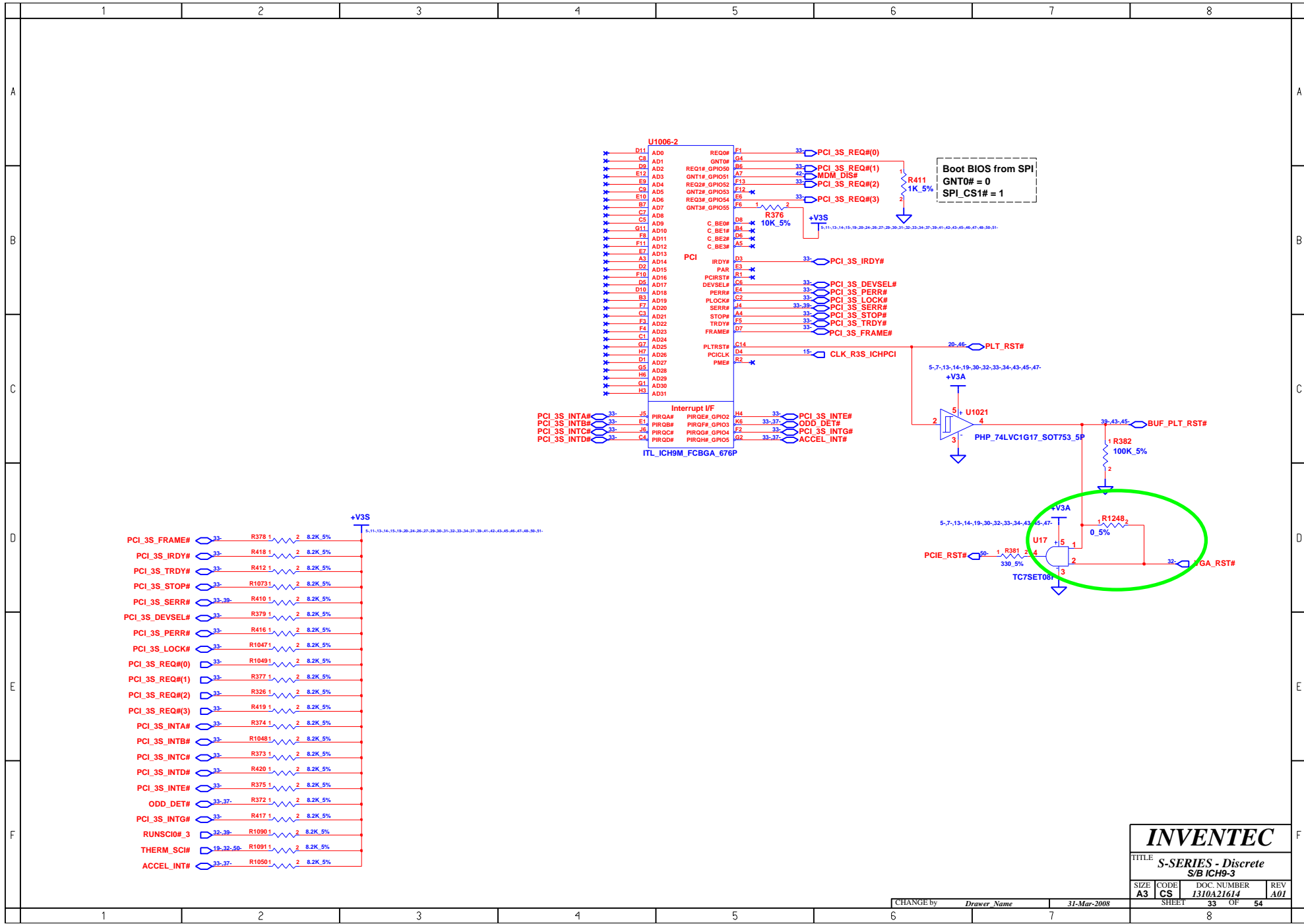
Place closed to connector



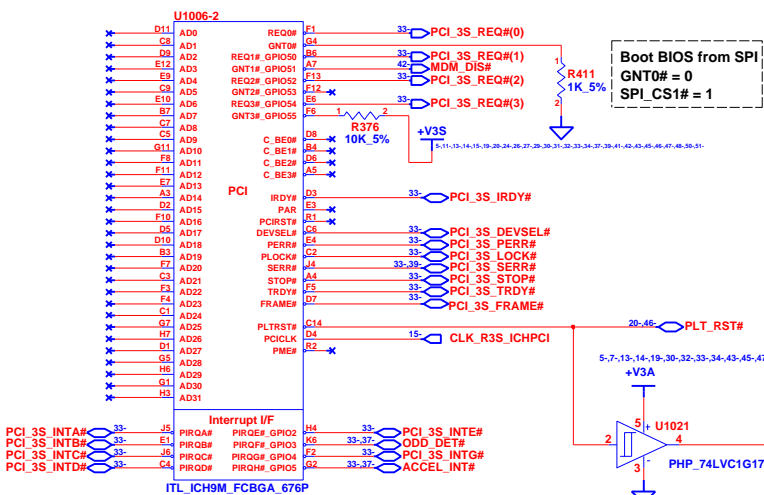
INVENTEC

TITLE
S-SERIES - Discrete
LCM CONN

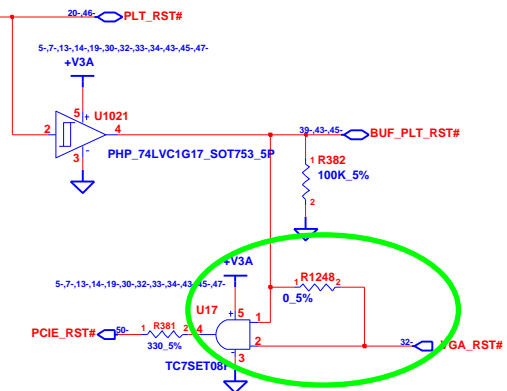
SIZE A3	CODE CS	DOC. NUMBER 1310A21614	REV A01
------------	------------	---------------------------	------------



- +V3S**
5-11,13,14,15,19,20,24,26,27,29,30,31,32,33,34,37,39,41,43,45,46,47,48,50,51
- PCI_3S_FRAME# 33- R376 1 2 8.2K 5%
 - PCI_3S_IRDY# 33- R418 1 2 8.2K 5%
 - PCI_3S_TRDY# 33- R412 1 2 8.2K 5%
 - PCI_3S_STOP# 33- R1073 1 2 8.2K 5%
 - PCI_3S_SERR# 33-39- R410 1 2 8.2K 5%
 - PCI_3S_DEVSEL# 33- R379 1 2 8.2K 5%
 - PCI_3S_PERR# 33- R416 1 2 8.2K 5%
 - PCI_3S_LOCK# 33- R1047 1 2 8.2K 5%
 - PCI_3S_REQ#(0) 33- R1049 1 2 8.2K 5%
 - PCI_3S_REQ#(1) 33- R377 1 2 8.2K 5%
 - PCI_3S_REQ#(2) 33- R326 1 2 8.2K 5%
 - PCI_3S_REQ#(3) 33- R419 1 2 8.2K 5%
 - PCI_3S_INTA# 33- R374 1 2 8.2K 5%
 - PCI_3S_INTB# 33- R1048 1 2 8.2K 5%
 - PCI_3S_INTC# 33- R373 1 2 8.2K 5%
 - PCI_3S_INTD# 33- R420 1 2 8.2K 5%
 - PCI_3S_INTE# 33- R375 1 2 8.2K 5%
 - ODD_DET# 33-37- R372 1 2 8.2K 5%
 - PCI_3S_INTG# 33- R417 1 2 8.2K 5%
 - RUNSCIO#_3 32-39- R1090 1 2 8.2K 5%
 - THERM_SCI# 19-32-50- R1091 1 2 8.2K 5%
 - ACCEL_INT# 33-37- R1050 1 2 8.2K 5%

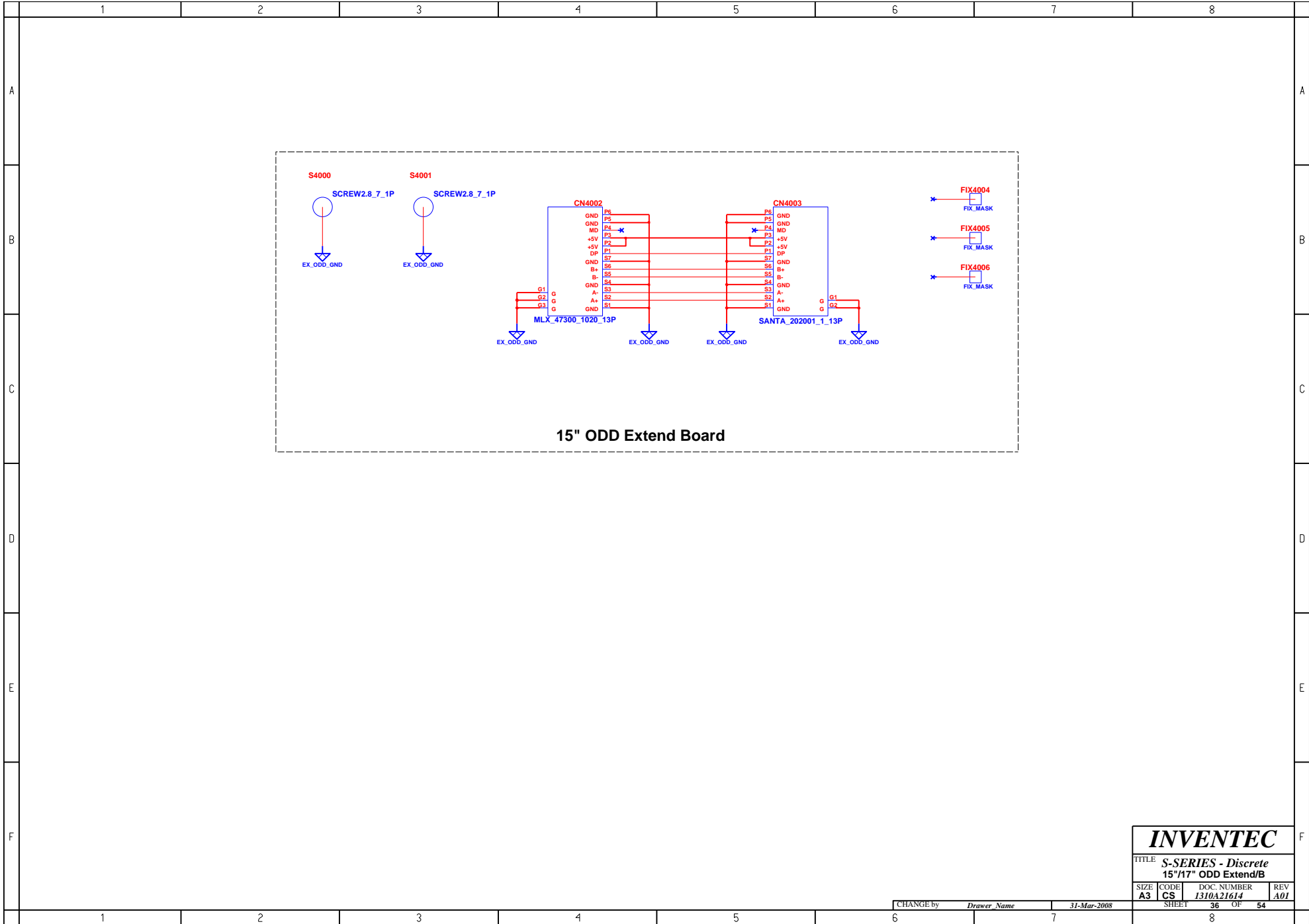


Boot BIOS from SPI
GNT0# = 0
SPI_CS1# = 1



INVENTEC
TITLE
S-SERIES - Discrete
S/B ICH9-3

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01



15" ODD Extend Board

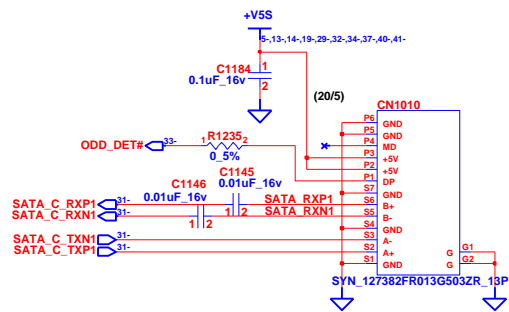
INVENTEC

TITLE *S-SERIES - Discrete*
15"17" ODD Extend/B

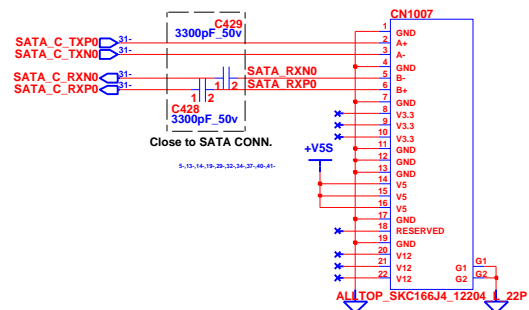
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01

CHANGE by	Drawer Name	31-Mar-2008	SHEET	36	OF	54
-----------	-------------	-------------	-------	----	----	----

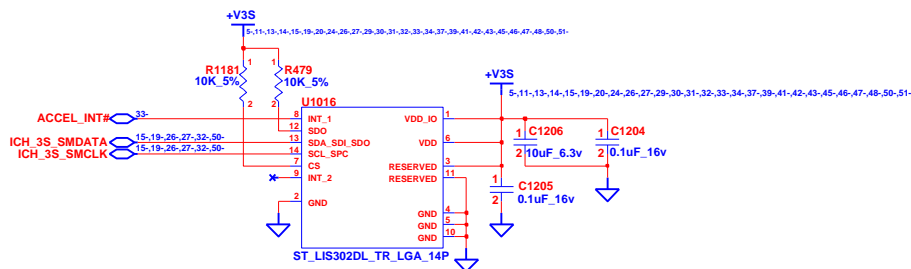
1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---



SATA ODD



SATA HDD



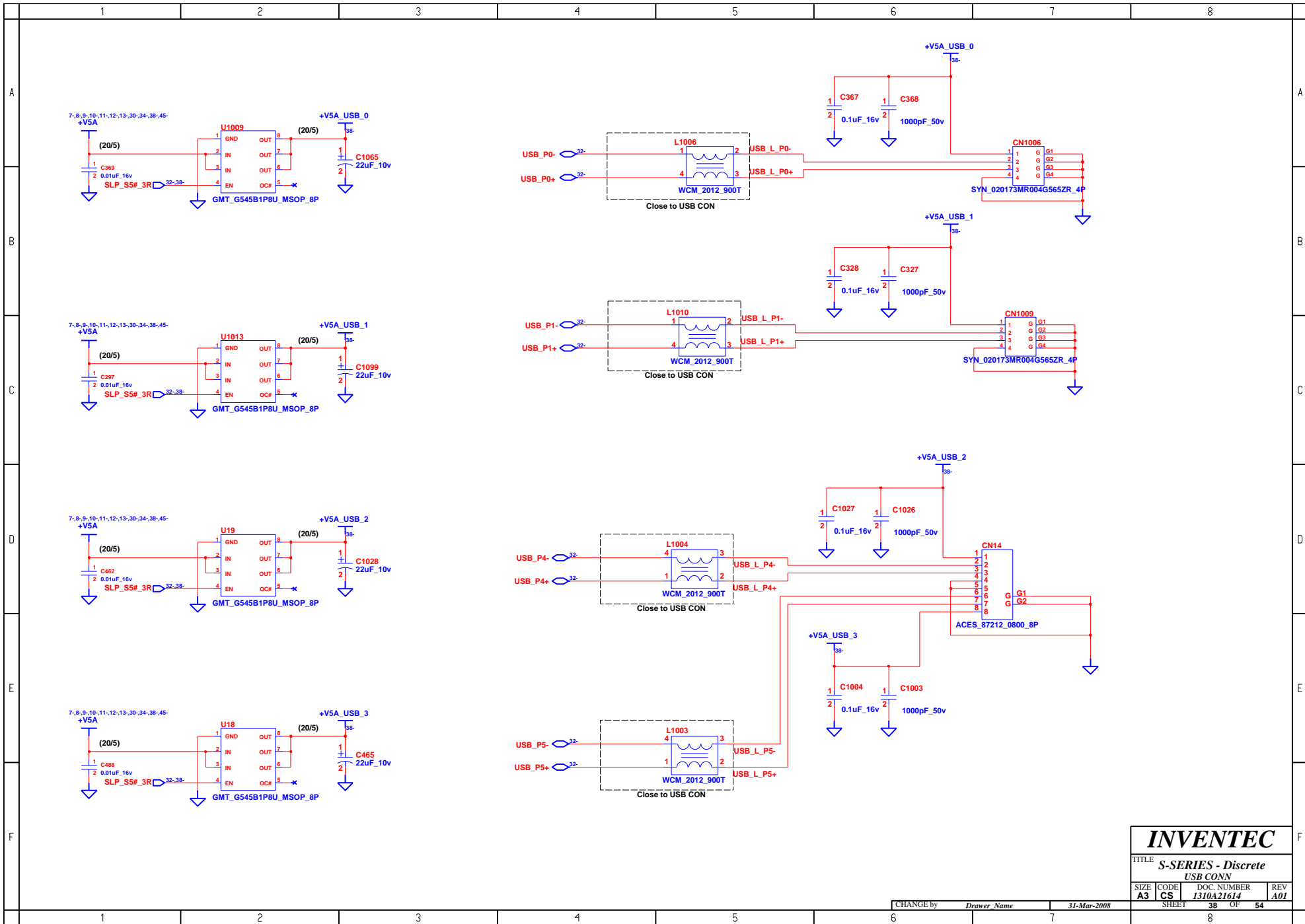
Accelerometer

INVENTEC

TITLE			
S-SERIES - Discrete			
HDD & ODD CONN & Accelerometer			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A21614	A01

CHANGE by *Drawer Name* 31-Mar-2008

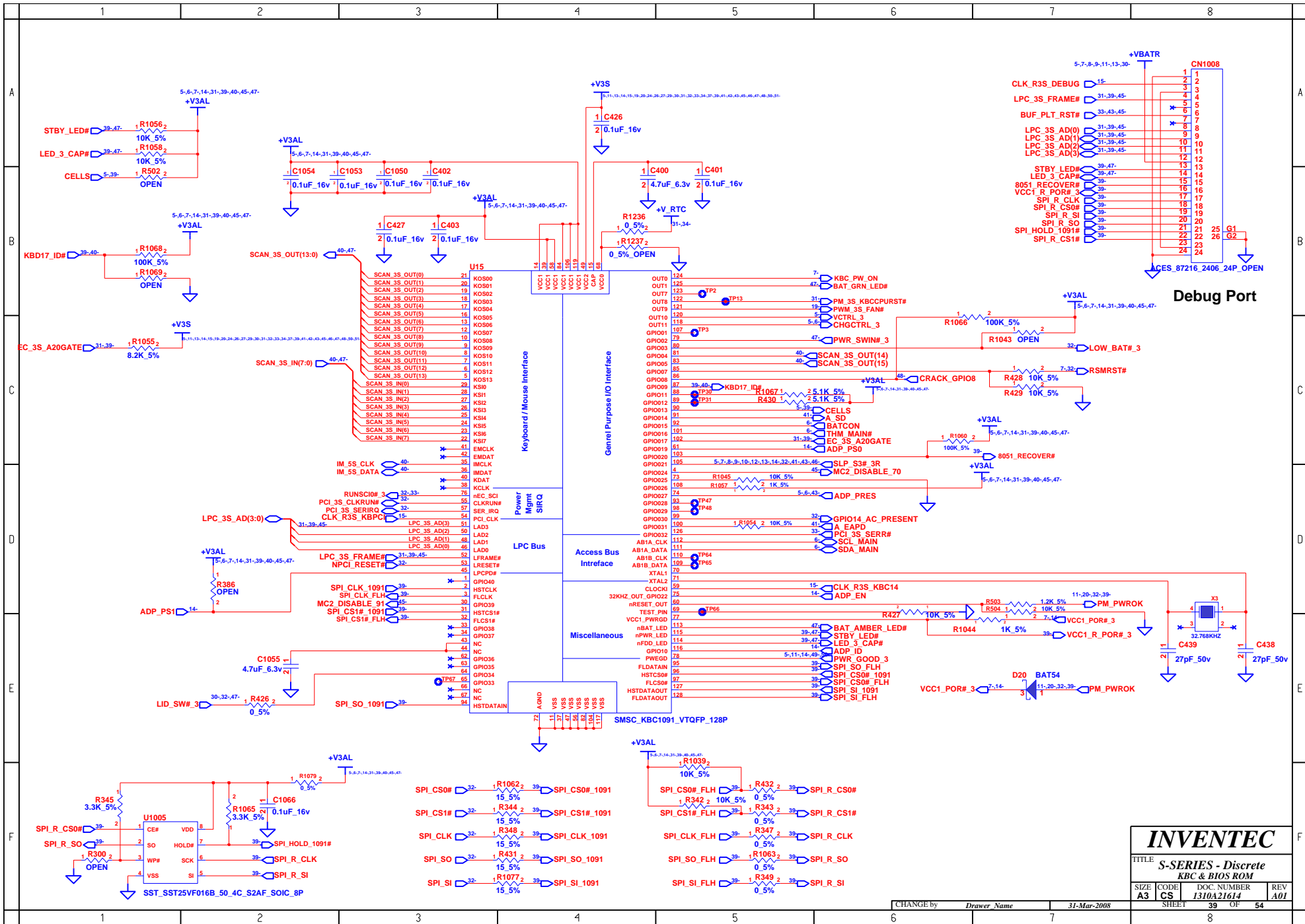
SHEET 37 OF 54



INVENTEC

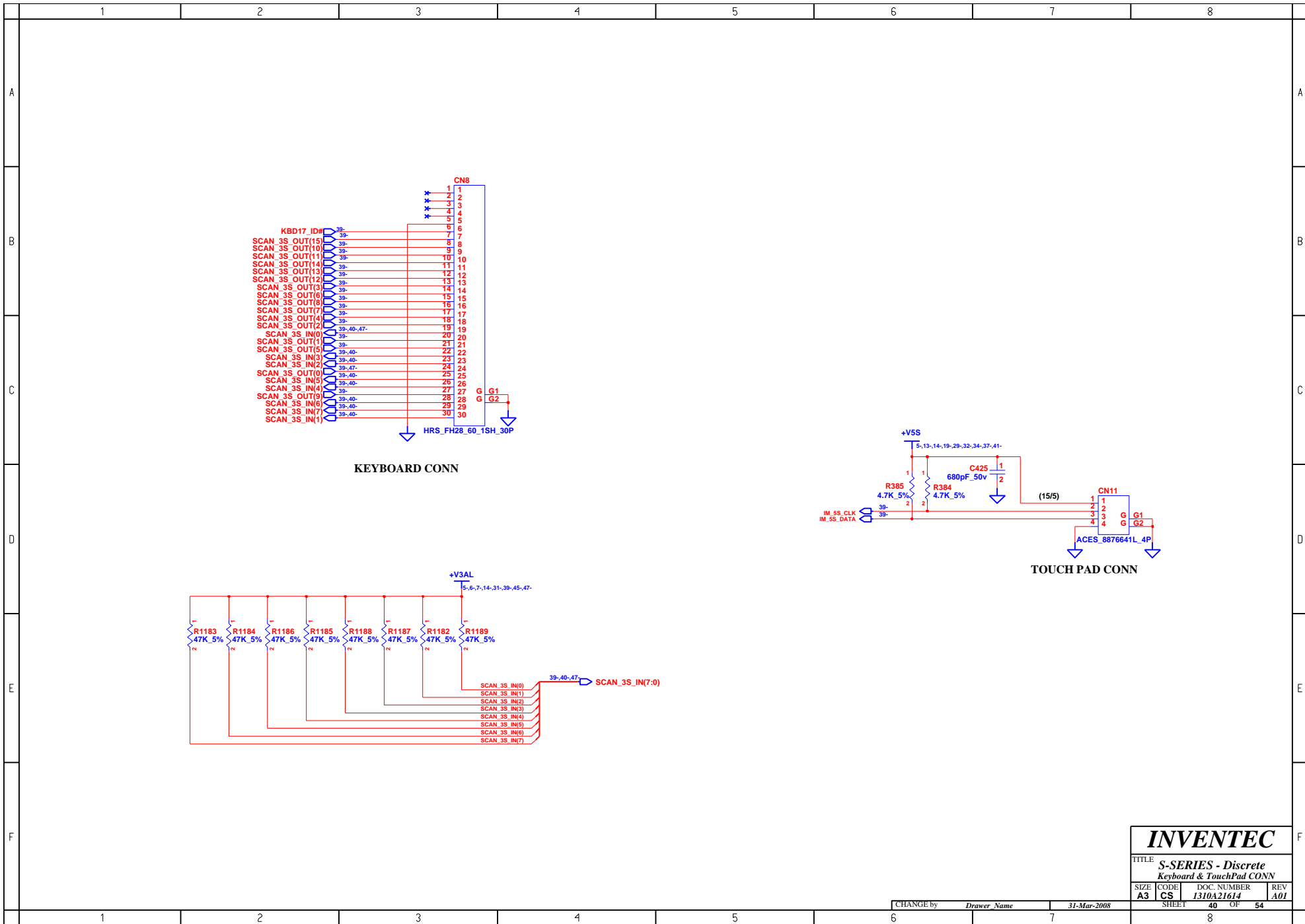
TITLE
S-SERIES - Discrete
 USB CONN

SIZE A3	CODE CS	DOC. NUMBER 1310A21614	REV A01
-------------------	-------------------	----------------------------------	-------------------



INVENTEC
 TITLE: S-SERIES - Discrete
 KBC & BIOS ROM

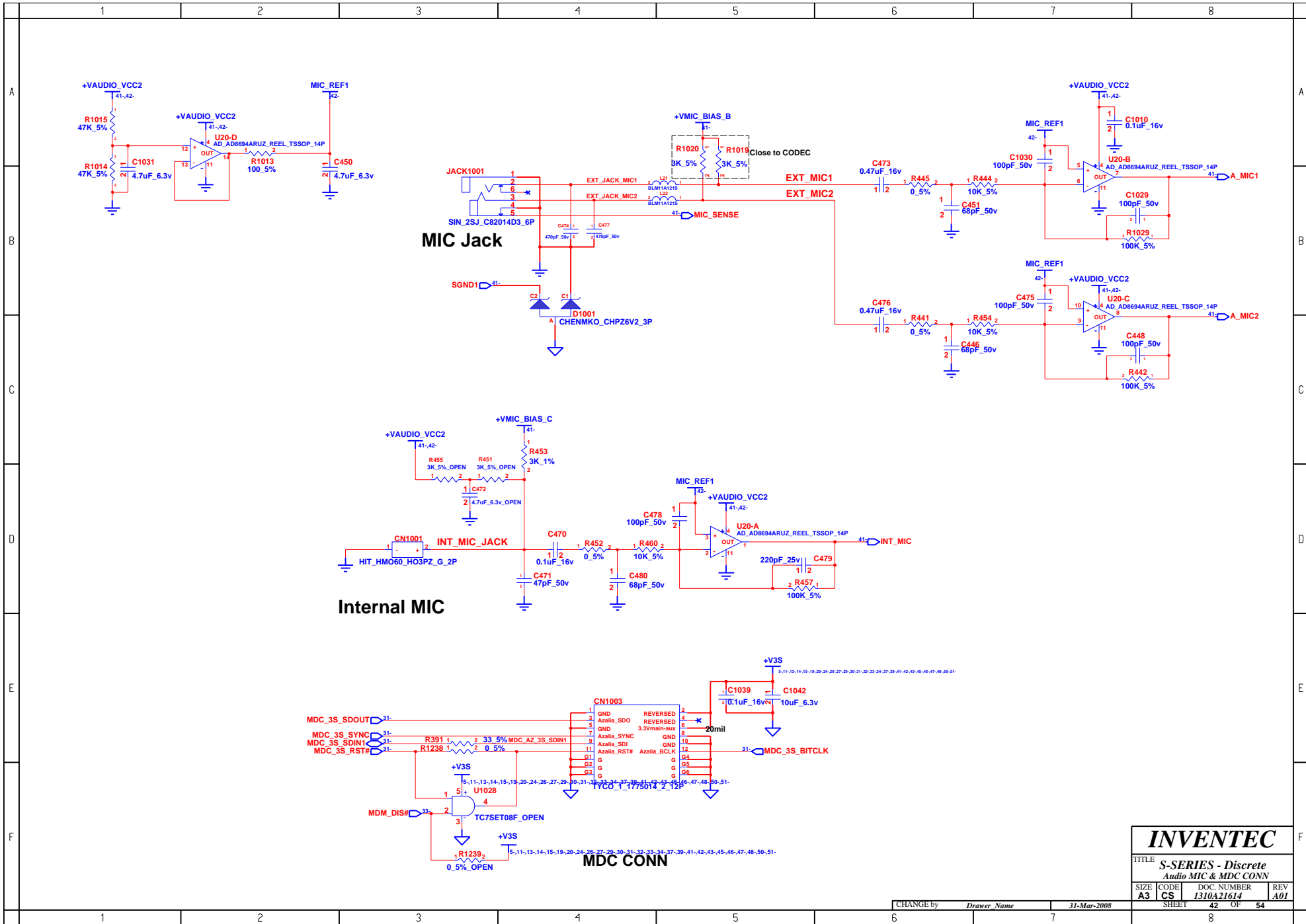
SIZE: A3 CS CODE: CS DOC NUMBER: 1310A21614 REV: A01



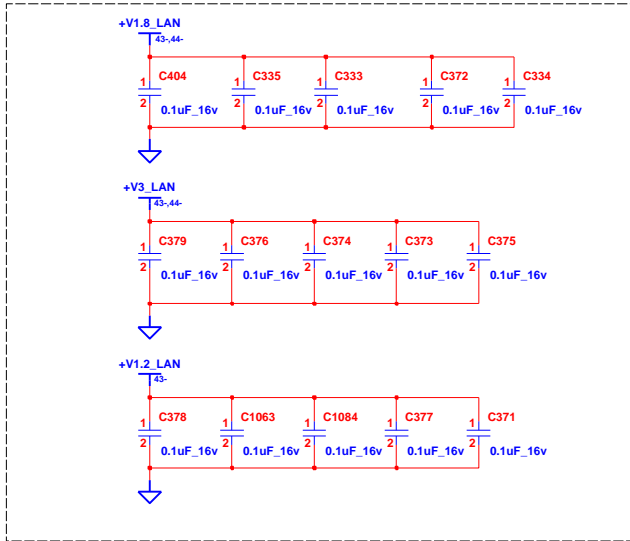
INVENTEC

TITLE
S-SERIES - Discrete
 Keyboard & TouchPad CONN

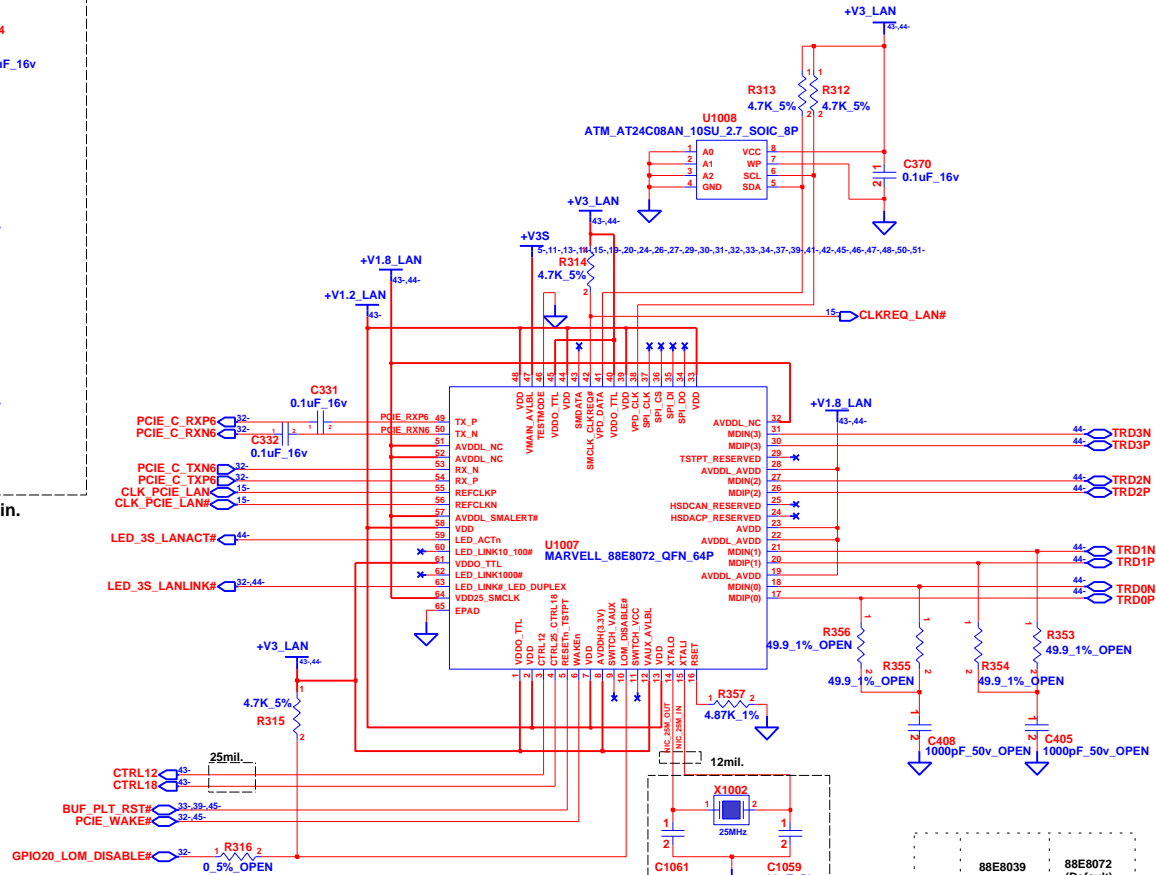
SIZE A3	CODE CS	DOC. NUMBER 1310A21614	REV A01
-------------------	-------------------	----------------------------------	-------------------



INVENTEC			
TITLE S-SERIES - Discrete Audio MIC & MDC CONN			
SIZE A3	CODE CS	DOC. NUMBER I310A21614	REV A01
CHANGE by <i>Drawer Name</i>		31-Mar-2008	SHEET 42 OF 54

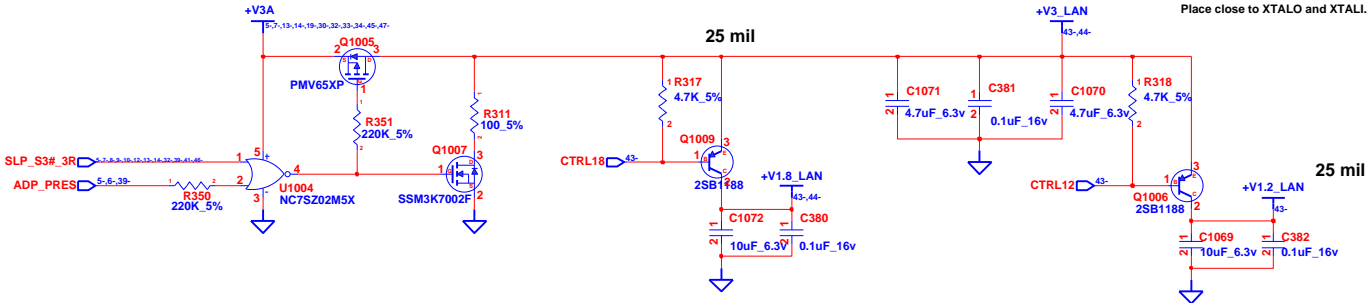


Place bypass cap as close as possible with every power pin.



Place close to XTALO and XTALI.

	88E8039	88E8072 (Default)
R356	49.9_1%	NI
R355	49.9_1%	NI
R354	49.9_1%	NI
R353	49.9_1%	NI
C408	1000p_50V	NI
C405	1000p_50V	NI
R357	2K_1%	4.87K_1%



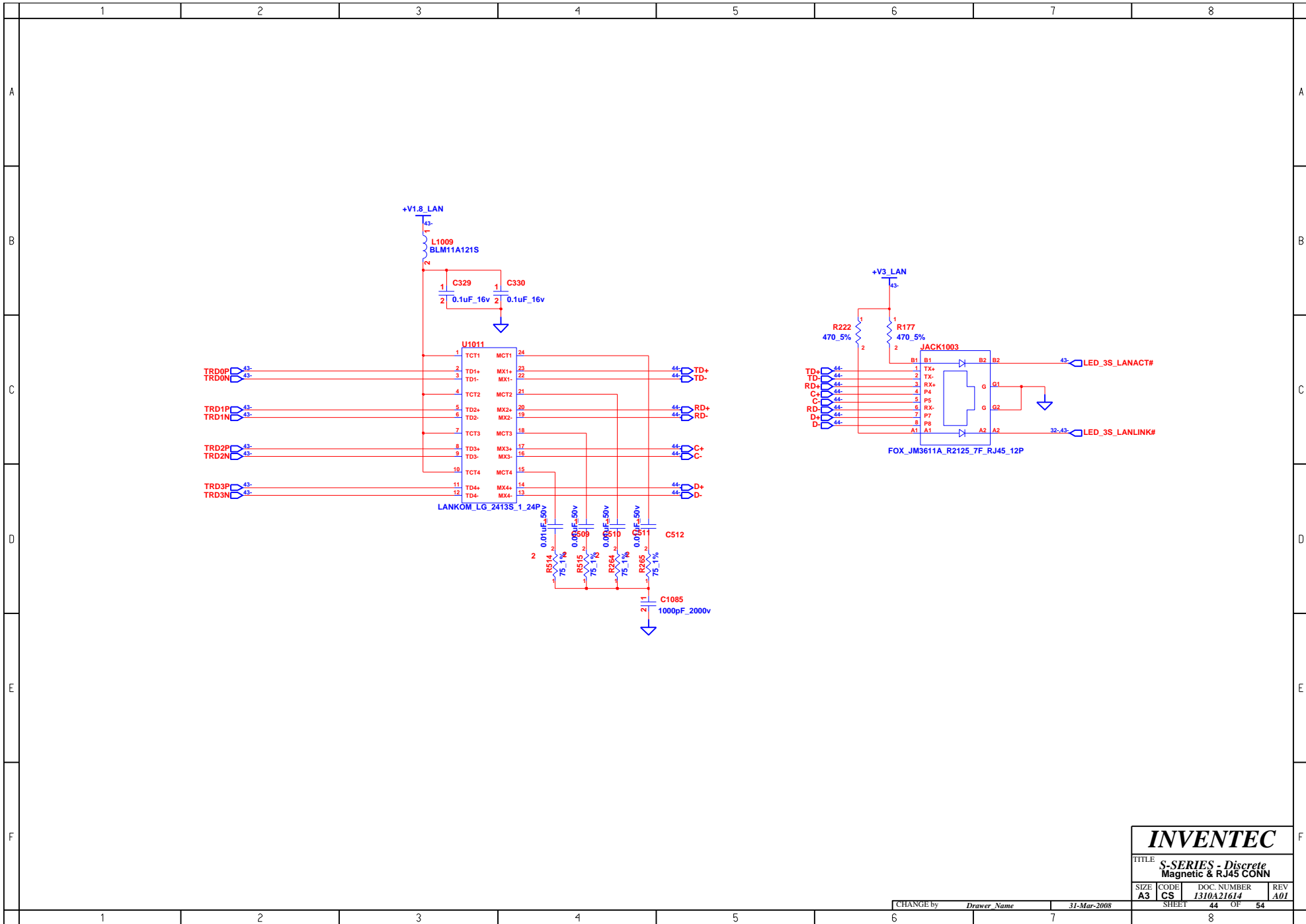
INVENTEC

TITLE: S-SERIES - Discrete
Giga LAN Controller

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01

CHANGE by Drawer Name 31-Mar-2008

SHEET 43 OF 54



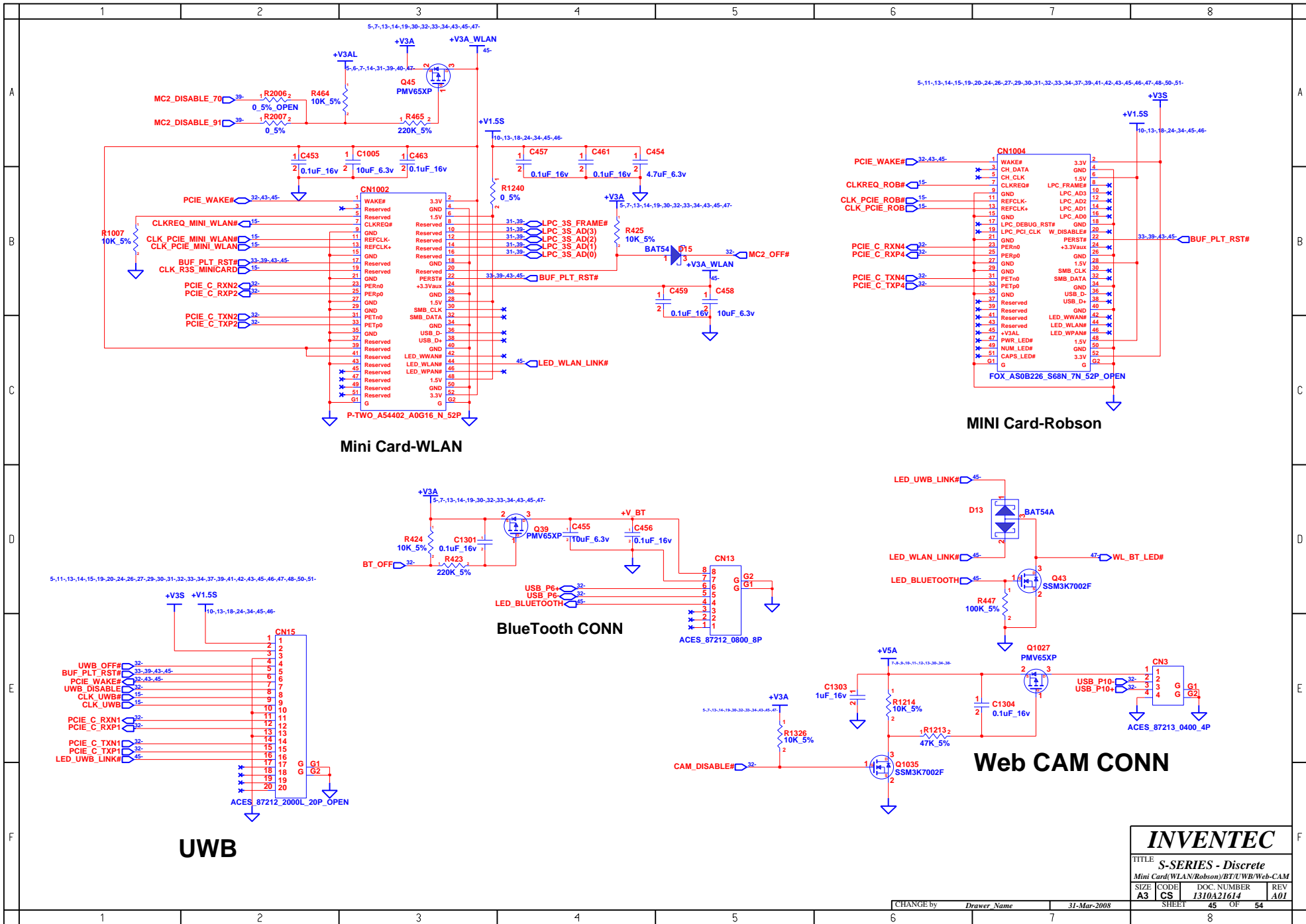
INVENTEC

TITLE **S-SERIES - Discrete
Magnetic & RJ45 CONN**

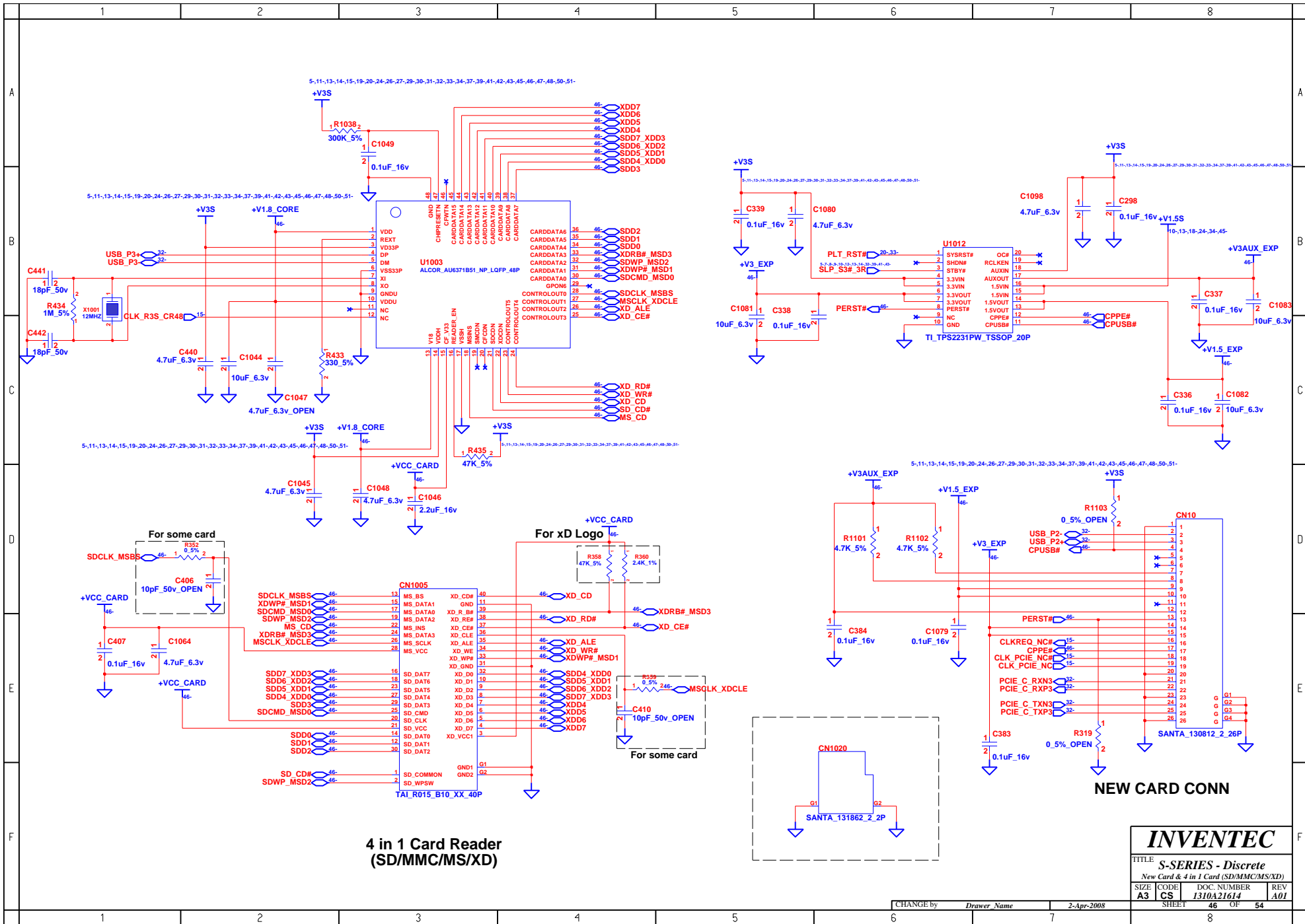
SIZE **A3** CODE **CS** DOC. NUMBER **1310A21614** REV **A01**

CHANGE by *Drawer Name* 31-Mar-2008

SHEET 44 OF 54



INVENTEC			
TITLE <i>S-SERIES - Discrete</i>			
Mini Card(WLAN/Robson)/BT/UWB/Web-CAM			
SIZE A3	CODE CS	DOC. NUMBER 1310A21614	REV A01
CHANGE by <i>Drawer Name</i>		31-Mar-2008	SHEET 45 Of 54



4 in 1 Card Reader (SD/MMC/MS/XD)

NEW CARD CONN

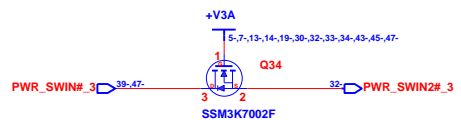
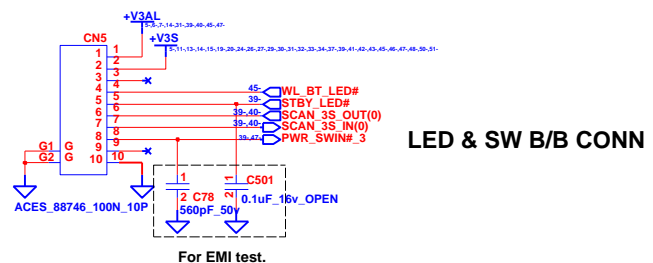
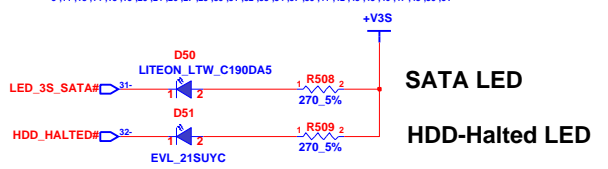
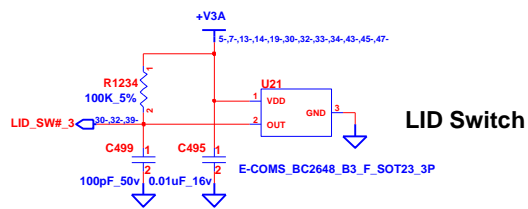
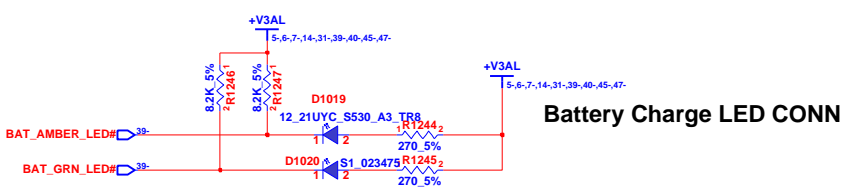
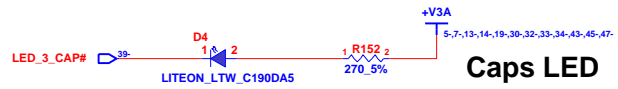
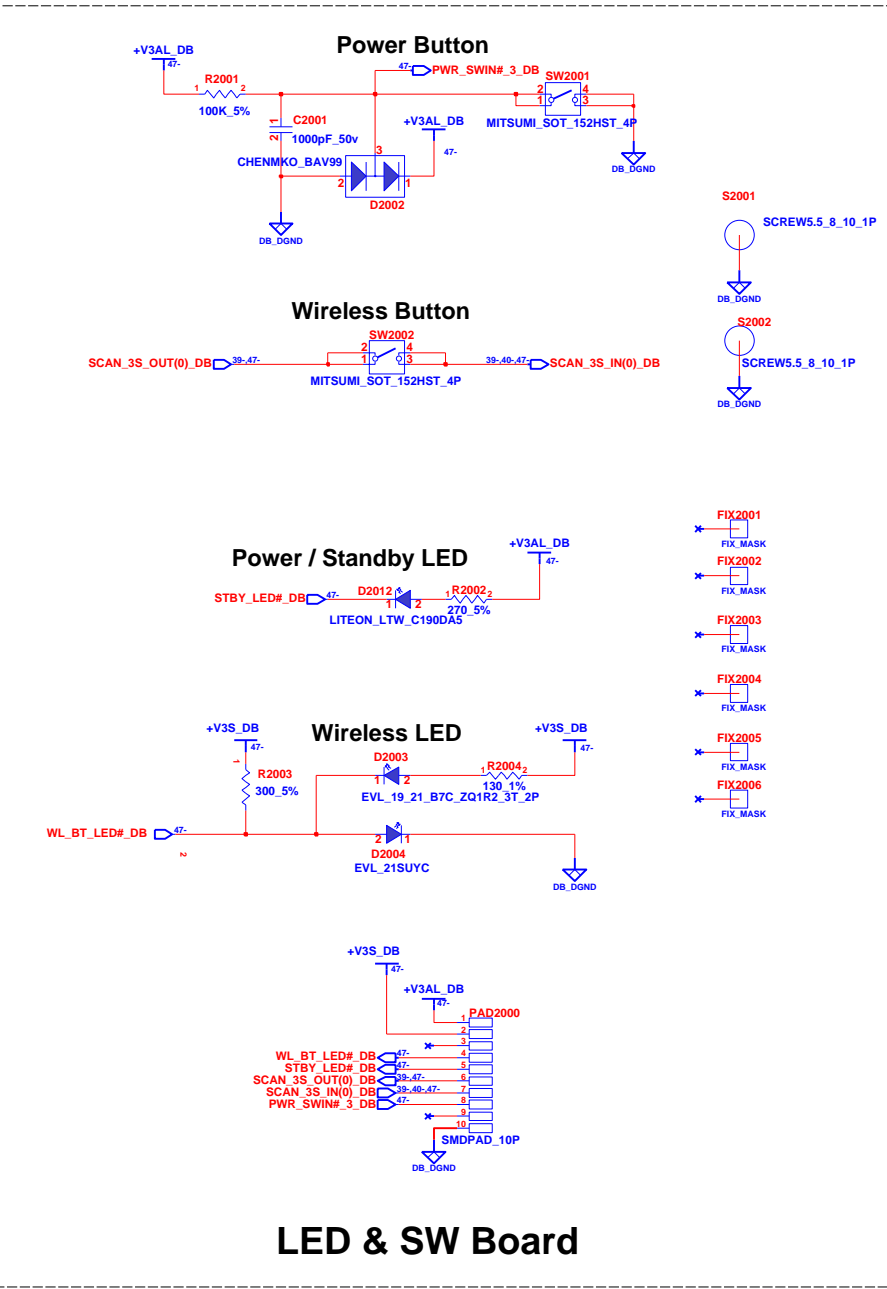
INVENTEC

TITLE **S-SERIES - Discrete**
 New Card & 4 in 1 Card (SD/MMC/MS/XD)

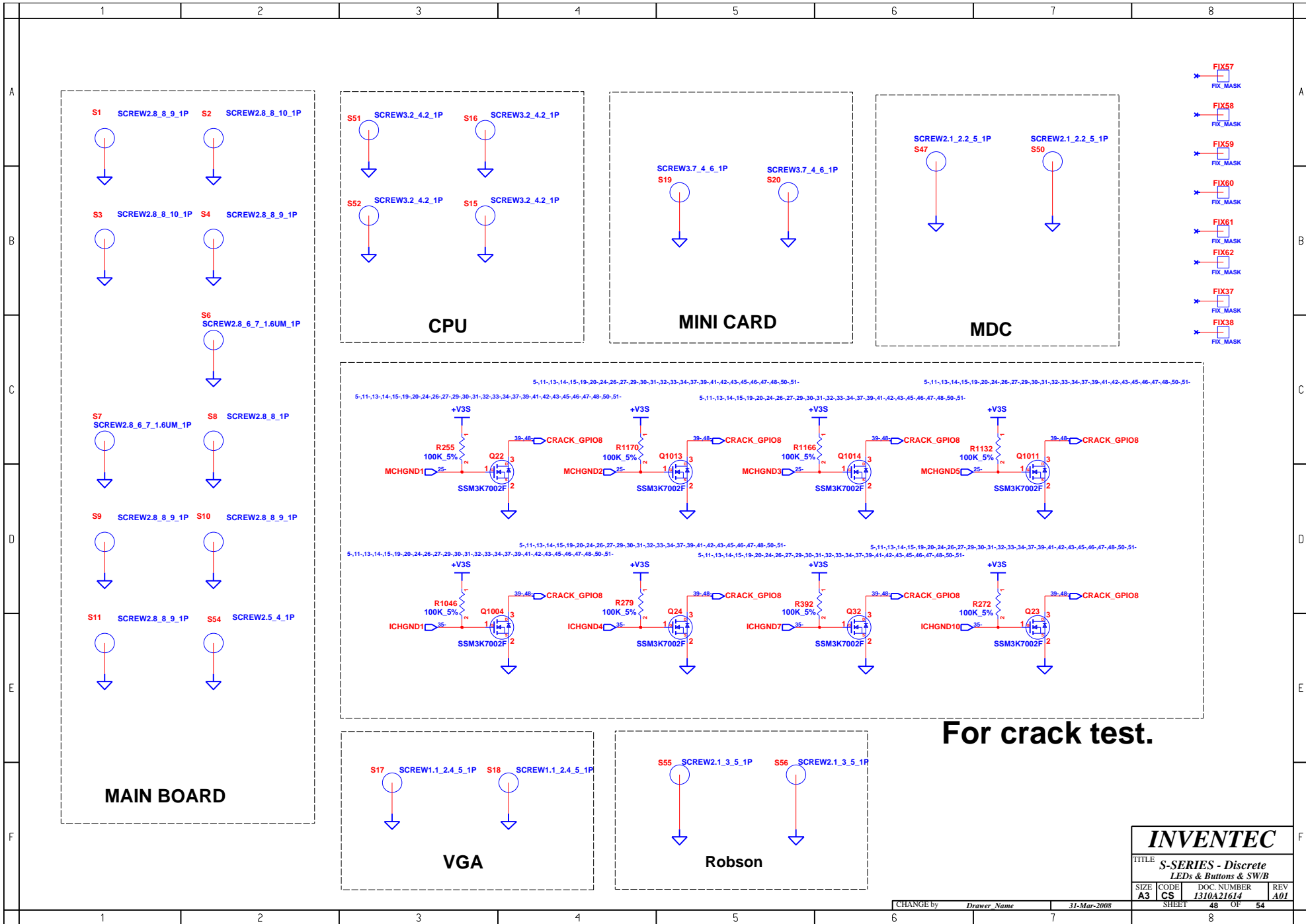
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01

CHANGE by *Drawer Name* 2-Apr-2008

SHEET 46 OF 54

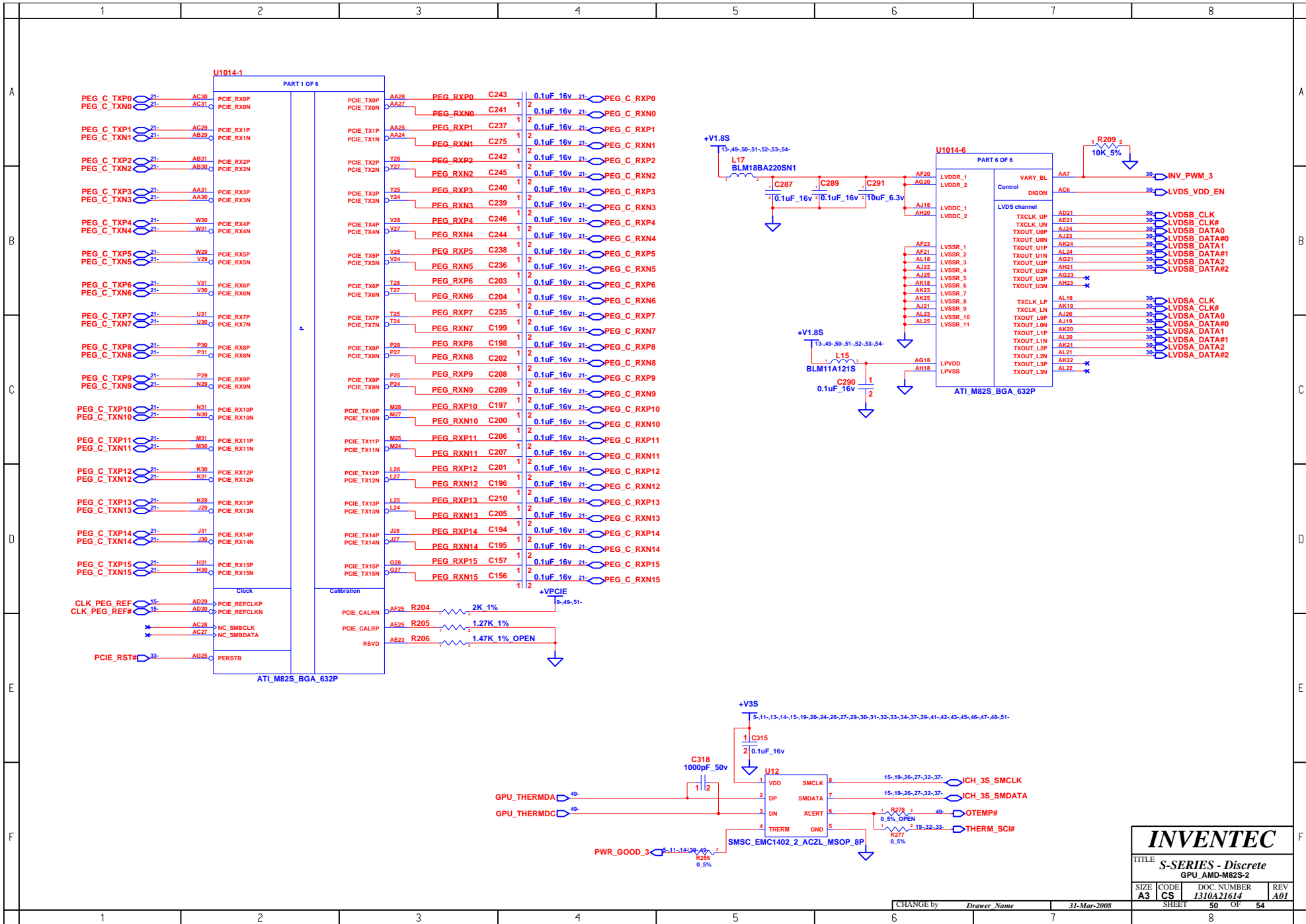


INVENTEC			
TITLE: S-SERIES - Discrete LEDs & Buttons & SW/B			
SIZE: A3	CODE: CS	DOC NUMBER: 1310A21614	REV: A01
CHANGE by: Drawer Name		31-Mar-2008	SHEET 47 OF 54

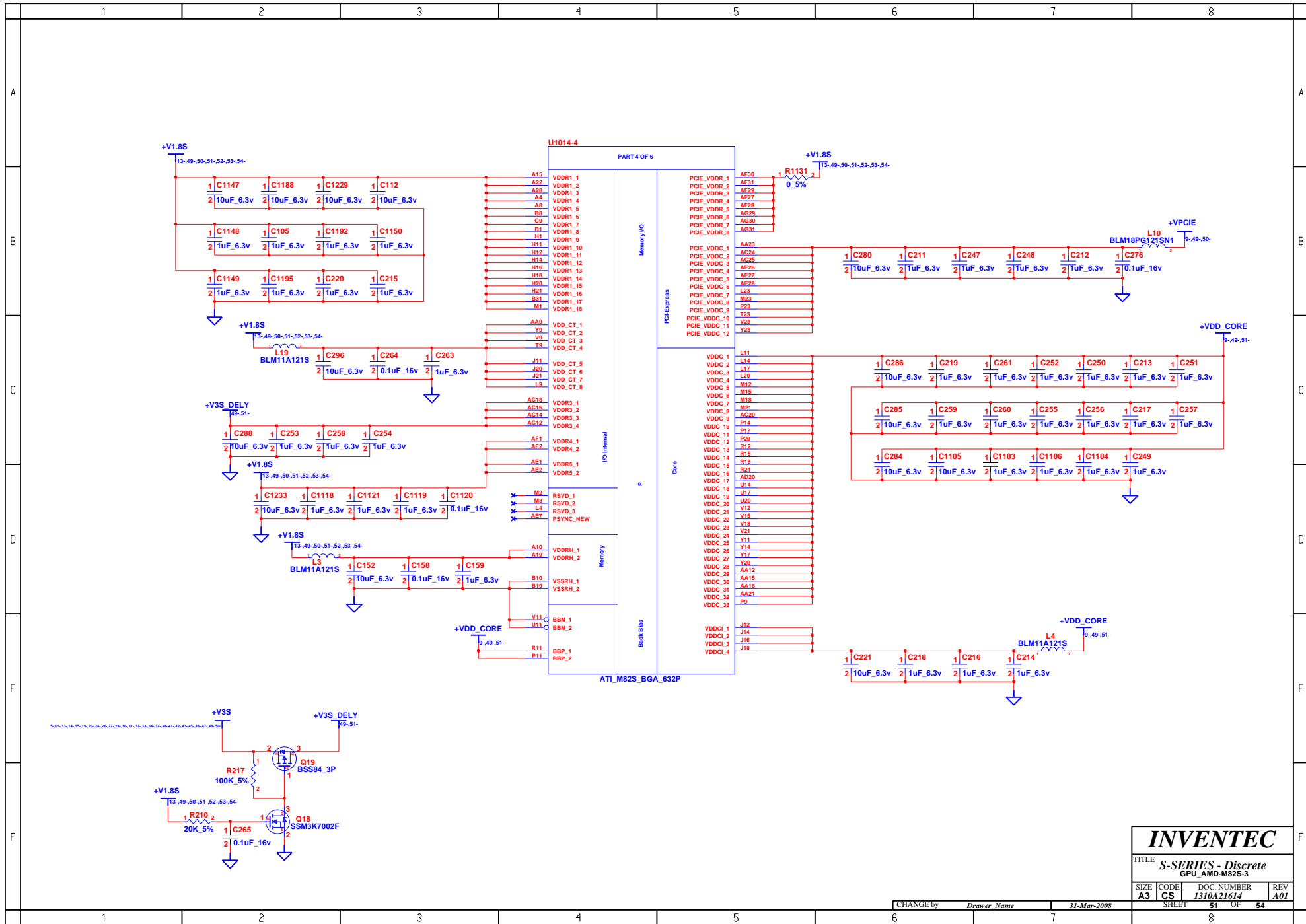


For crack test.

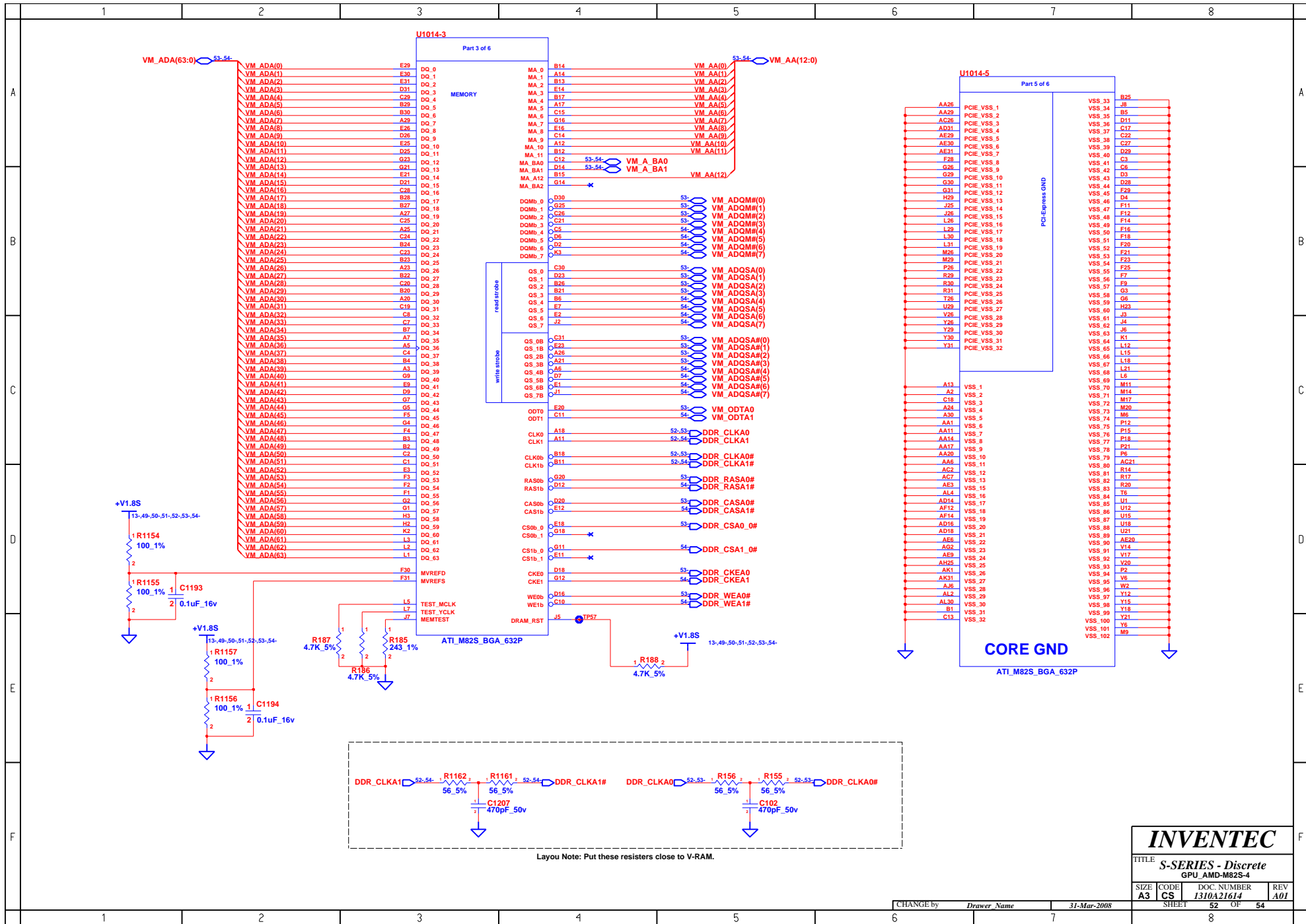
INVENTEC			
TITLE <i>S-SERIES - Discrete LEDs & Buttons & SW/B</i>			
SIZE A3	CODE CS	DOC NUMBER 1310A21614	REV A01
CHANGE by <i>Drawer Name</i>		31-Mar-2008	
SHEET		48 OF 54	



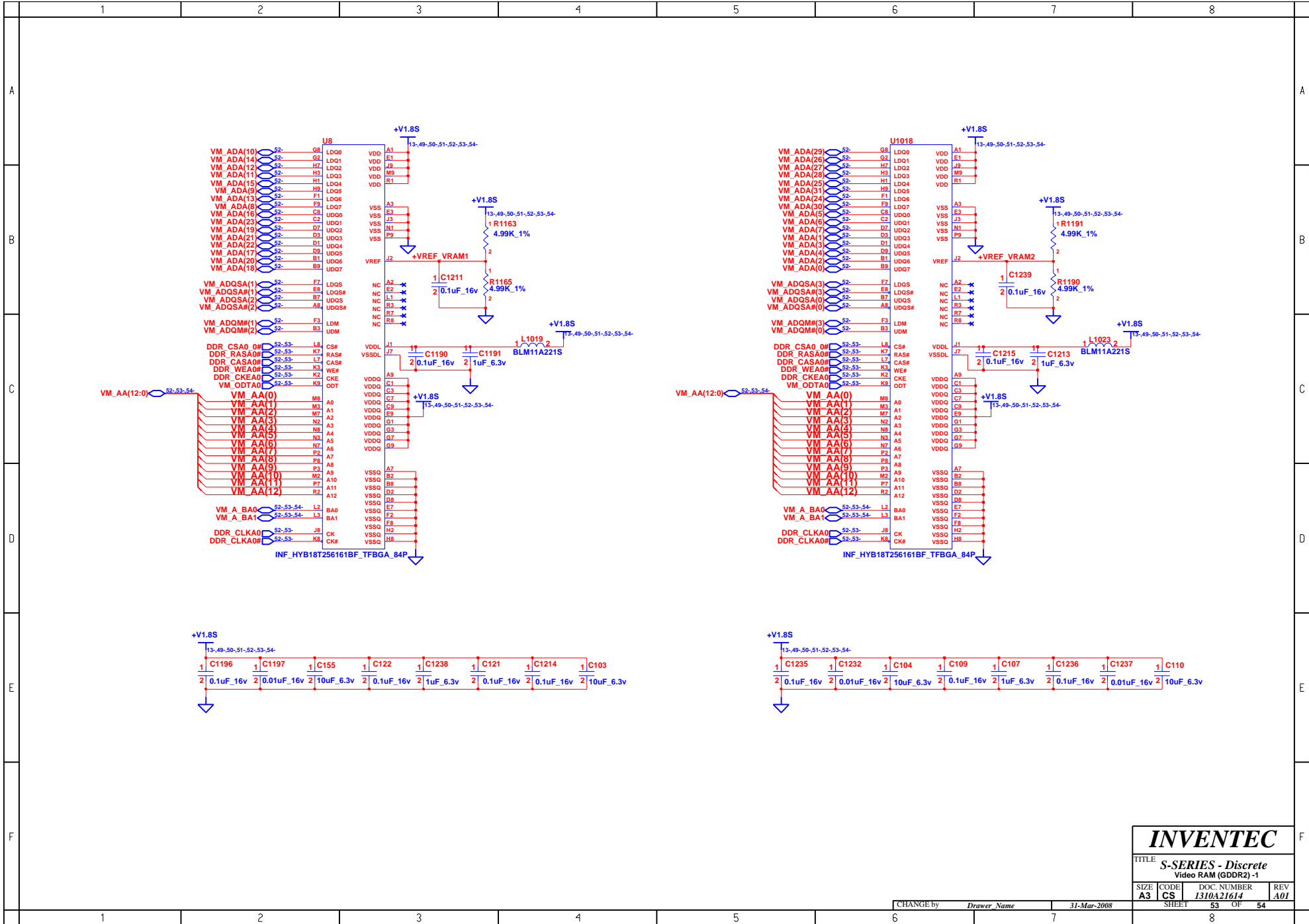
INVENTEC			
TITLE: S-SERIES - Discrete			
GPU_AMD-M82S-2			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A21614	A01



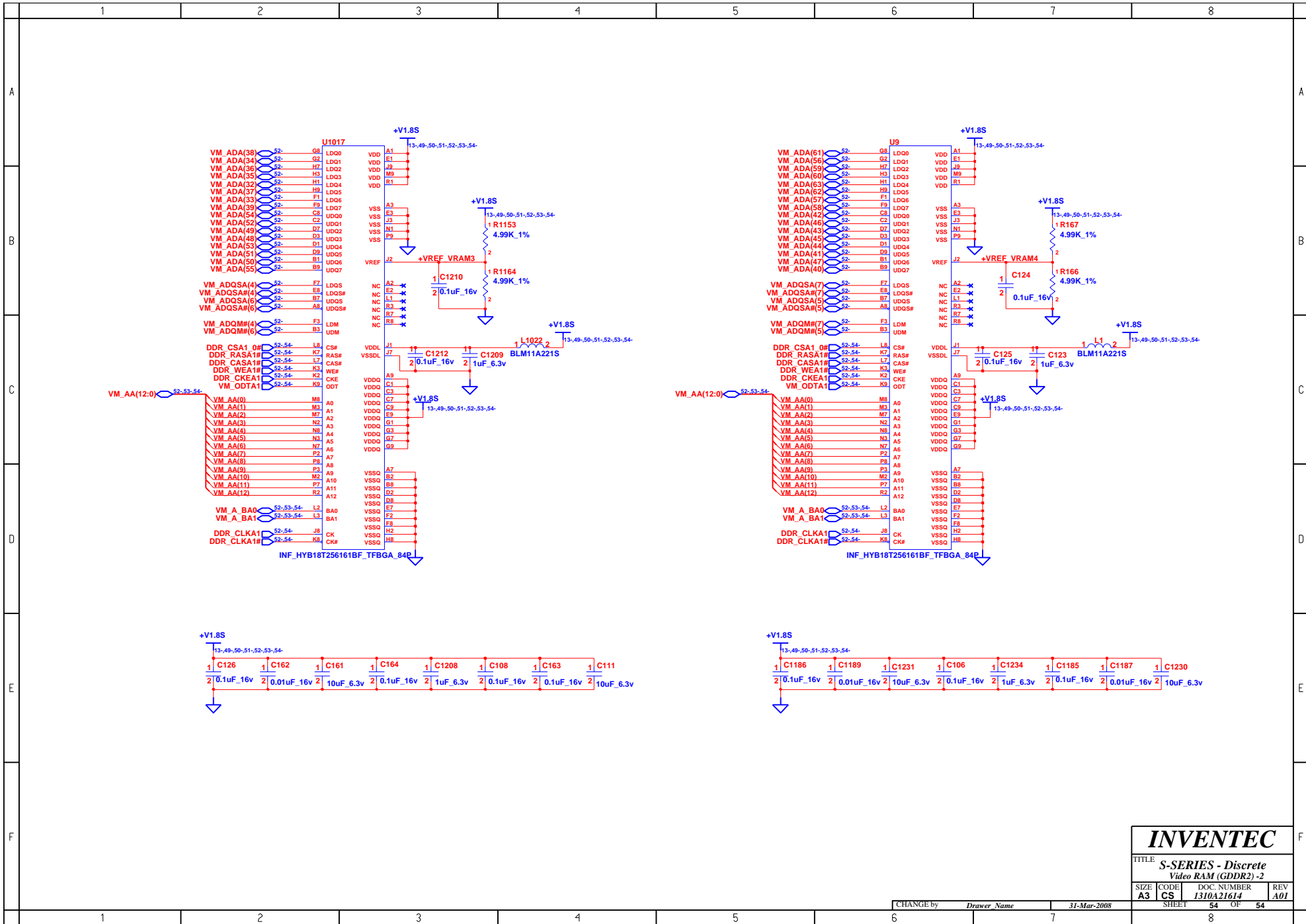
INVENTEC			
TITLE S-SERIES - Discrete GPU_AMD-M82S-3			
SIZE A3	CODE CS	DOC. NUMBER I310A21614	REV A01
CHANGE by <i>Drawer Name</i>		31-Mar-2008	
SHEET 51		OF 54	



INVENTEC			
TITLE S-SERIES - Discrete GPU_AMD-M82S-4			
SIZE A3	CODE CS	DOC. NUMBER 1310A21614	REV A01
CHANGE by <i>Drawer Name</i>		31-Mar-2008	
SHEET		52 OF 54	



INVENTEC			
TITLE S-SERIES - Discrete			
Video RAM (GDDR2) -1			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01
CHANGE by		Drawer Name	31-Mar-2008
SHEET		53	OF 54



INVENTEC

TITLE
S-SERIES - Discrete
 Video RAM (GDDR2) -2

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A21614	A01

CHANGE by *Drawer Name* 31-Mar-2008

SHEET 54 OF 54