

DDD Discrete GDDR2

PV Build

2007.06.15

DATE	CHANGE NO.	REV

DRAWN	EE	DATE	POWER	DATE	INVENTEC			
DESIGN					TITLE			
CHECK					DDD Discrete			
RESPONSIBLE								
SIZE =	3	VER :			SIZE	CODE	DOC. NUMBER	REV
FILE NAME :	XXXX-XXXXXX-XX				A3	CS	Model No	A01
P/N	XXXXXXXXXXXX				SHEET	1	OF	55

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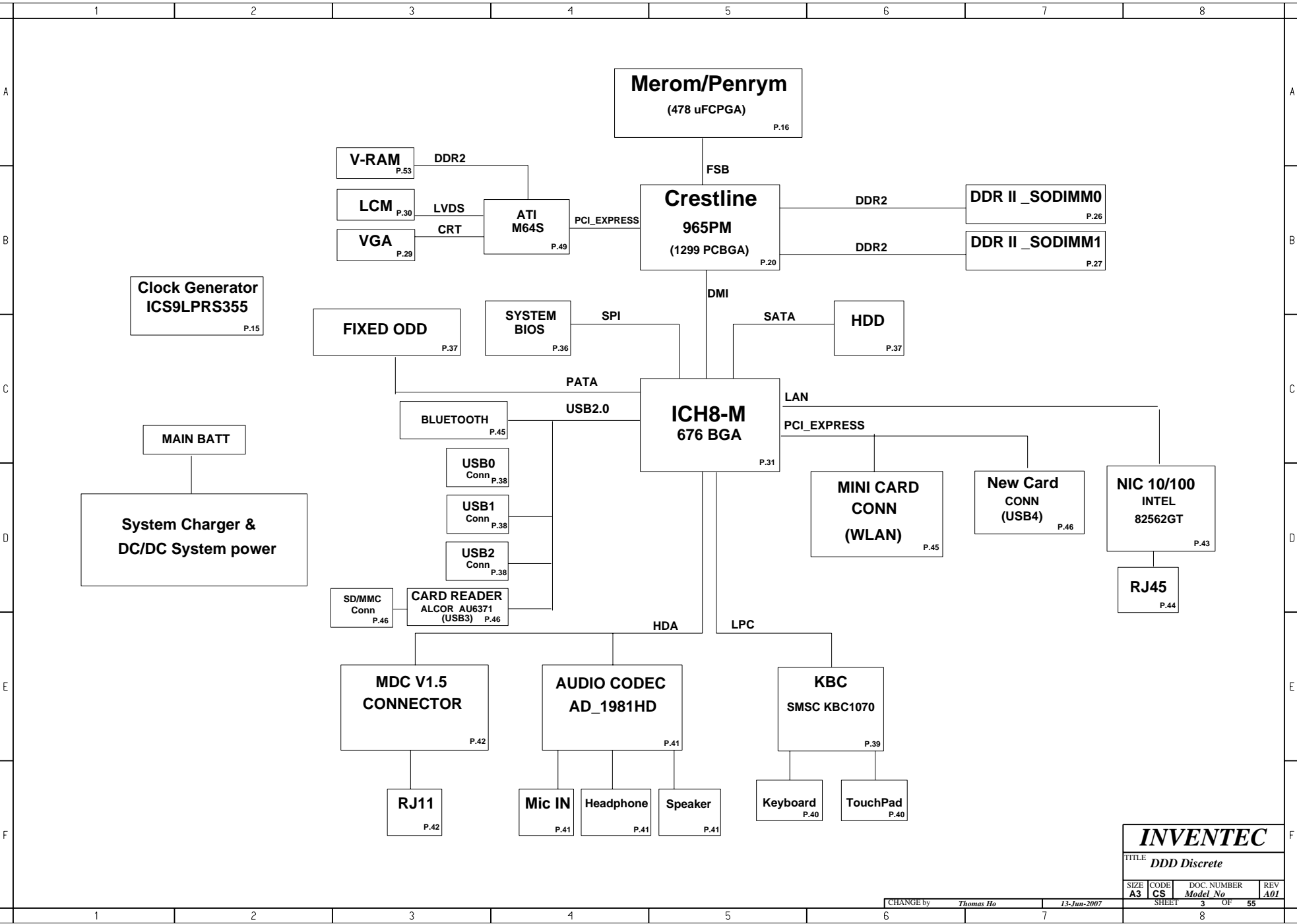
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TITLE
DDD Discrete

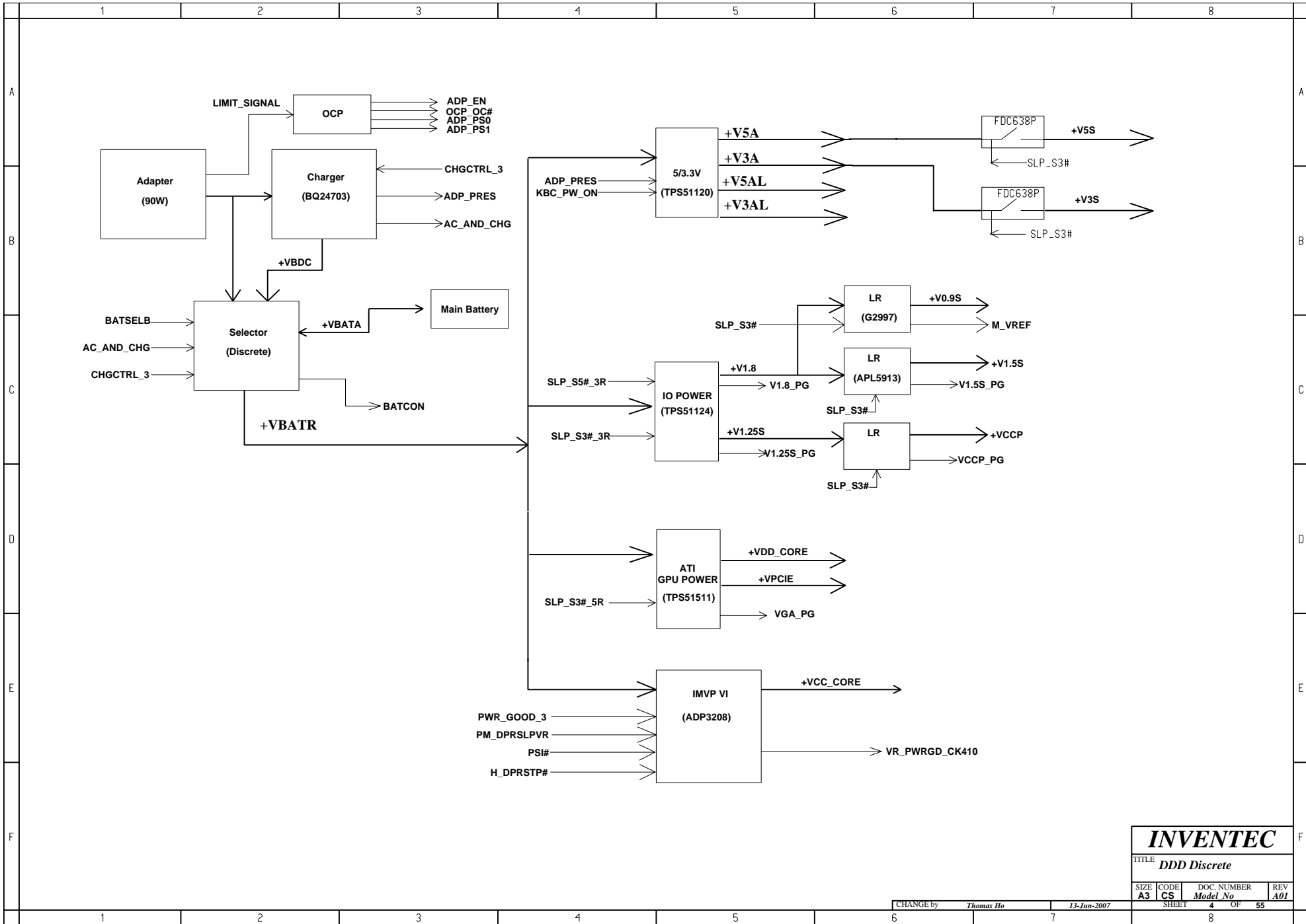
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

CHANGE by *Thomas Ho* 13-Jun-2007

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INVENTEC			
TITLE DDD Discrete			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV A01
CHANGE by <i>Thomas Ho</i>		13-Jun-2007	
SHEET 3 OF 55		8	

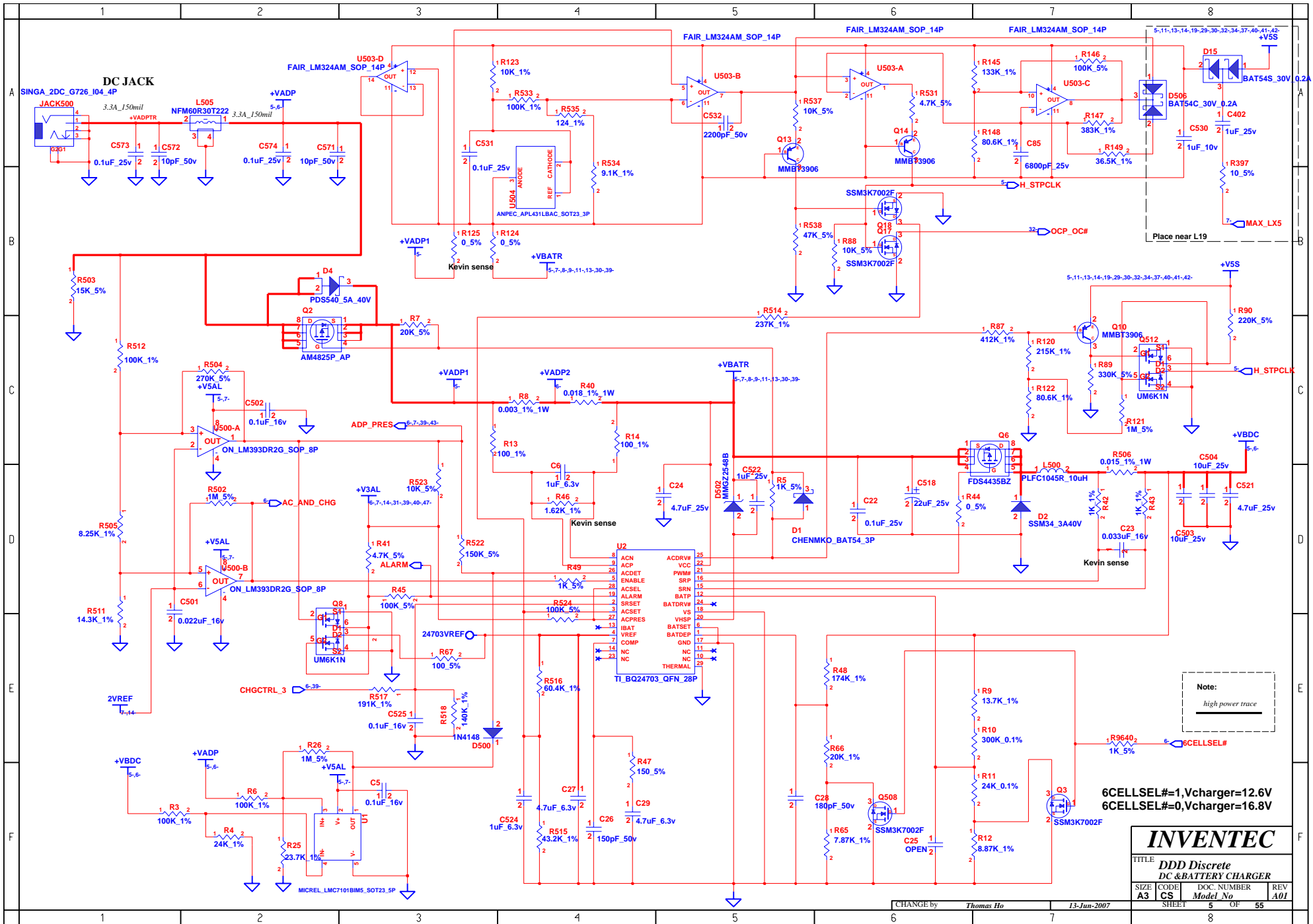


INVENTEC

TITLE **DDD Discrete**

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

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Note:
 high power trace

6CELLSEL#=1, Vcharger=12.6V
 6CELLSEL#=0, Vcharger=16.8V

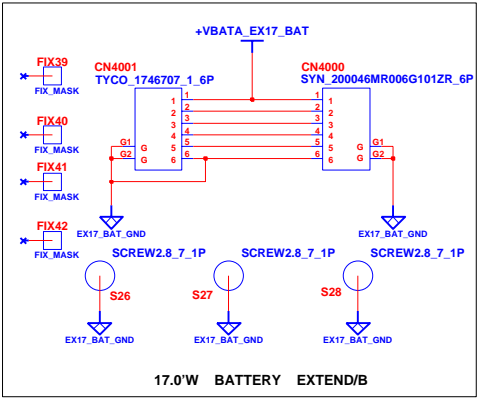
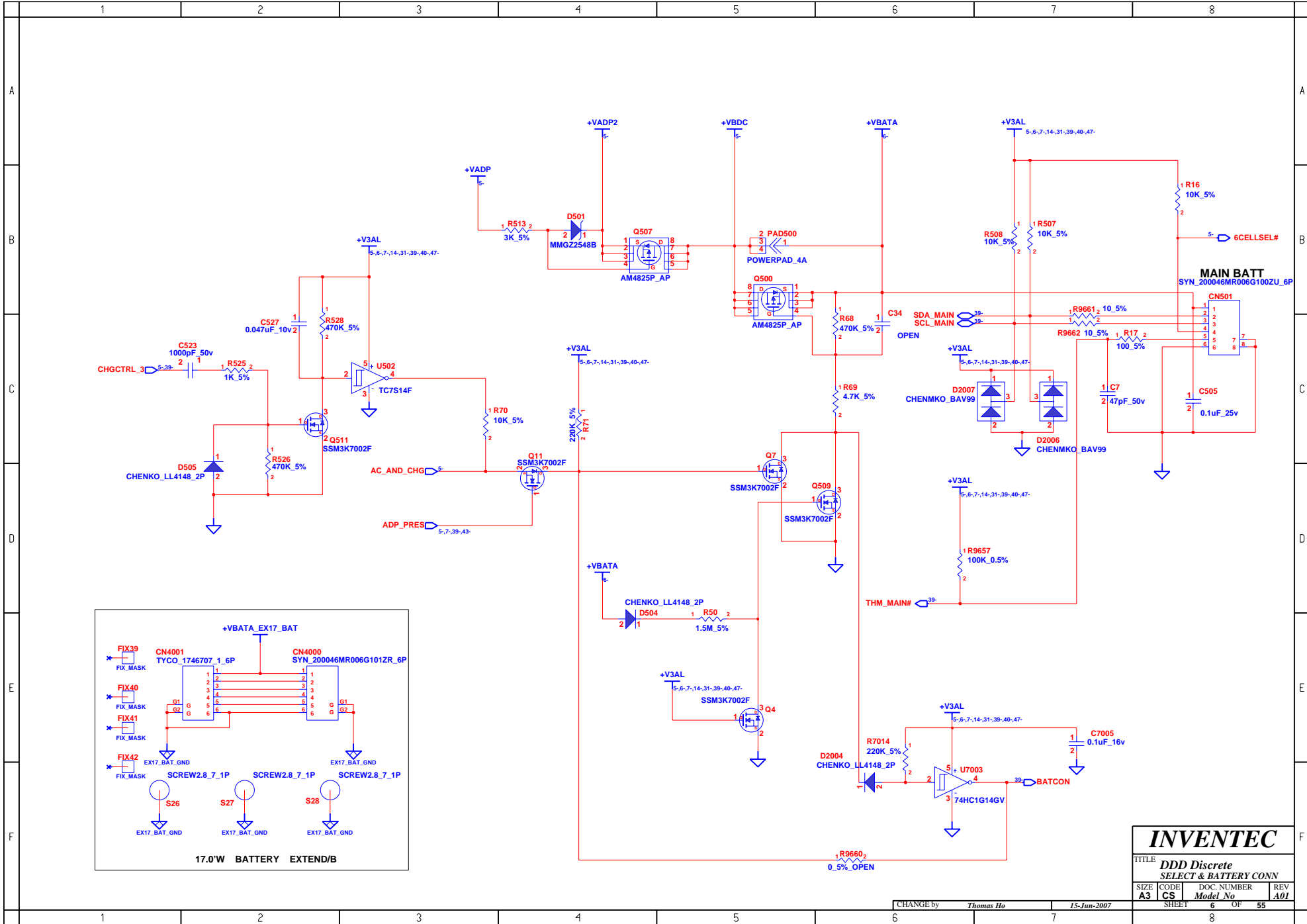
INVENTEC

TITLE: DDD Discrete
 DC & BATTERY CHARGER

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

CHANGE by: Thomas Ho 13-Jun-2007

SHEET: 5 OF 55

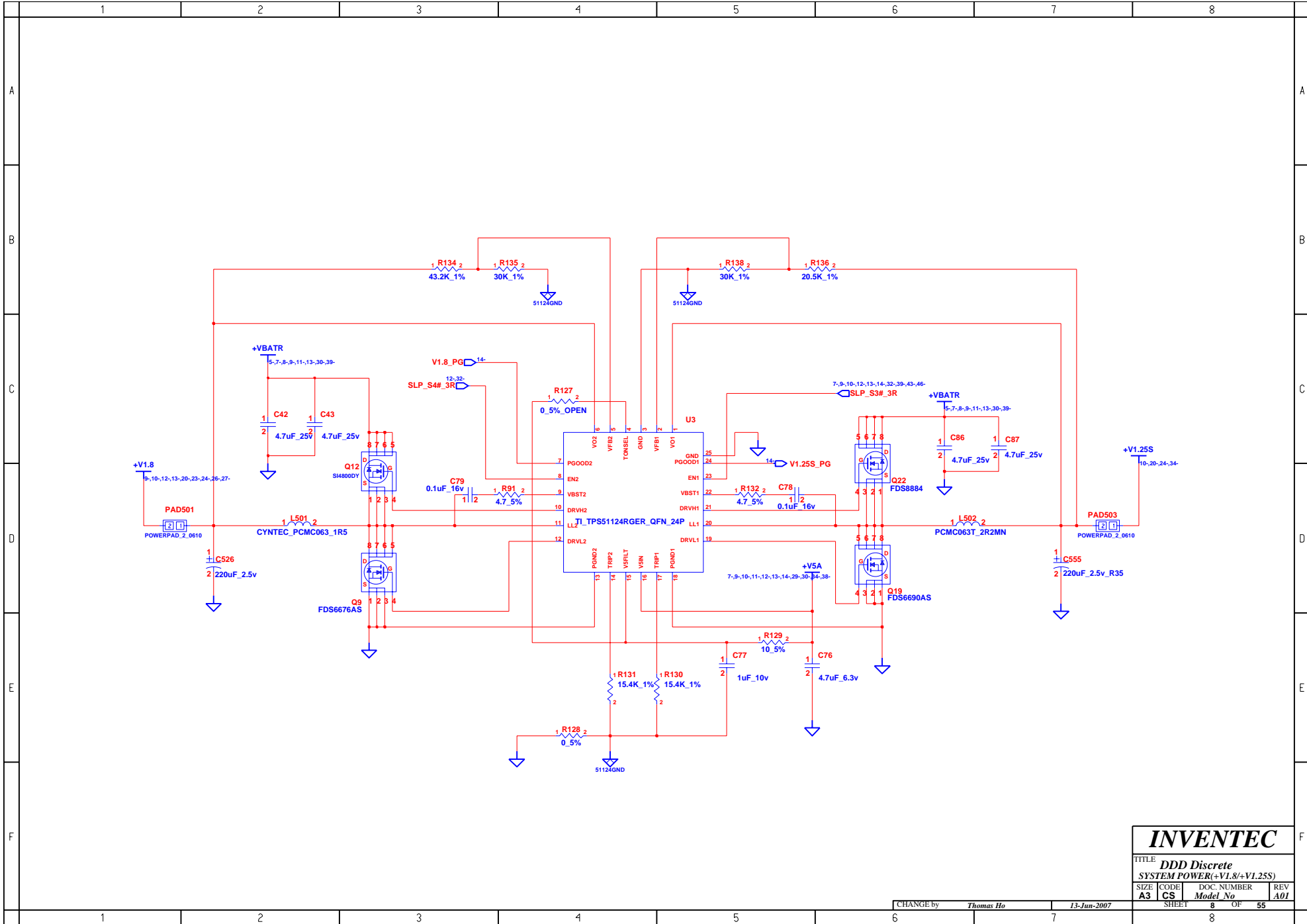


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TITLE			
DDD Discrete			
SELECT & BATTERY CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

CHANGE by Thomas Ho 15-Jun-2007

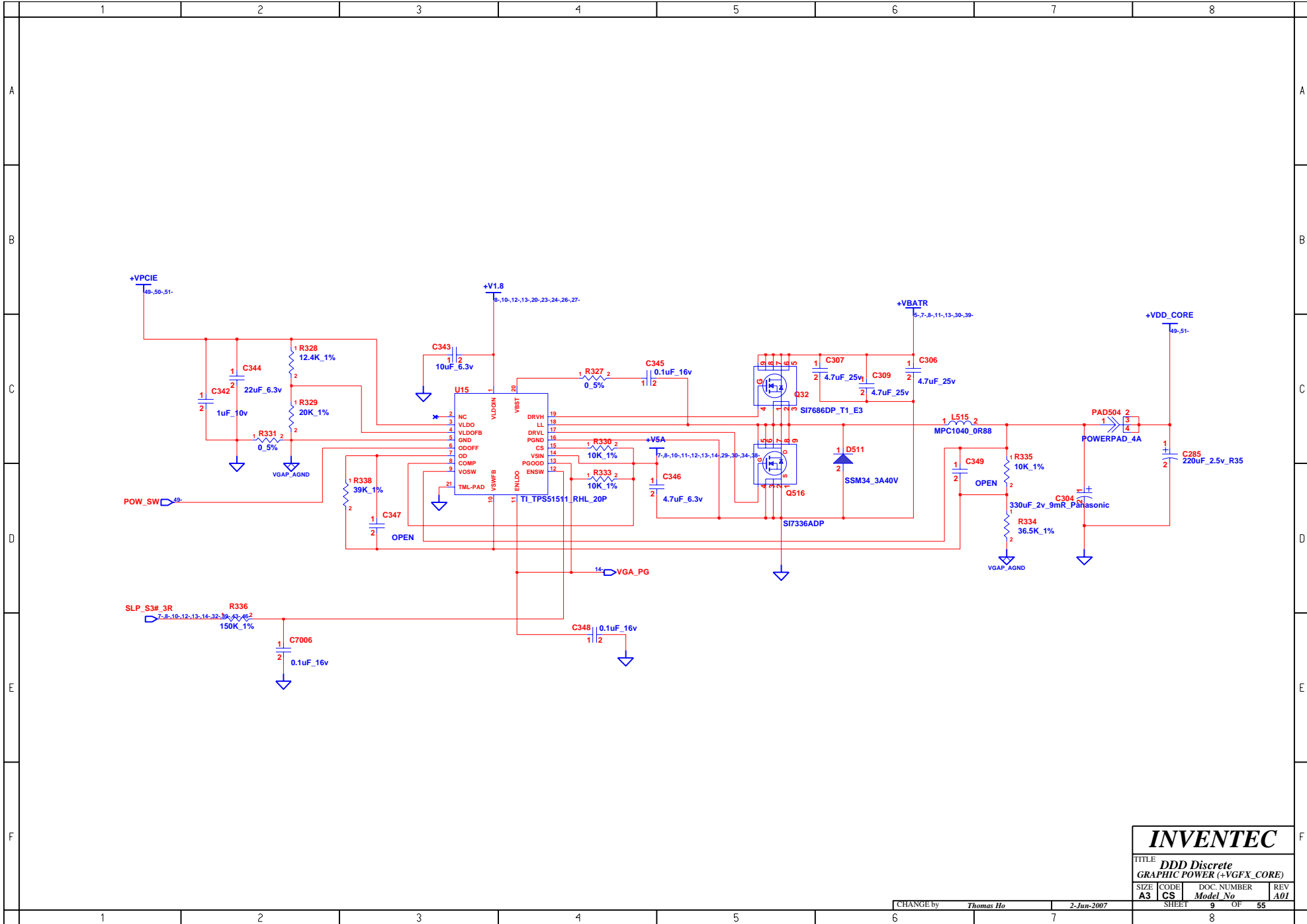
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INVENTEC

TITLE			
DDD Discrete			
SYSTEM POWER(+V1.8/+V1.25S)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

CHANGE by Thomas Ho 13-Jun-2007

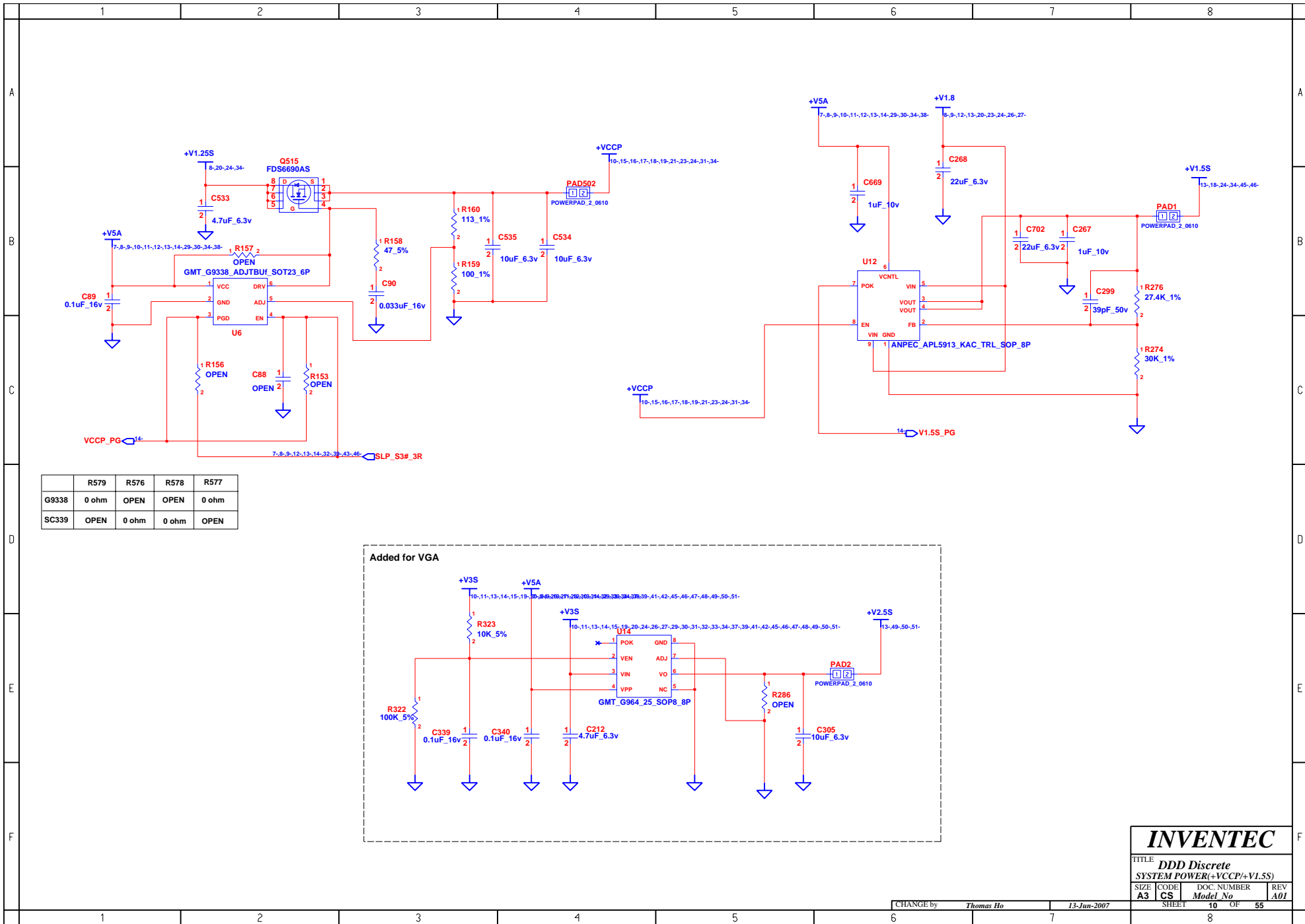


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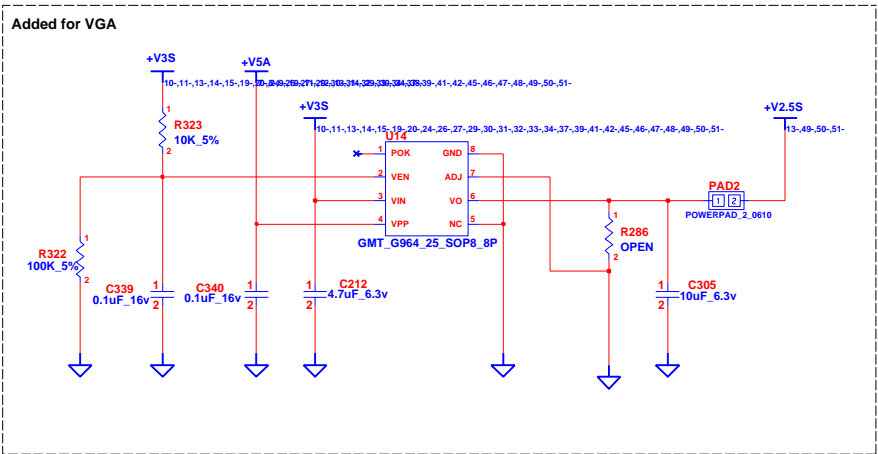
TITLE			
DDD Discrete			
GRAPHIC POWER (+VGF_X_CORE)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

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	R579	R576	R578	R577
G9338	0 ohm	OPEN	OPEN	0 ohm
SC339	OPEN	0 ohm	0 ohm	OPEN

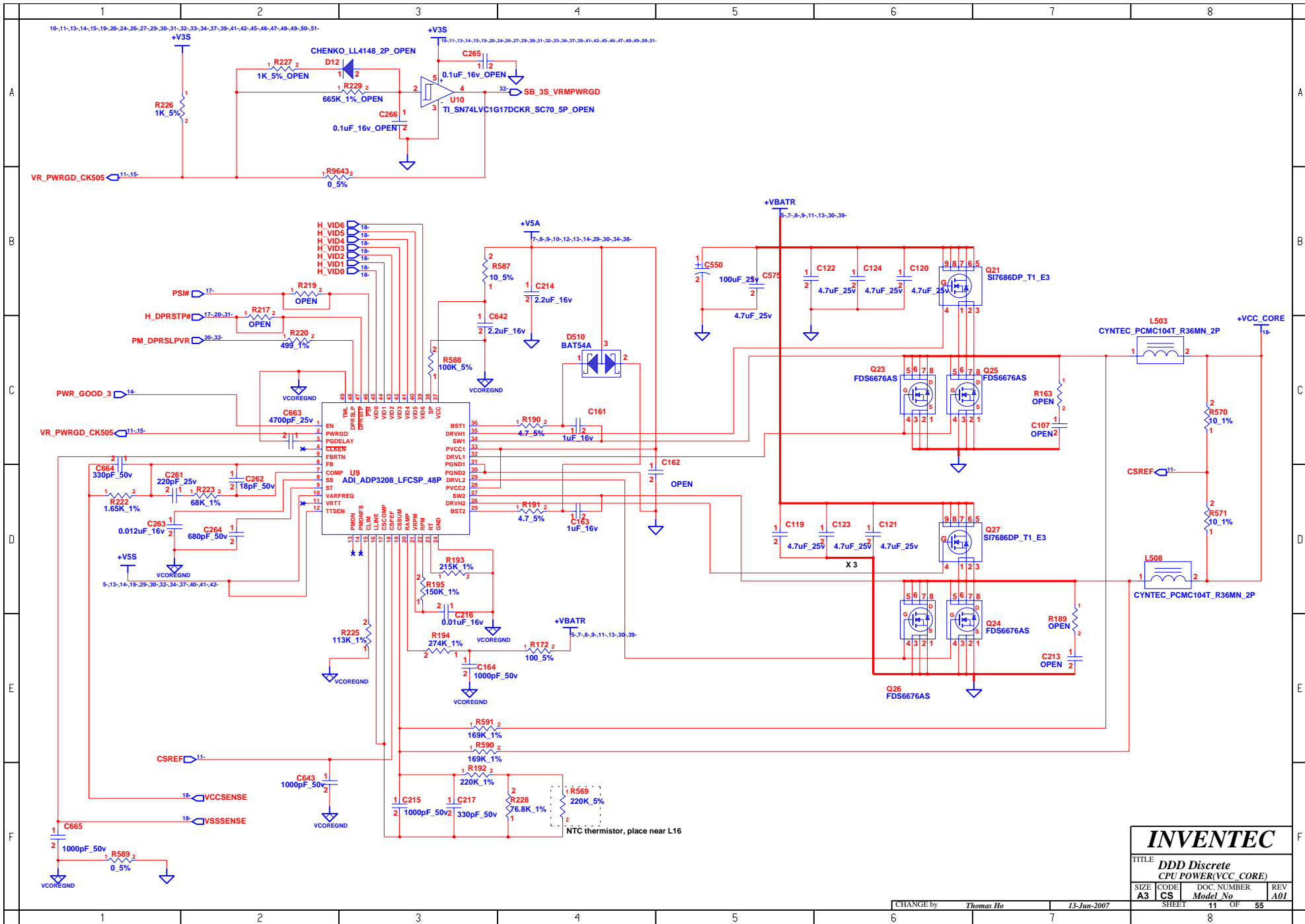


INVENTEC

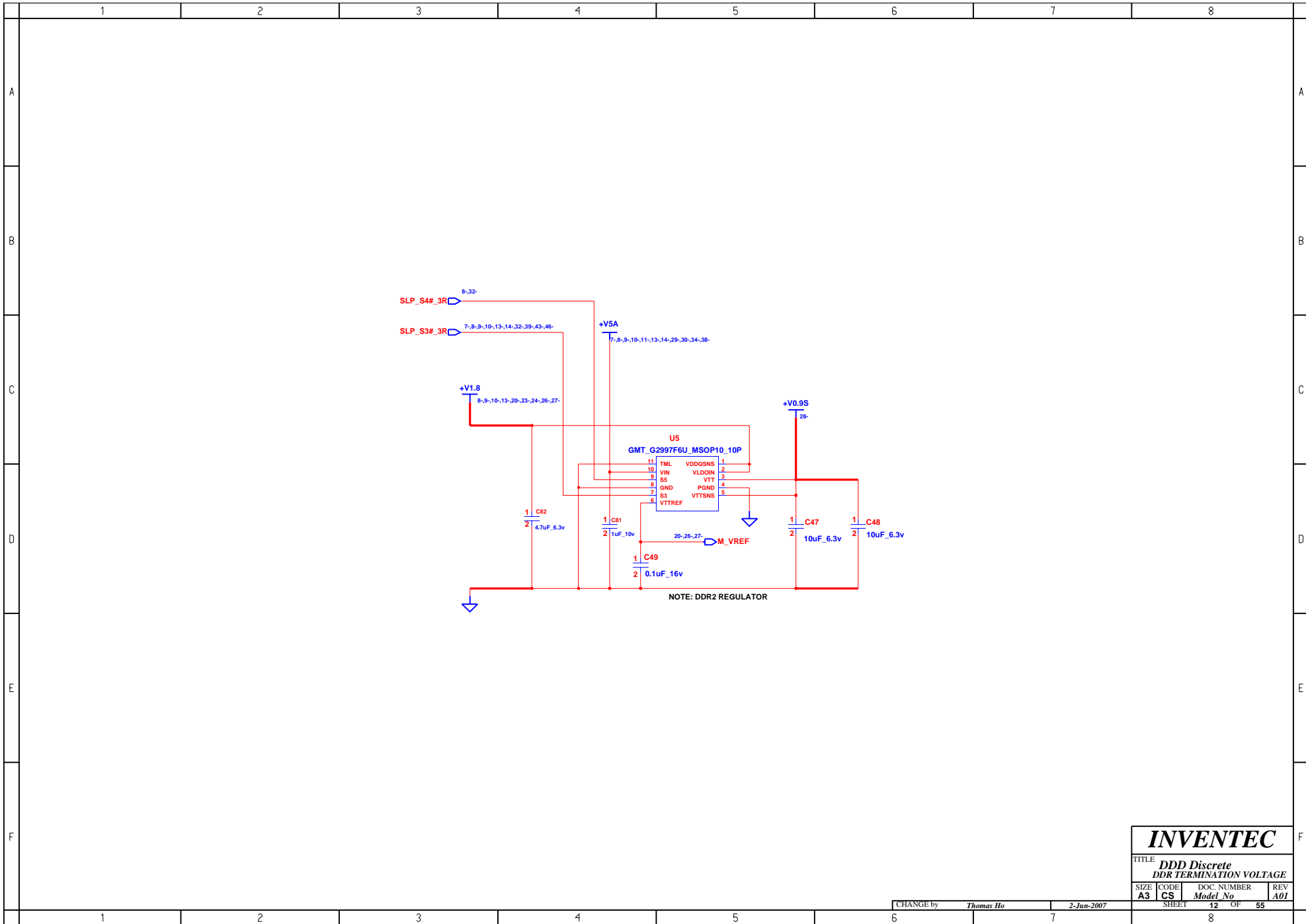
TITLE **DDD Discrete**
SYSTEM POWER(+VCCP/+V1.5S)

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

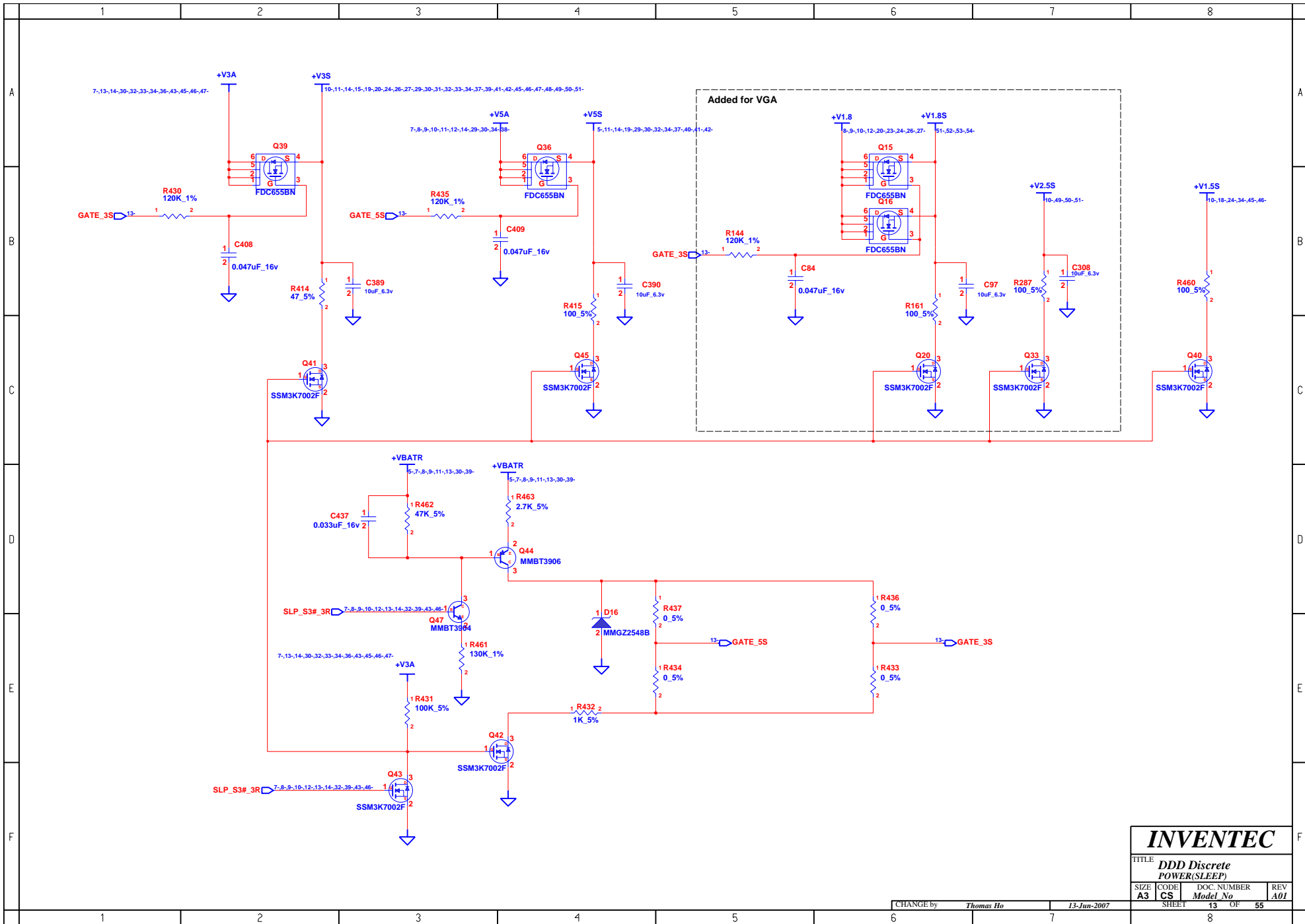
CHANGE by *Thomas Ho* 13-Jun-2007 SHEET 10 OF 55



INVENTEC			
TITLE DDD Discrete CPU POWER(VCC_CORE)			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV A01
CHANGE by <i>Thomas Ho</i>		13-Jun-2007	
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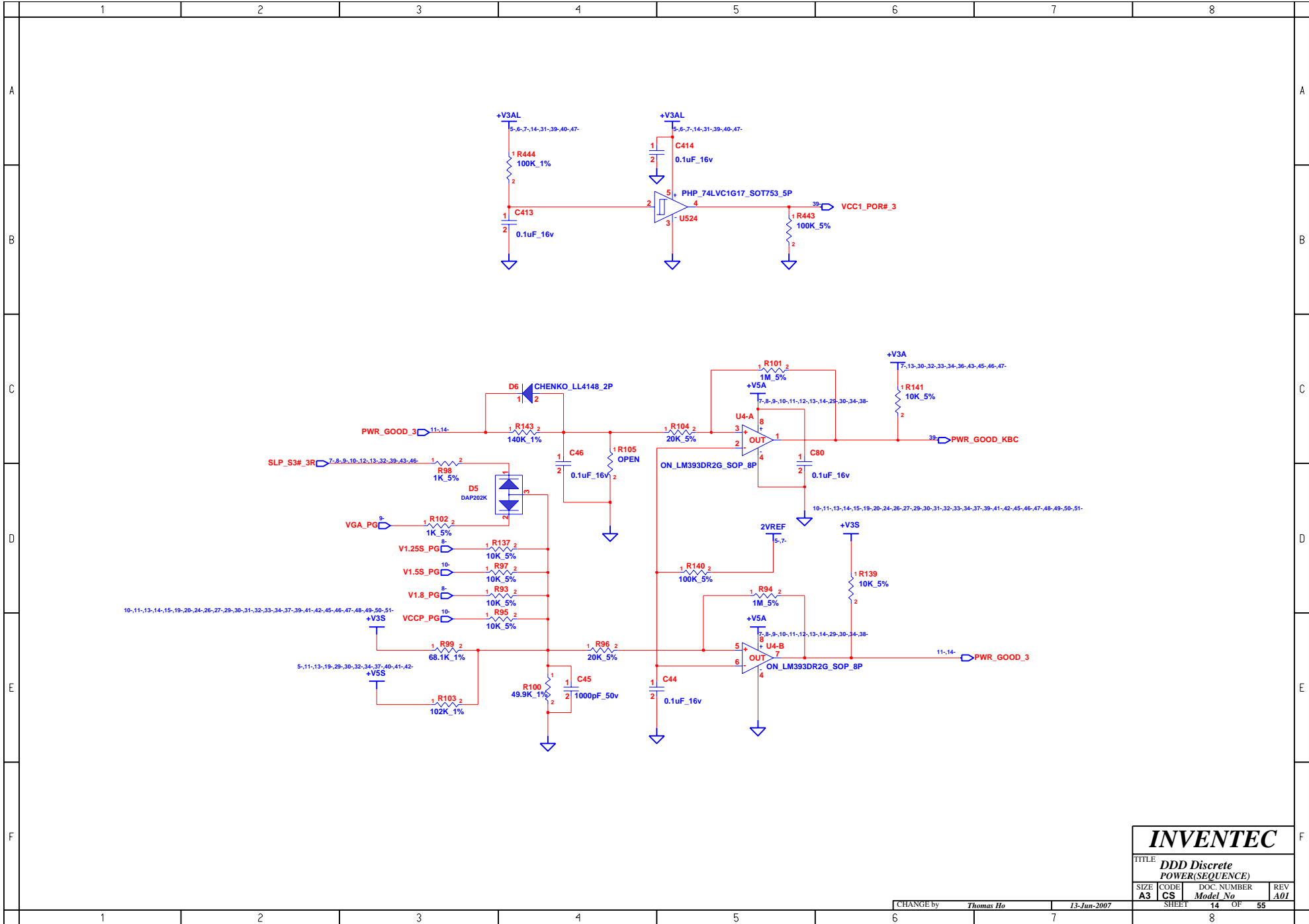
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TITLE DDD Discrete DDR TERMINATION VOLTAGE			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV A01
CHANGE by <i>Thomas Ho</i>		2-Jun-2007	
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INVENTEC

TITLE			
DDD Discrete POWER(SLEEP)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

CHANGE by	Thomas Ho	13-Jun-2007	SHEET	13	OF	55
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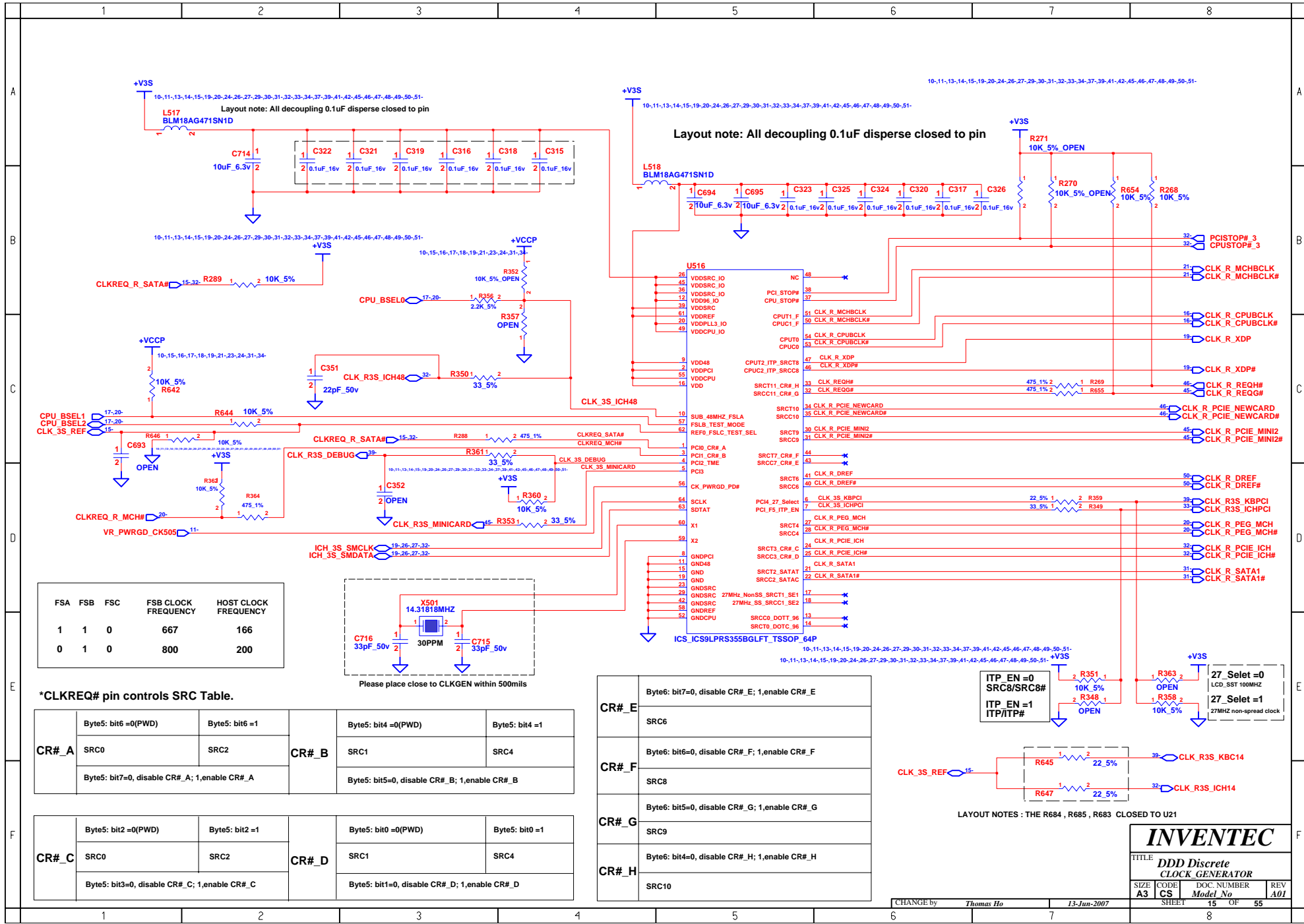
INVENTEC

TITLE
**DDD Discrete
 POWER(SEQUENCE)**

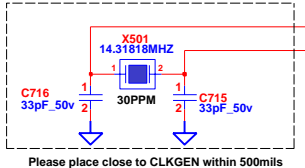
SIZE A3	CODE CS	DOC. NUMBER Model No	REV A01
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FSA	FSB	FSC	FSB CLOCK FREQUENCY	HOST CLOCK FREQUENCY
1	1	0	667	166
0	1	0	800	200

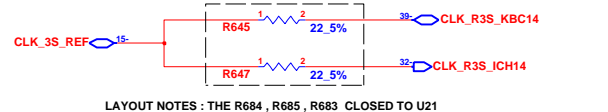
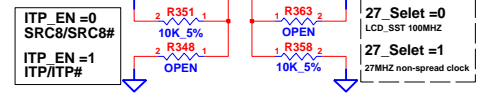


*CLKREQ# pin controls SRC Table.

CR#_A	Byte5: bit6 = 0(PWD)		Byte5: bit6 = 1		CR#_B
	SRC0	SRC2	SRC1	SRC4	
Byte5: bit7=0, disable CR#_A; 1,enable CR#_A			Byte5: bit5=0, disable CR#_B; 1,enable CR#_B		

CR#_C	Byte5: bit2 = 0(PWD)		Byte5: bit2 = 1		CR#_D
	SRC0	SRC2	SRC1	SRC4	
Byte5: bit3=0, disable CR#_C; 1,enable CR#_C			Byte5: bit1=0, disable CR#_D; 1,enable CR#_D		

CR#_E	Byte6: bit7=0, disable CR#_E; 1,enable CR#_E
SRC6	
CR#_F	Byte6: bit6=0, disable CR#_F; 1,enable CR#_F
SRC8	
CR#_G	Byte6: bit5=0, disable CR#_G; 1,enable CR#_G
SRC9	
CR#_H	Byte6: bit4=0, disable CR#_H; 1,enable CR#_H
SRC10	



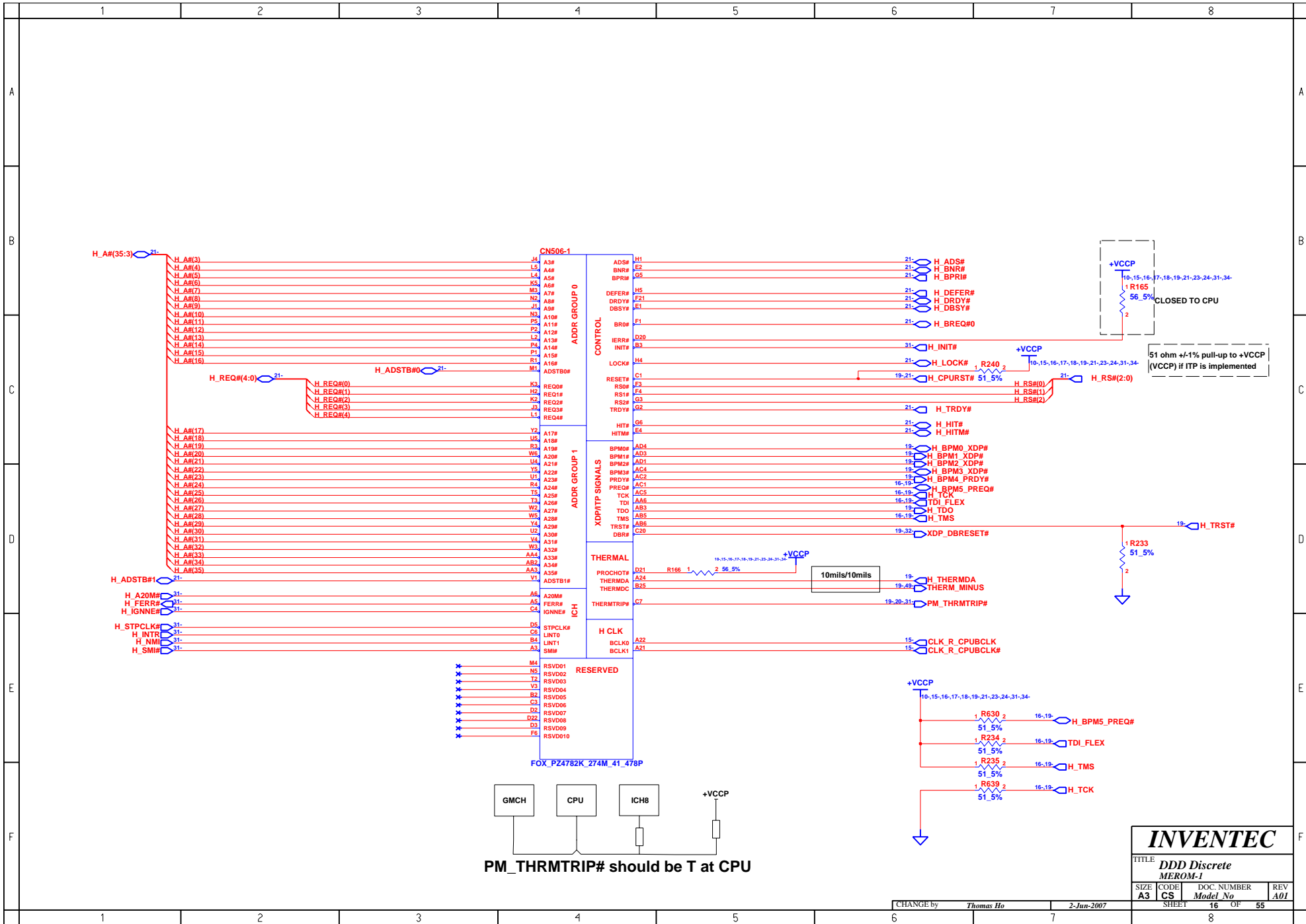
LAYOUT NOTES : THE R684 , R685 , R683 CLOSED TO U21

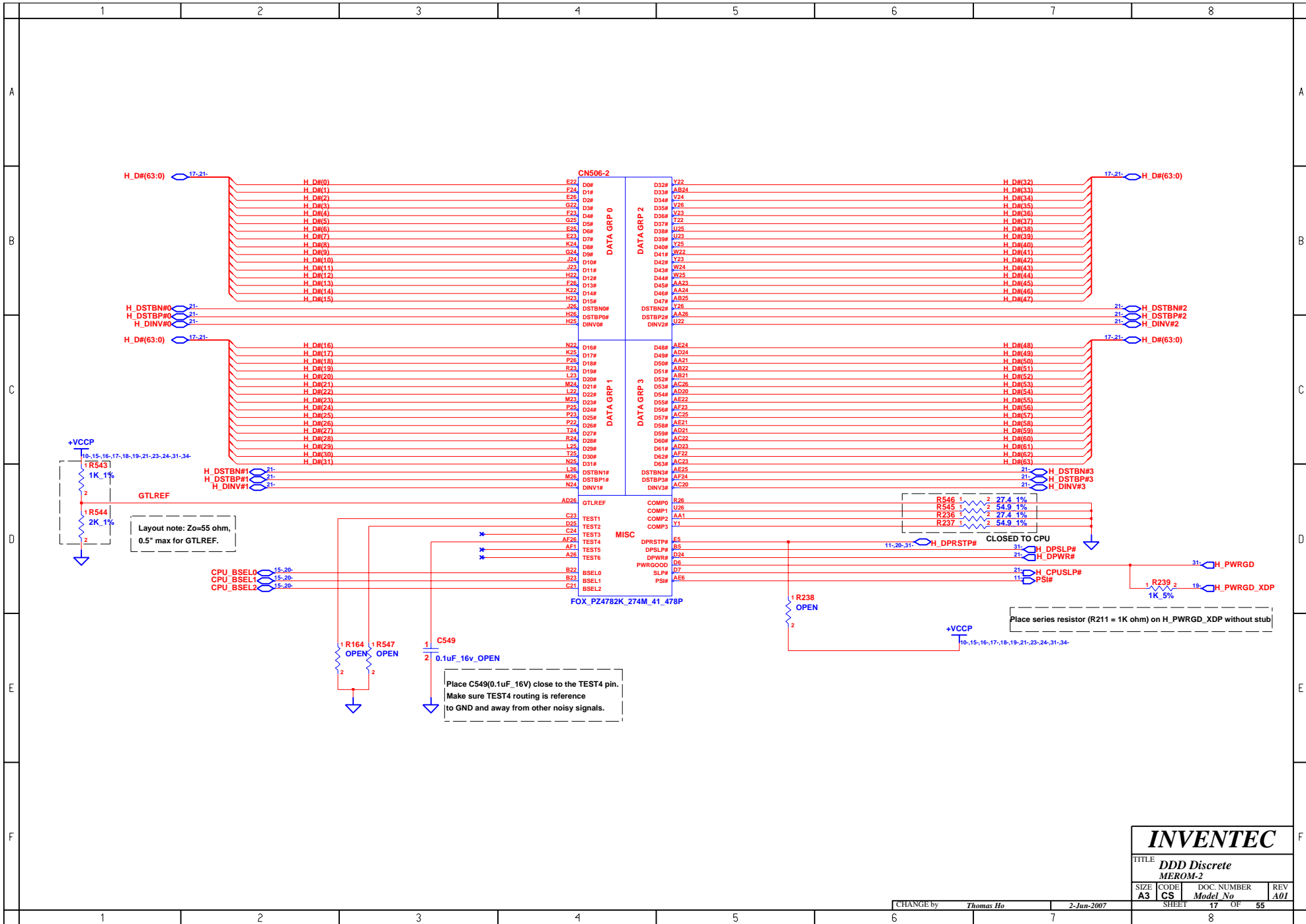
INVENTEC

TITLE
**DDD Discrete
CLOCK GENERATOR**

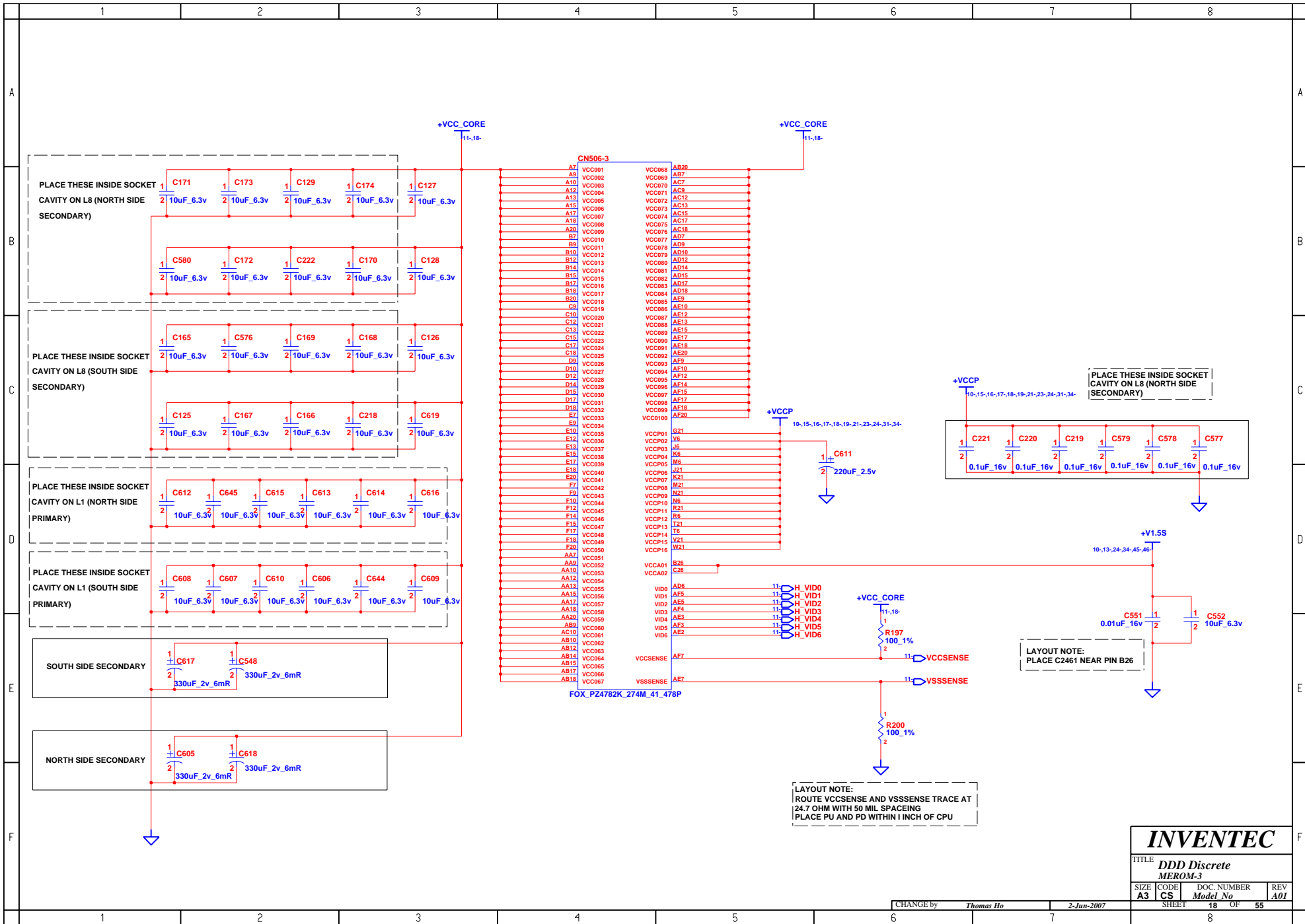
SIZE A3	CODE CS	DOC. NUMBER Model No	REV A01
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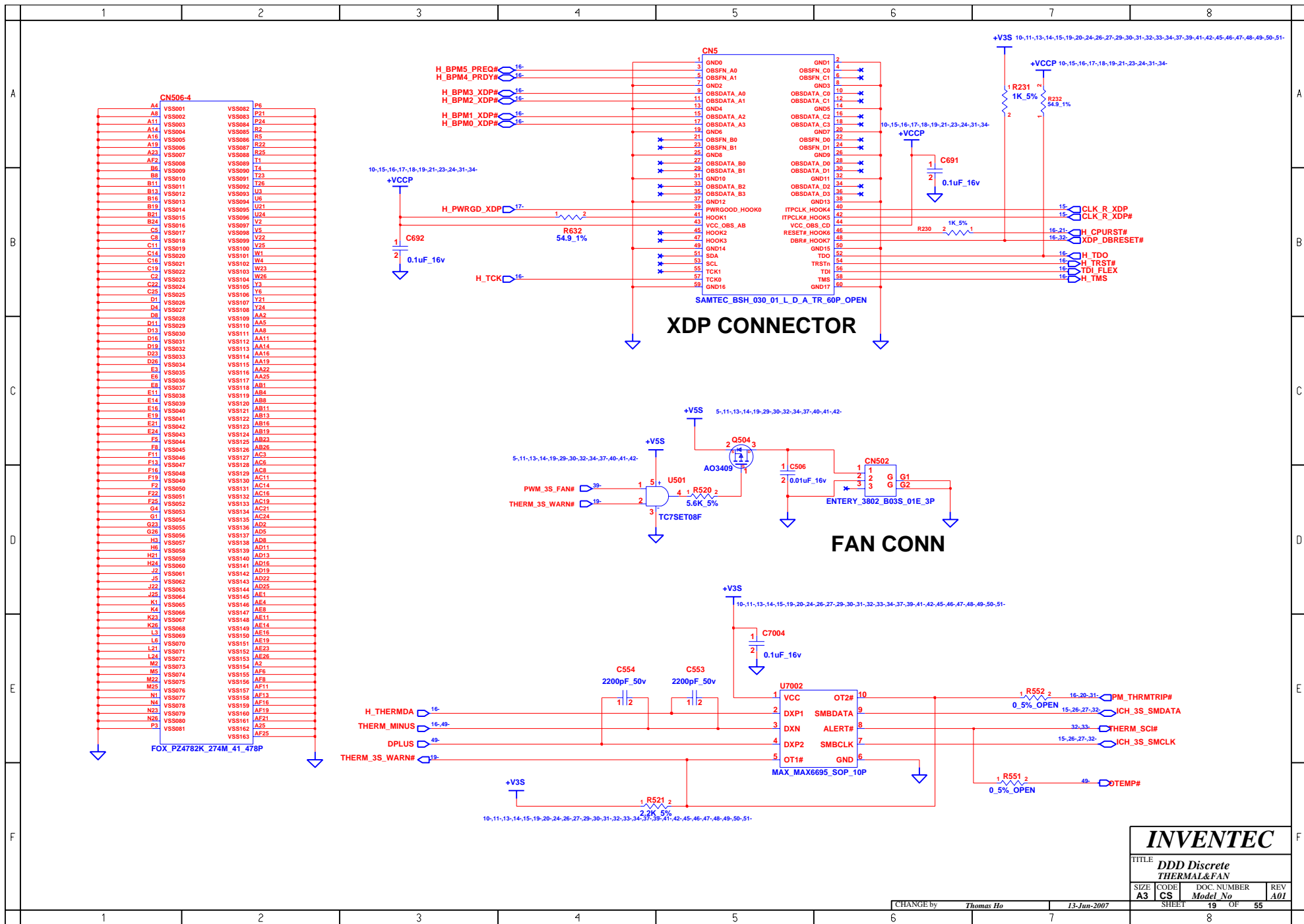


INVENTEC			
TITLE DDD Discrete MEROM-2			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV A01
CHANGE by <i>Thomas Ho</i>		2-Jun-2007	
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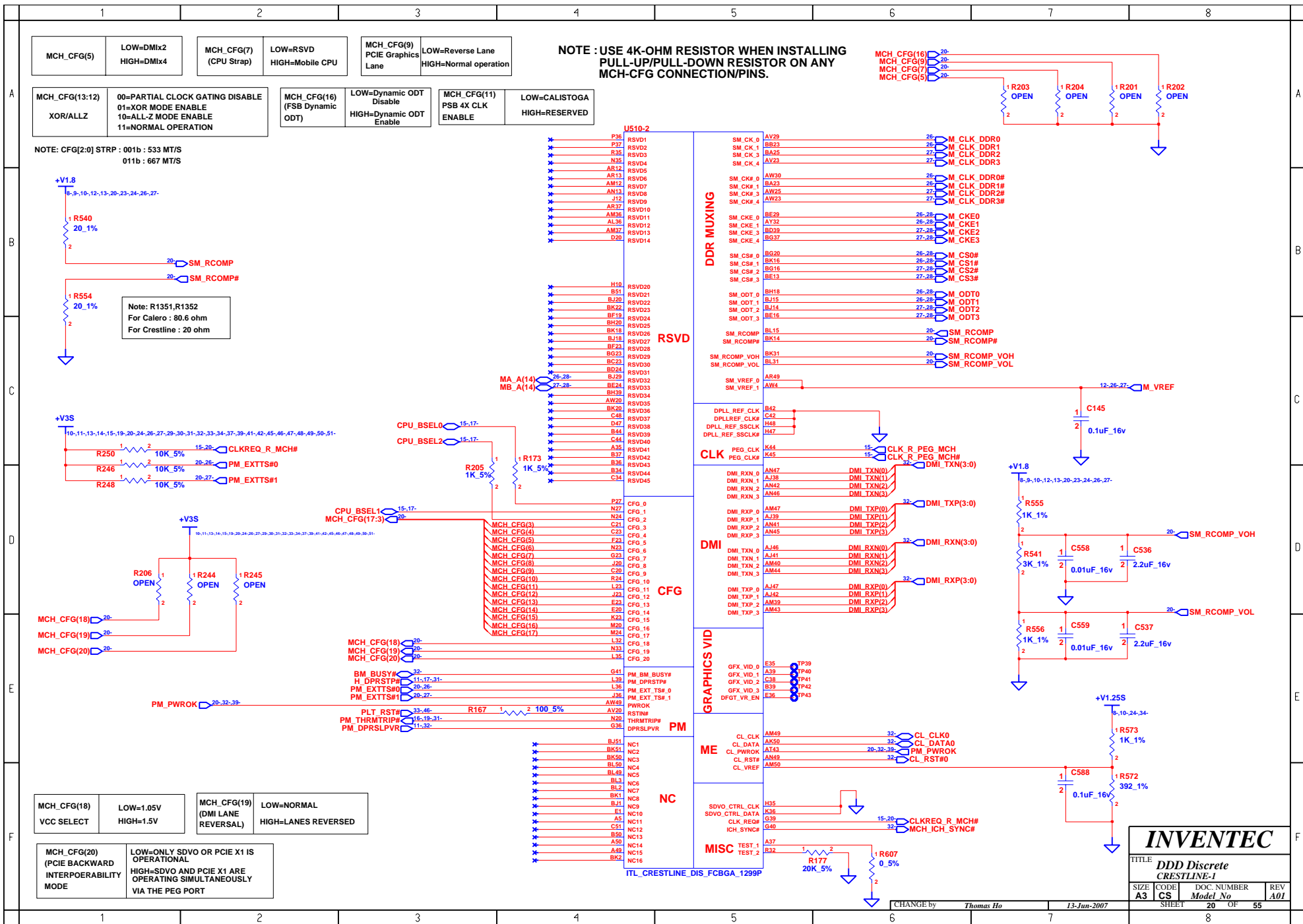


INVENTEC

TITLE			
DDD Discrete			
MEROM-3			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01
CHANGE by Thomas Ho			2-Jun-2007
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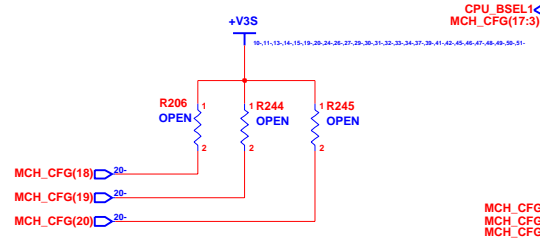
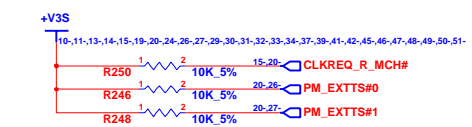
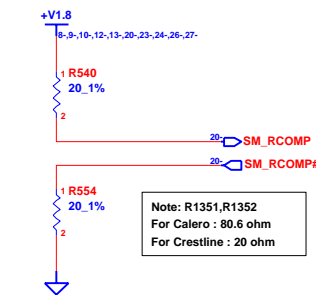


INVENTEC			
TITLE DDD Discrete THERMAL&FAN			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV A01
CHANGE by Thomas Ho		13-Jun-2007	
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MCH_CFG(5)	LOW=DMiX2 HIGH=DMiX4	MCH_CFG(7) (CPU Strap)	LOW=RSVD HIGH=Mobile CPU	MCH_CFG(9) PCIe Graphics Lane	LOW=Reverse Lane HIGH=Normal operation
MCH_CFG(13:12) XOR/ALLZ	00=PARTIAL CLOCK GATING DISABLE 01=XOR MODE ENABLE 10=ALL-Z MODE ENABLE 11=NORMAL OPERATION	MCH_CFG(16) MCH Dynamic ODT)	LOW=Dynamic ODT Disable HIGH=Dynamic ODT Enable	MCH_CFG(11) PSB 4X CLK ENABLE	LOW=CALISTOGA HIGH=RESERVED

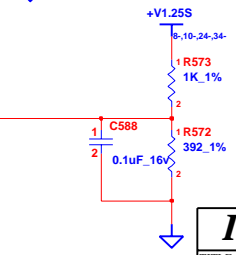
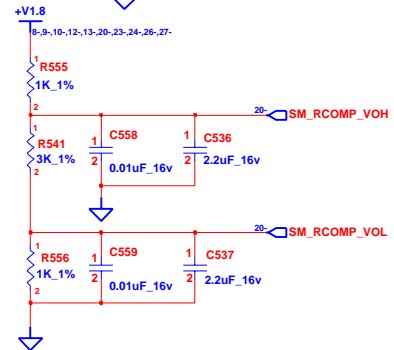
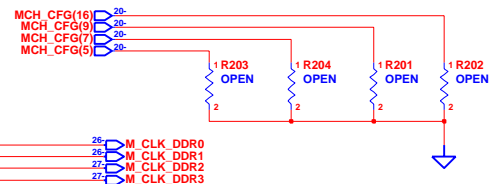
NOTE: CFG[2:0] STRP : 001b : 533 MT/S
011b : 667 MT/S



MCH_CFG(18)	LOW=1.05V HIGH=1.5V	MCH_CFG(19) (DMI LANE REVERSAL)	LOW=NORMAL HIGH=LANES REVERSED
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MCH_CFG(20) PCIe BACKWARD INTERPOERABILITY MODE	LOW=ONLY SDVO OR PCIe X1 IS OPERATIONAL HIGH=SDVO AND PCIe X1 ARE OPERATING SIMULTANEOUSLY VIA THE PEG PORT
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NOTE : USE 4K-OHM RESISTOR WHEN INSTALLING
PULL-UP/PULL-DOWN RESISTOR ON ANY
MCH-CFG CONNECTION/PINS.



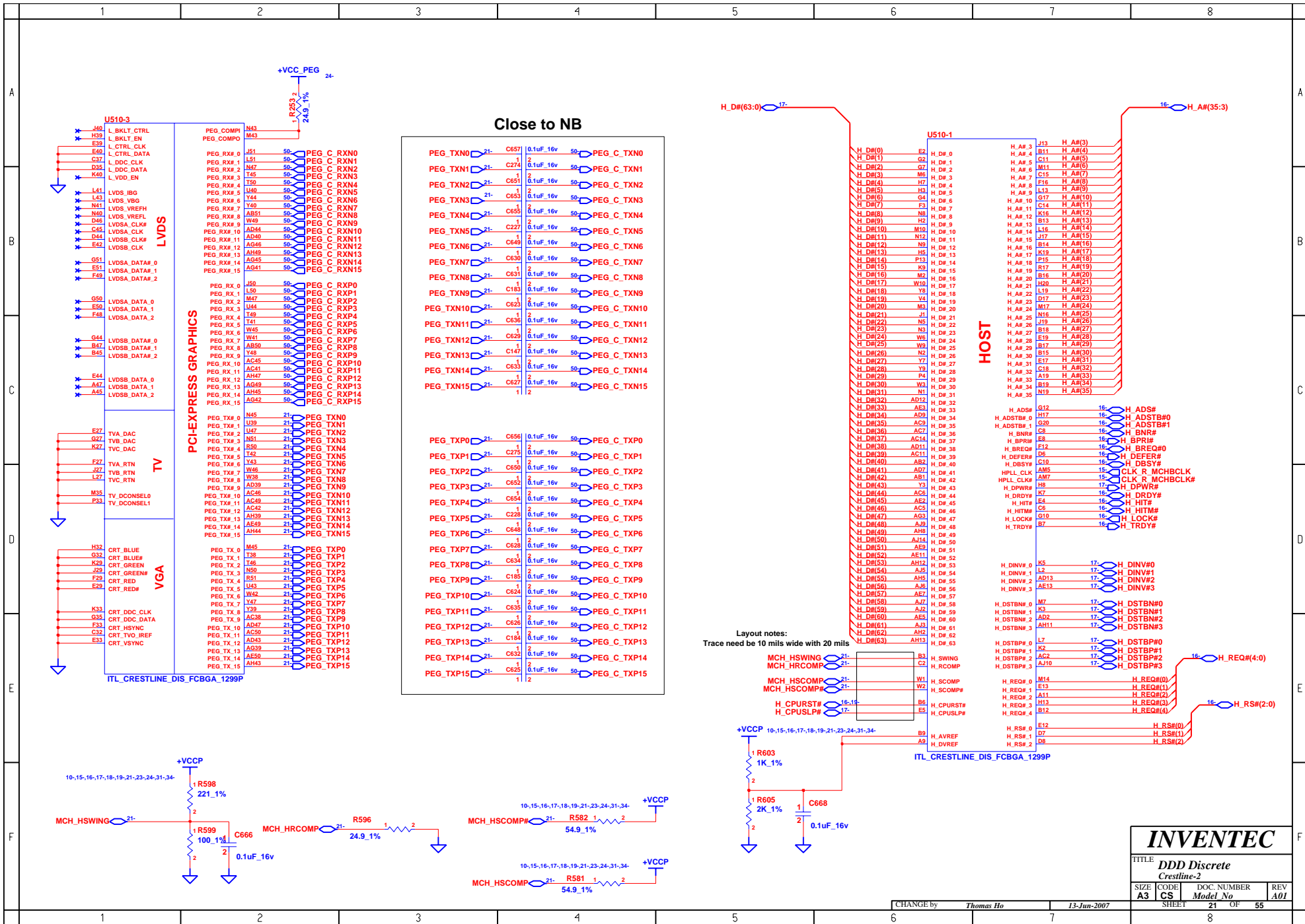
TTL_CRESTLINE_DIS_FCBGA_1299P

INVENTEC

TITLE
DDD Discrete
CRESTLINE-1

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

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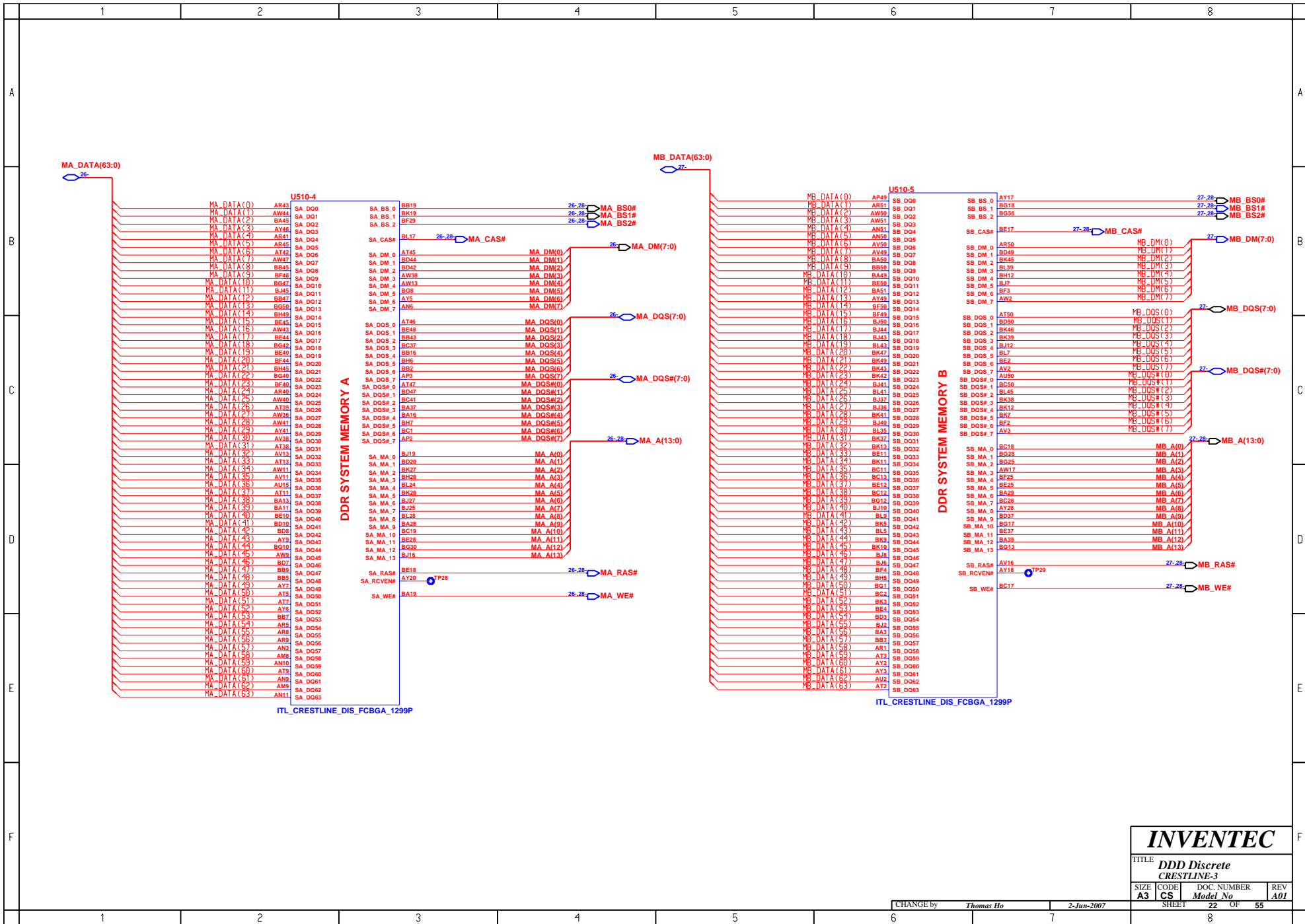


INVENTEC

TITLE: DDD Discrete Crestline-2

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

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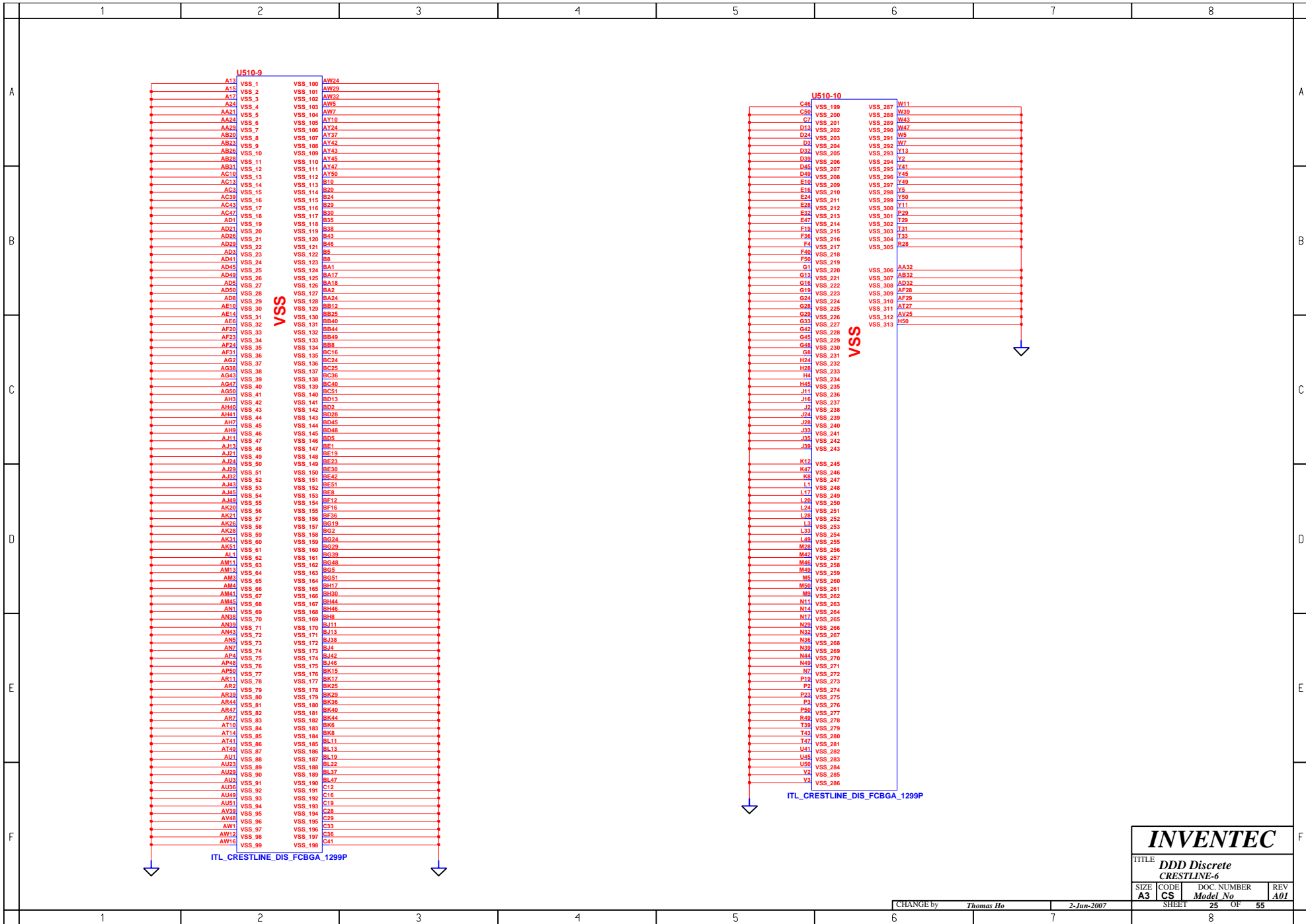


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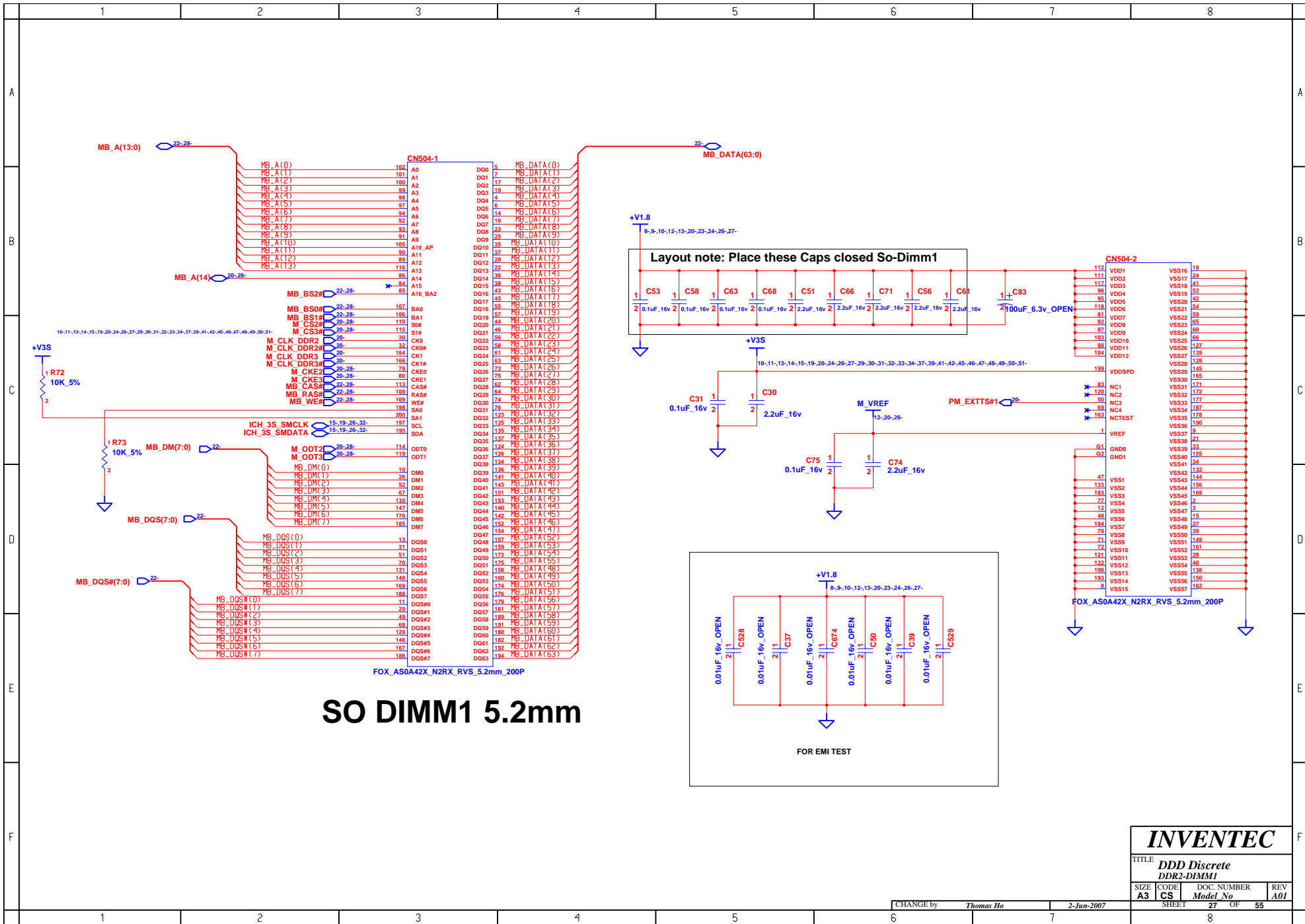
TITLE
**DDD Discrete
 CRESTLINE-3**

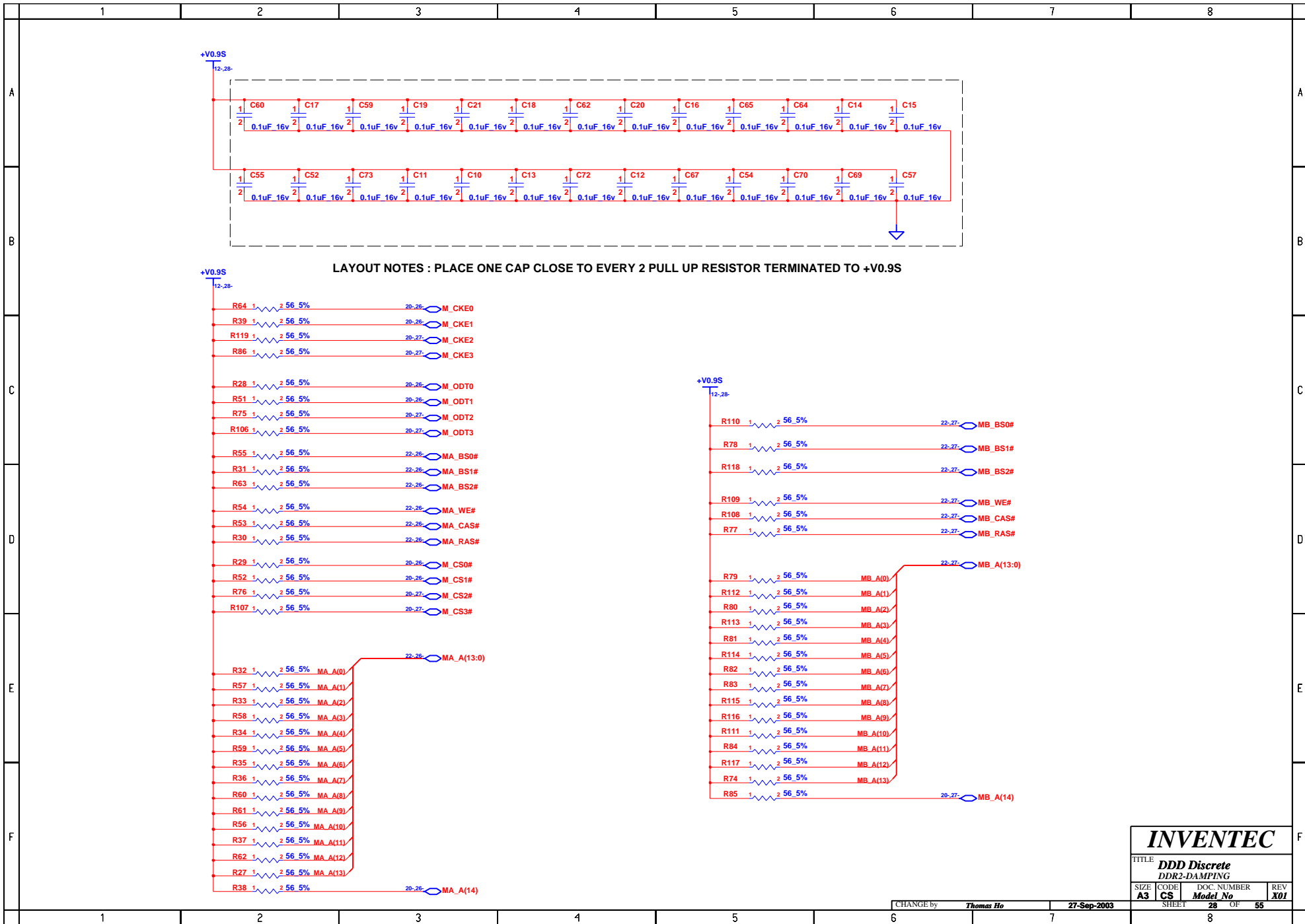
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

CHANGE by *Thomas Ho* 2-Jun-2007 SHEET 22 OF 55



INVENTEC			
TITLE DDD Discrete CRESTLINE-6			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV A01
CHANGE by Thomas Ho		2-Jun-2007	
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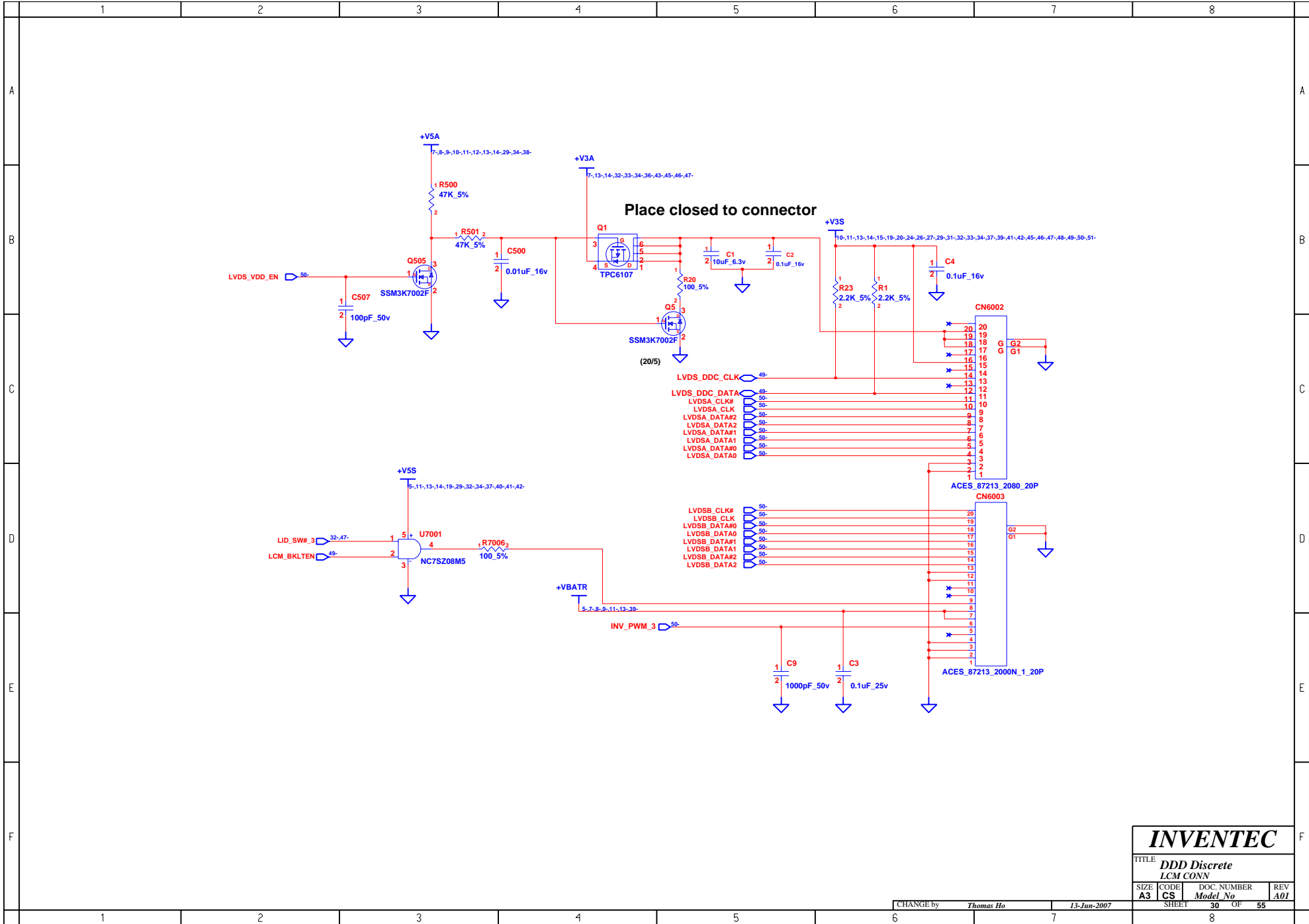




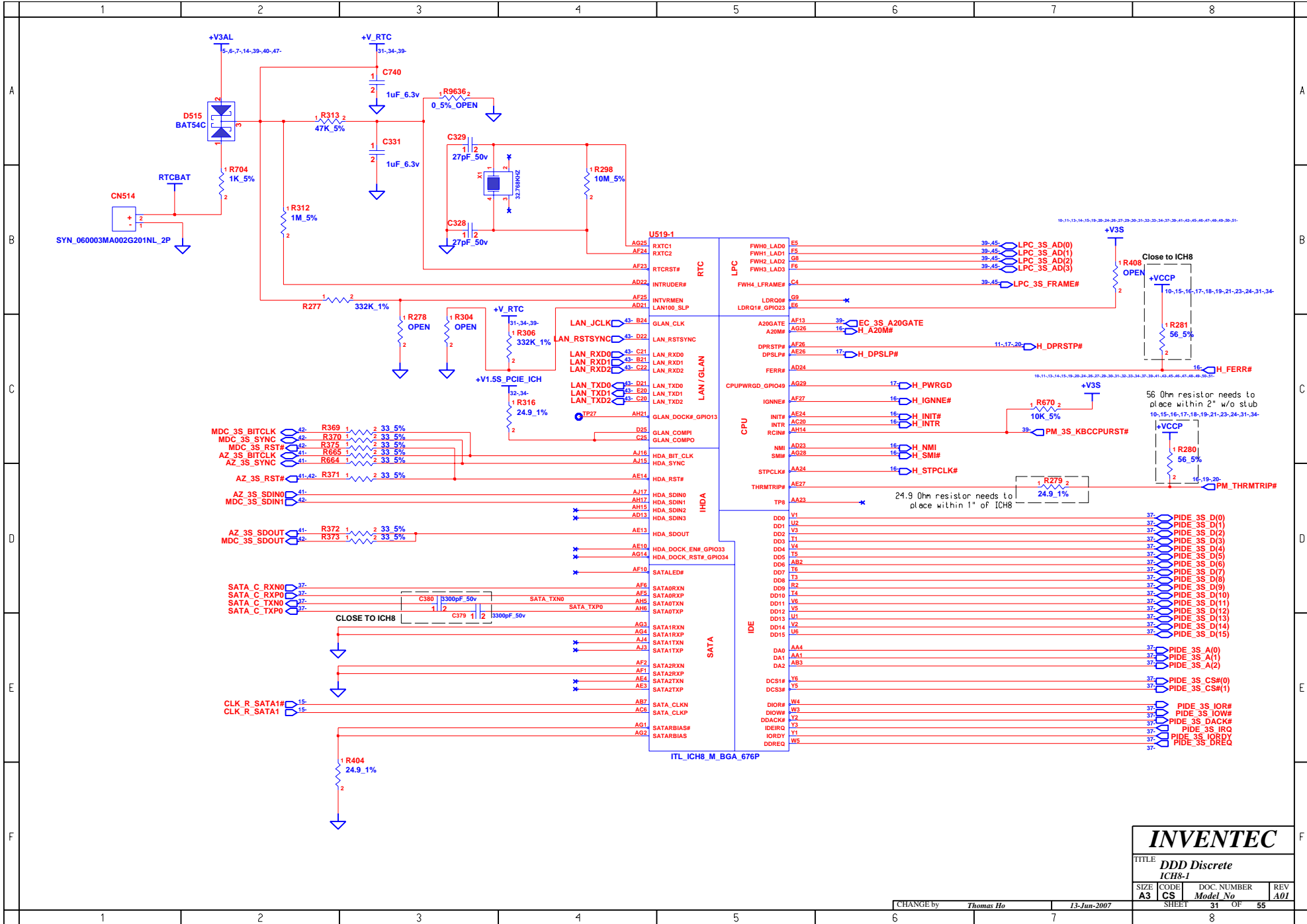
LAYOUT NOTES : PLACE ONE CAP CLOSE TO EVERY 2 PULL UP RESISTOR TERMINATED TO +V0.9S

INVENTEC

TITLE			
DDD Discrete			
DDR2-DAMPING			
SIZE	CODE	DOC NUMBER	REV
A3	CS	Model No	X01



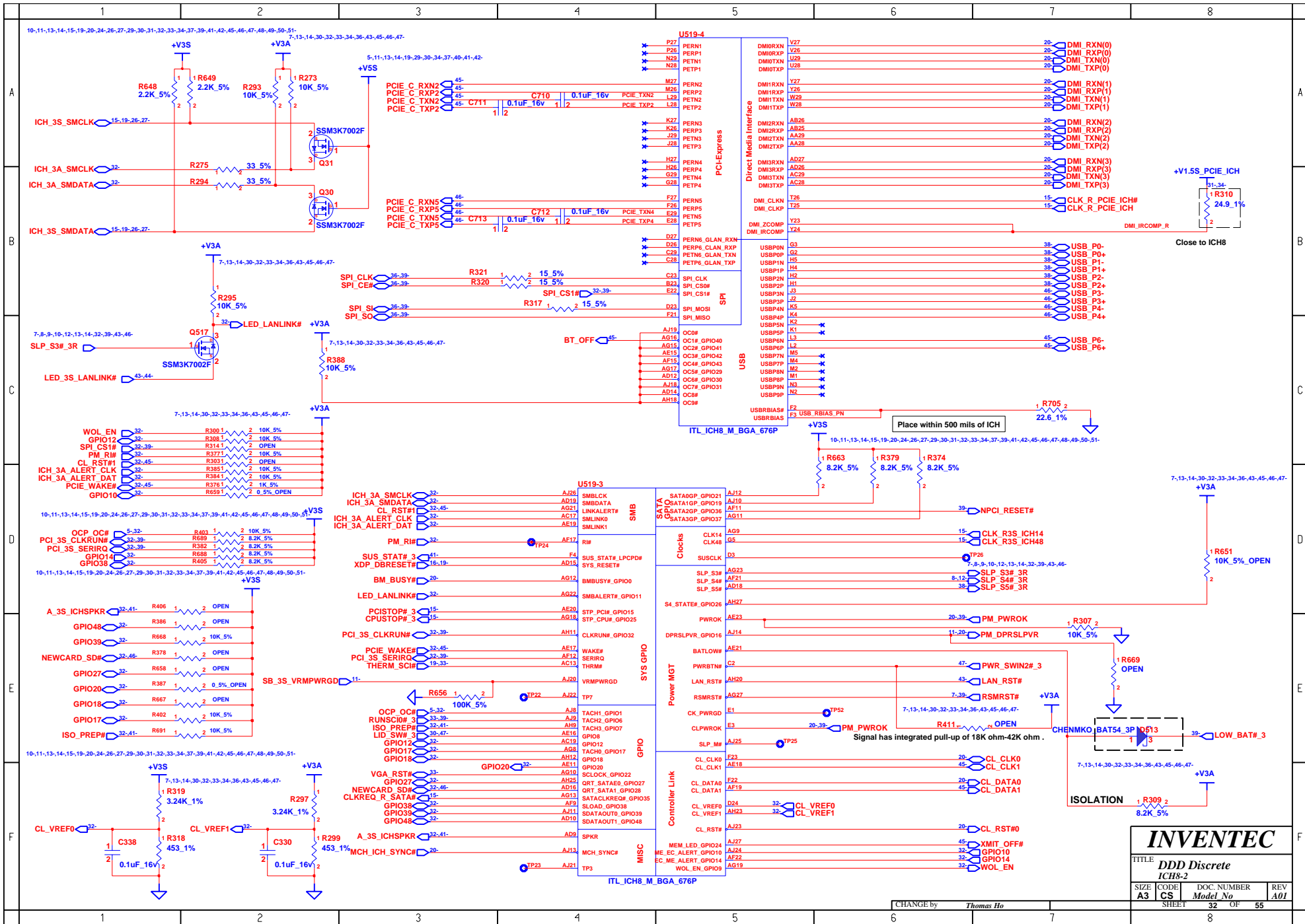
INVENTEC			
TITLE DDD Discrete LCM CONN			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV A01
CHANGE by <i>Thomas Ho</i>		13-Jun-2007	
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INVENTEC

TITLE
**DDD Discrete
 IC8S-1**

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01



INVENTEC

TITLE
DDD Discrete
ICH8-2

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

CHANGE by *Thomas Ho*

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

U519-5

AA1	VSS001	VSS099	K7
AA2	VSS002	VSS100	L1
AA7	VSS004	VSS101	L13
AA8	VSS005	VSS102	L15
AB1	VSS006	VSS103	L26
AB21	VSS007	VSS104	L27
AC11	VSS008	VSS105	L4
AC14	VSS009	VSS106	L5
AC25	VSS010	VSS107	M12
AC28	VSS011	VSS108	M13
AC27	VSS012	VSS109	M14
AD11	VSS013	VSS110	M15
AD20	VSS014	VSS111	M16
AD23	VSS015	VSS112	M17
AD29	VSS016	VSS113	M23
AD3	VSS017	VSS114	M28
AD5	VSS018	VSS115	M29
AD6	VSS019	VSS116	M3
AE1	VSS020	VSS117	N1
AE15	VSS021	VSS118	N11
AE2	VSS022	VSS119	N12
AE22	VSS023	VSS120	N13
AD1	VSS024	VSS121	N14
AE24	VSS025	VSS122	N15
AE3	VSS026	VSS123	N16
AE5	VSS027	VSS124	N17
AE9	VSS028	VSS125	N18
AF14	VSS029	VSS126	N26
AF16	VSS030	VSS127	N27
AF18	VSS031	VSS128	N4
AF3	VSS032	VSS129	N5
AF4	VSS033	VSS130	N6
AG5	VSS034	VSS131	P12
AG6	VSS035	VSS132	P13
AH10	VSS036	VSS133	P14
AH13	VSS037	VSS134	P15
AH16	VSS038	VSS135	P16
AH19	VSS039	VSS136	P17
AH2	VSS040	VSS137	P23
AF23	VSS041	VSS138	P28
AH22	VSS042	VSS139	P29
AH24	VSS043	VSS140	R11
AH25	VSS044	VSS141	R12
AH3	VSS045	VSS142	R13
AH4	VSS046	VSS143	R14
AH5	VSS047	VSS144	R15
AH6	VSS048	VSS145	R16
B11	VSS049	VSS146	R17
B14	VSS050	VSS147	R18
B17	VSS051	VSS148	R28
B3	VSS052	VSS149	R4
B20	VSS053	VSS150	T12
B22	VSS054	VSS151	T13
B5	VSS055	VSS152	T14
C24	VSS056	VSS153	T15
C28	VSS057	VSS154	T16
C27	VSS058	VSS155	T17
C5	VSS059	VSS156	T2
D12	VSS060	VSS157	U12
D15	VSS061	VSS158	U13
D18	VSS062	VSS159	U14
D3	VSS063	VSS160	U15
D4	VSS064	VSS161	U16
E21	VSS065	VSS162	U17
E24	VSS066	VSS163	U23
E4	VSS067	VSS164	U26
E9	VSS068	VSS165	U27
F14	VSS069	VSS166	U3
F24	VSS070	VSS167	U5
F28	VSS071	VSS168	V13
F29	VSS072	VSS169	V15
G1	VSS073	VSS170	V28
E3	VSS074	VSS171	W2
G10	VSS075	VSS172	W26
G13	VSS076	VSS173	W27
G19	VSS077	VSS174	W27
G25	VSS078	VSS175	Y28
G25	VSS079	VSS176	Y29
H25	VSS080	VSS177	Y4
H28	VSS081	VSS178	AB4
H3	VSS082	VSS179	AB23
HE	VSS083	VSS180	AB5
J1	VSS084	VSS181	AB6
J28	VSS085	VSS182	AD5
J27	VSS086	VSS183	U4
J4	VSS087	VSS184	W24
J4	VSS088	VSS_NCTF_01	A1
J28	VSS089	VSS_NCTF_02	A2
J27	VSS090	VSS_NCTF_03	A28
J4	VSS091	VSS_NCTF_04	A29
J4	VSS092	VSS_NCTF_05	AH1
K23	VSS093	VSS_NCTF_06	AH29
K29	VSS094	VSS_NCTF_07	AJ1
K29	VSS095	VSS_NCTF_08	AJ2
K8	VSS096	VSS_NCTF_09	AJ28
K8	VSS097	VSS_NCTF_10	AJ29
K8	VSS098	VSS_NCTF_011	B1
		VSS_NCTF_012	B29

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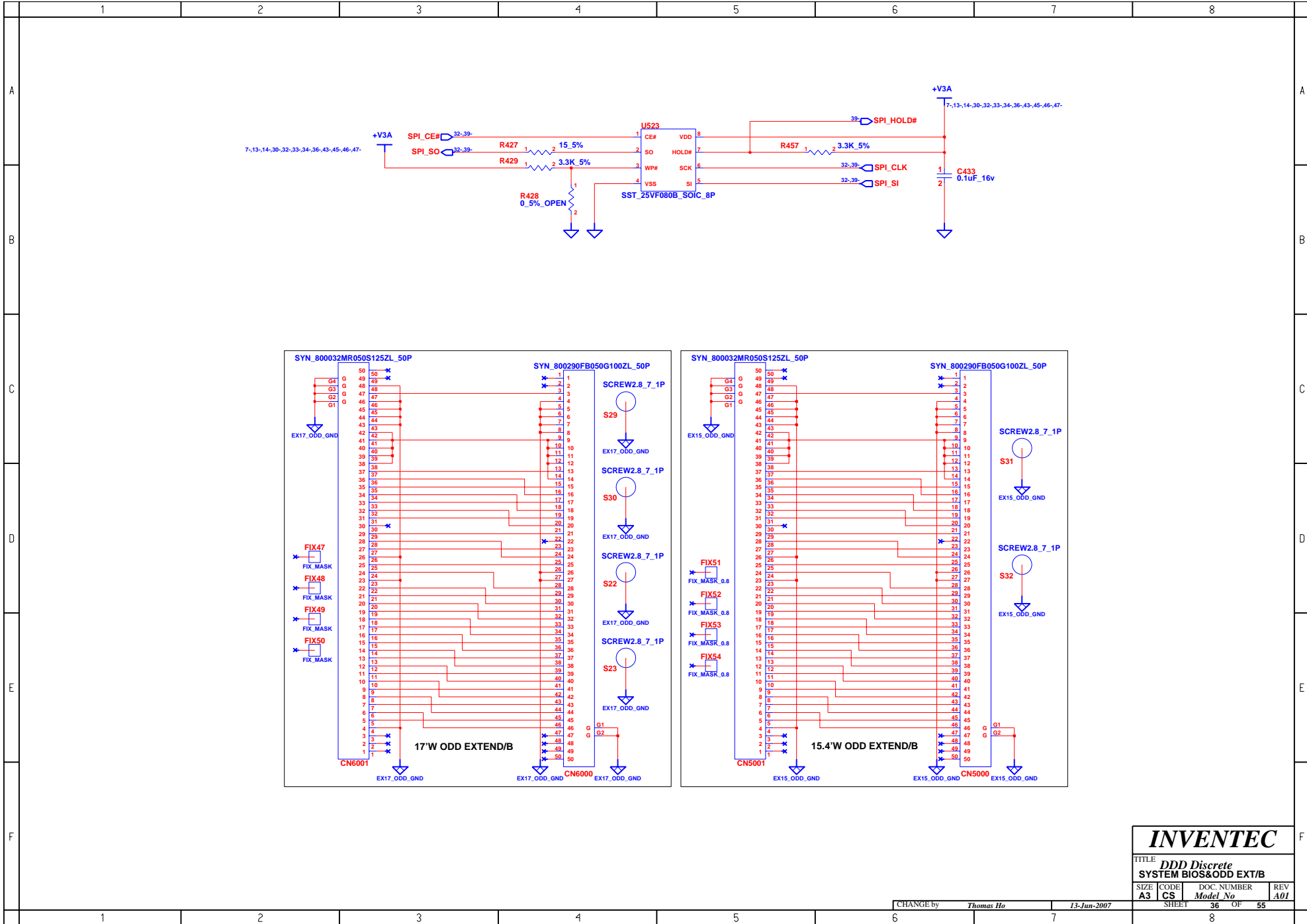
48-ICHGND1
48-ICHGND4
48-ICHGND7
48-ICHGND10

INVENTEC

TITLE **DDD Discrete**
ICH8-5

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

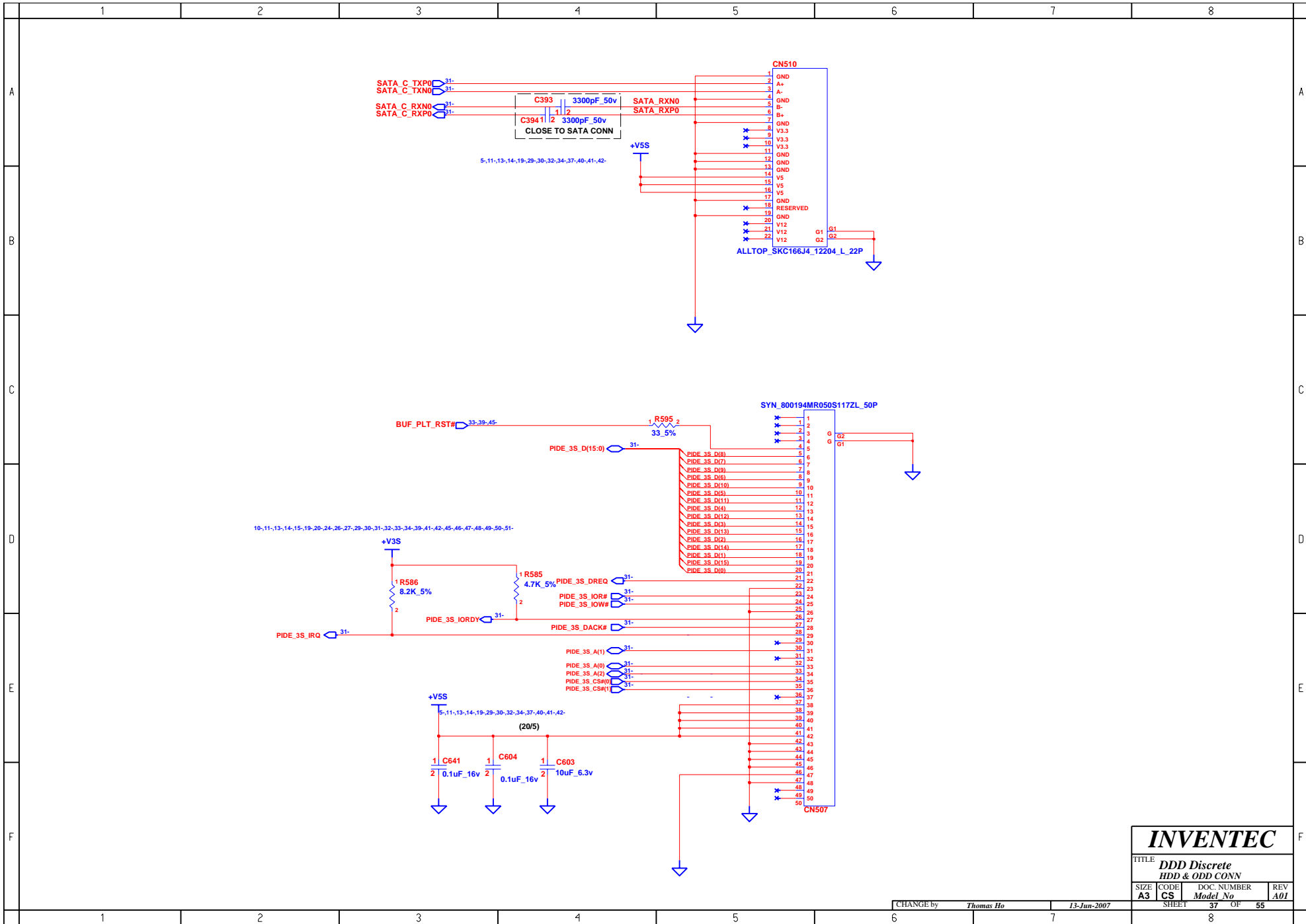
CHANGE by *Thomas Ho* 4-Jun-2007 SHEET 35 OF 55



INVENTEC

TITLE			
DDD Discrete			
SYSTEM BIOS&ODD EXT/B			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01
CHANGE by		SHEET	
Thomas Ho		36 OF 55	

13-Jun-2007

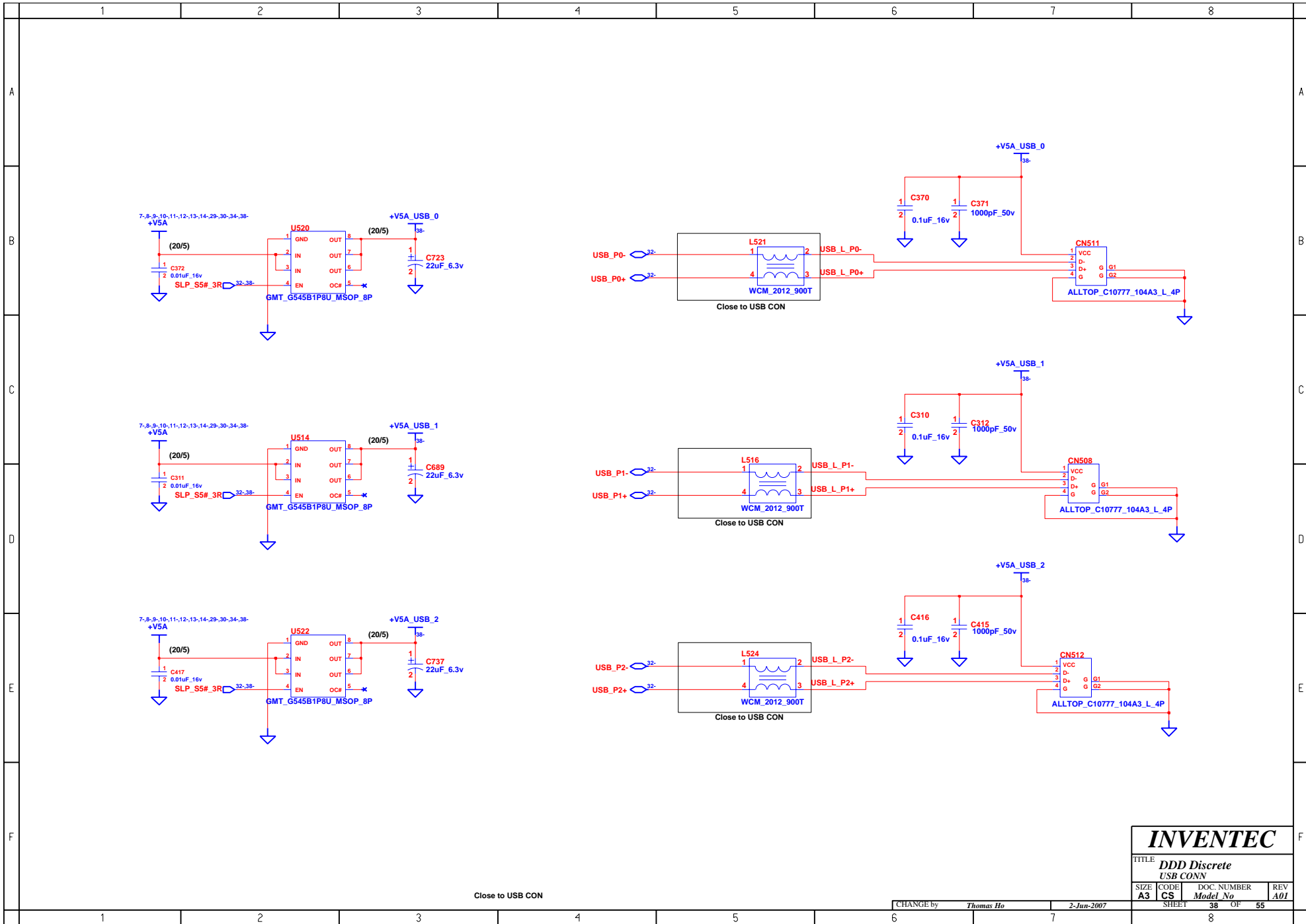


INVENTEC

TITLE
**DDD Discrete
 HDD & ODD CONN**

SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV A01
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CHANGE by *Thomas Ho* 13-Jun-2007 SHEET 37 OF 55

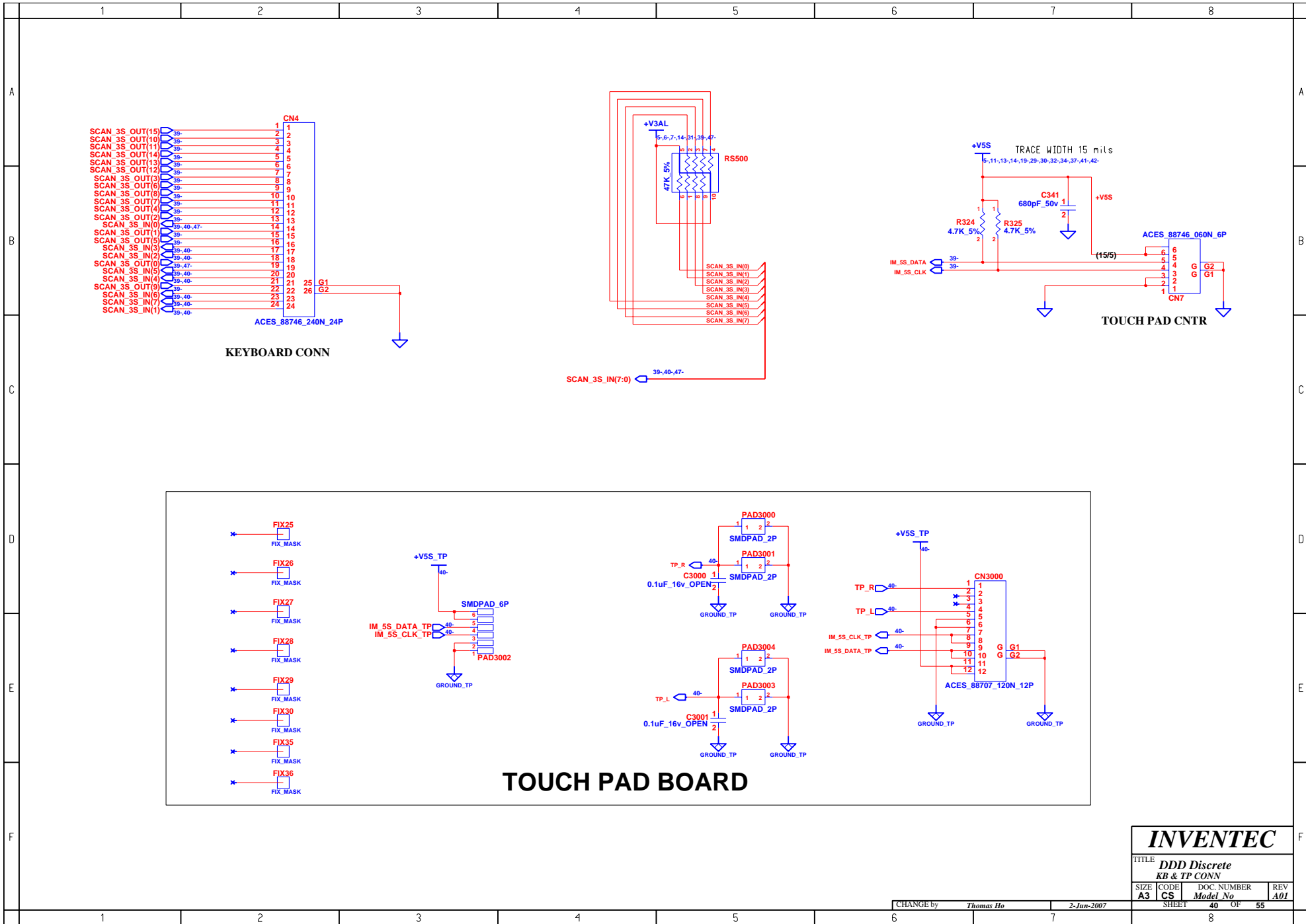


Close to USB CON

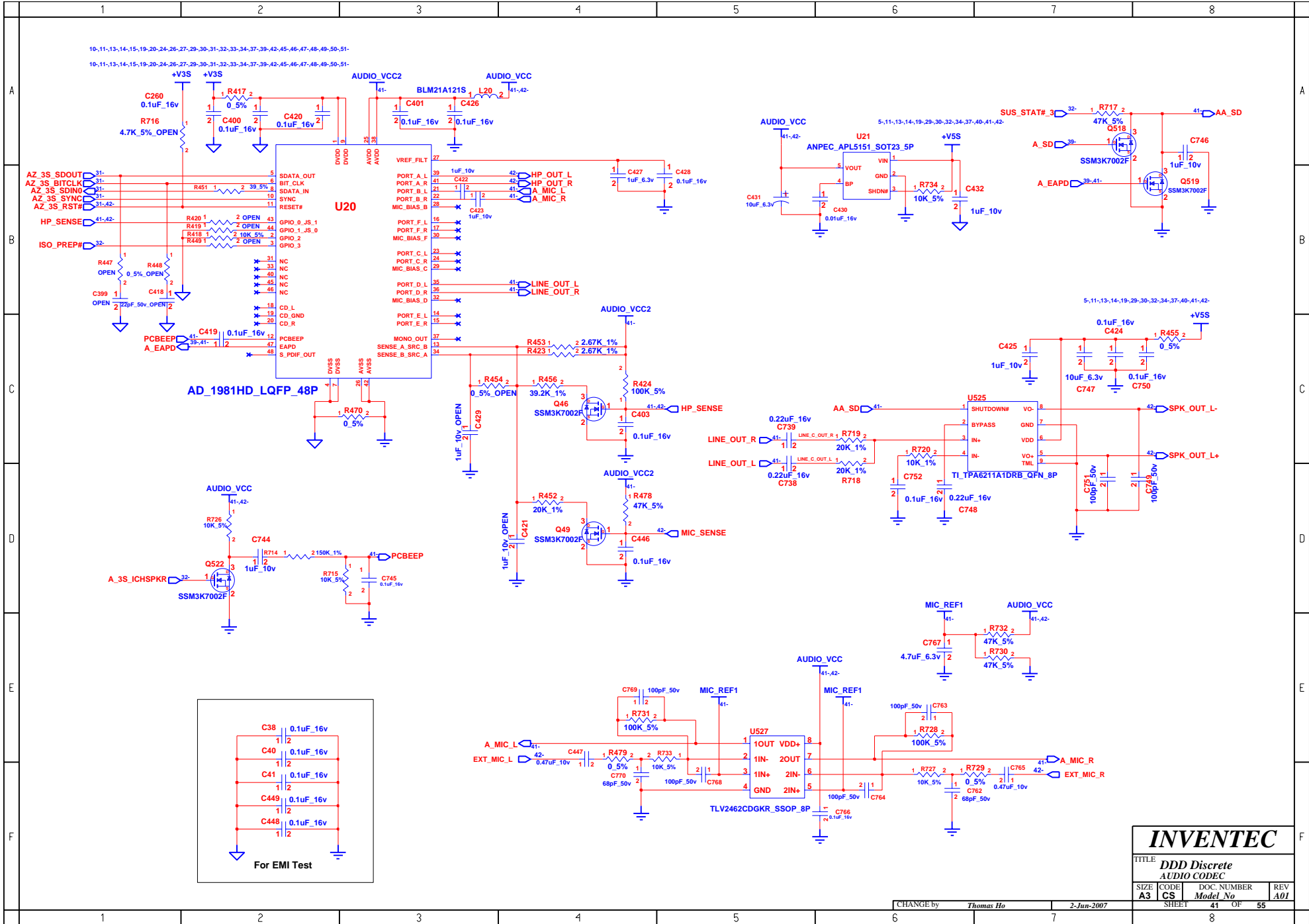
INVENTEC

TITLE			
DDD Discrete USB CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01
SHEET		OF	
38		55	

CHANGE by Thomas Ho 2-Jun-2007

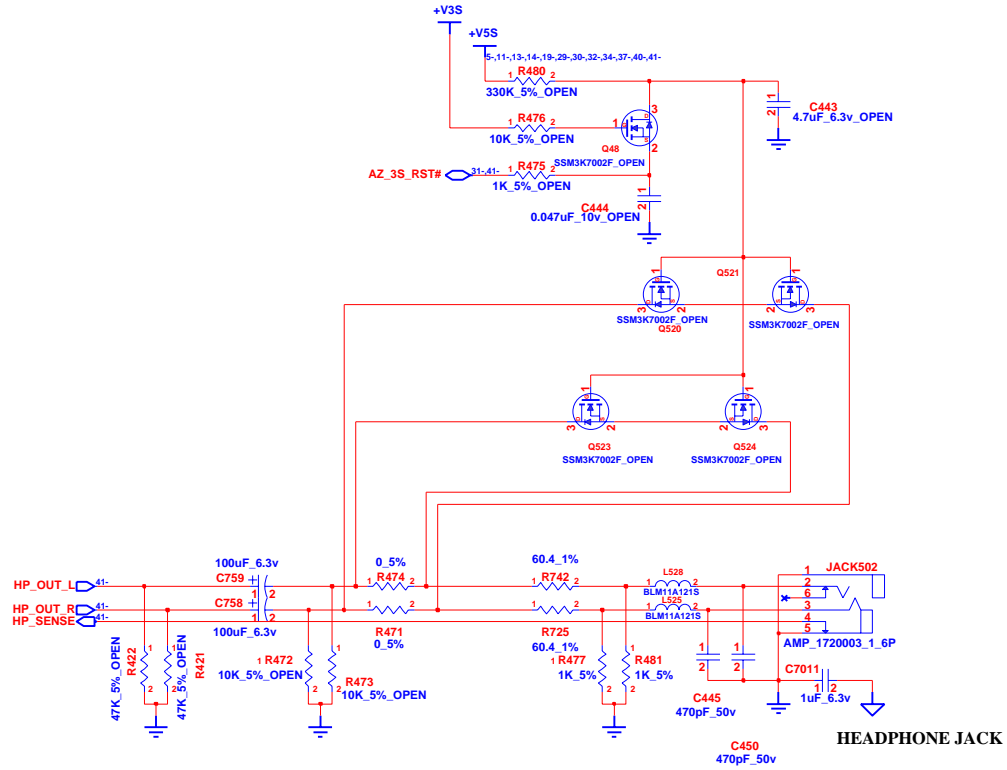
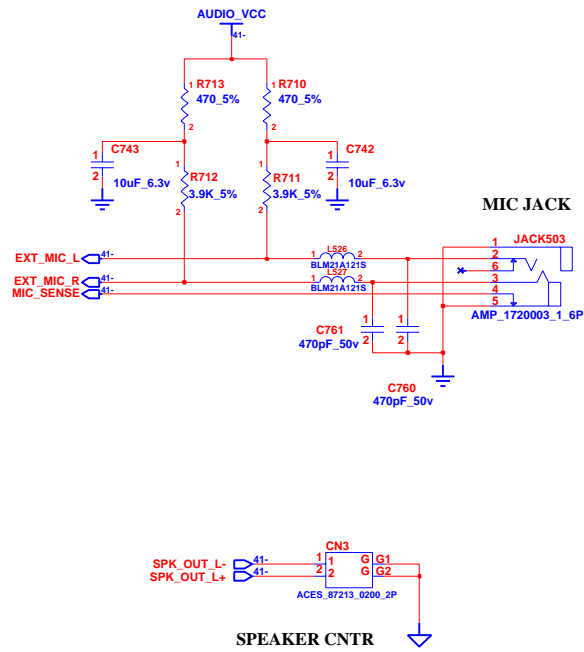


INVENTEC			
TITLE DDD Discrete KB & TP CONN			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV A01
CHANGE by Thomas Ho		2-Jun-2007	
SHEET 40		OF 55	

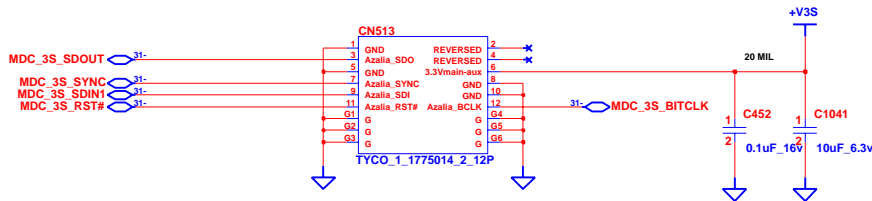


INVENTEC			
TITLE DDD Discrete AUDIO CODEC			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV A01
CHANGE by <i>Thomas Ho</i>		2-Jun-2007	
SHEET 41		OF 55	

10-11-13-14-15-19-20-24-26-27-29-30-31-32-33-34-37-39-41-42-45-46-47-48-49-50-51-



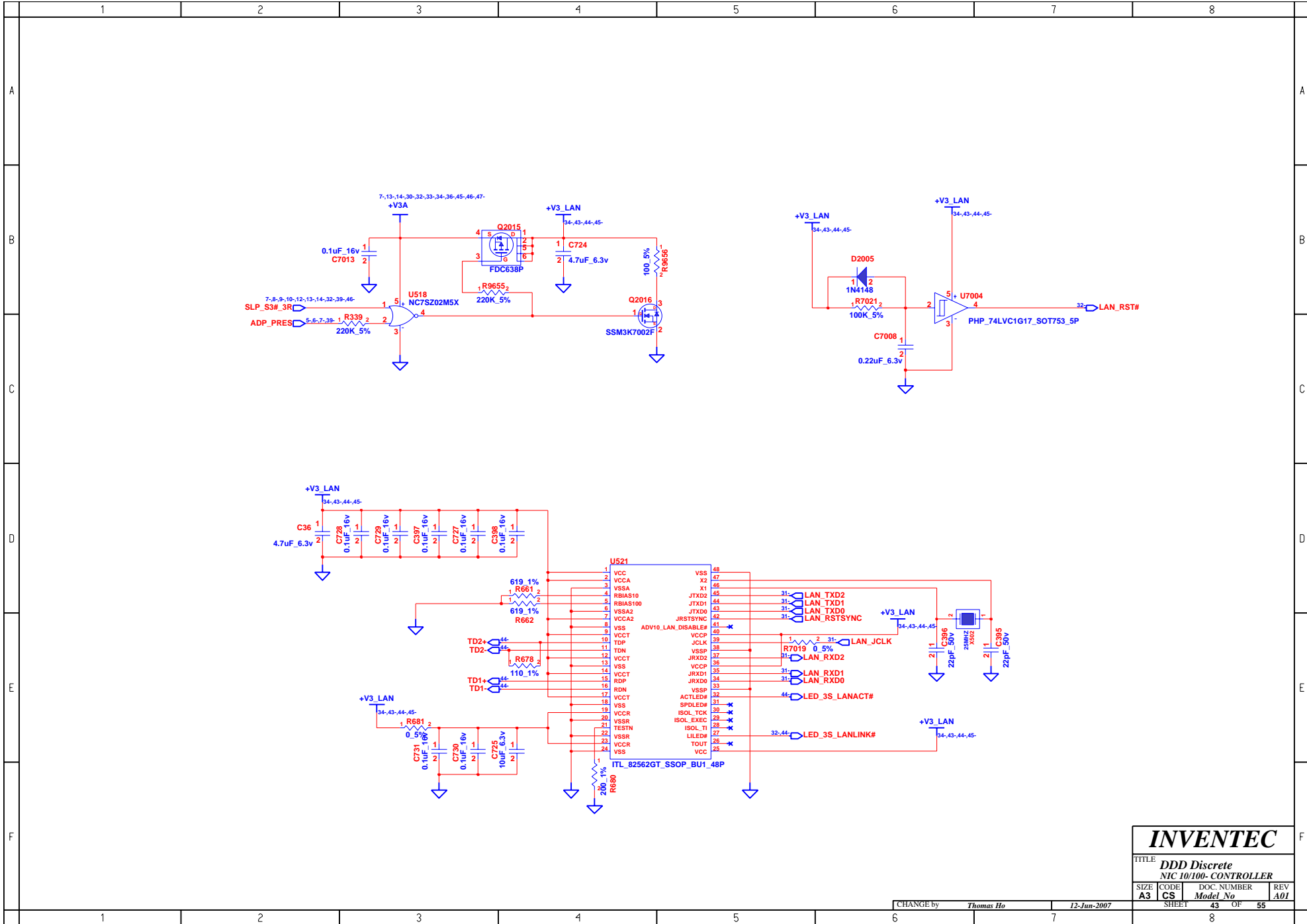
10-11-13-14-15-19-20-24-26-27-29-30-31-32-33-34-37-39-41-42-45-46-47-48-49-50-51-



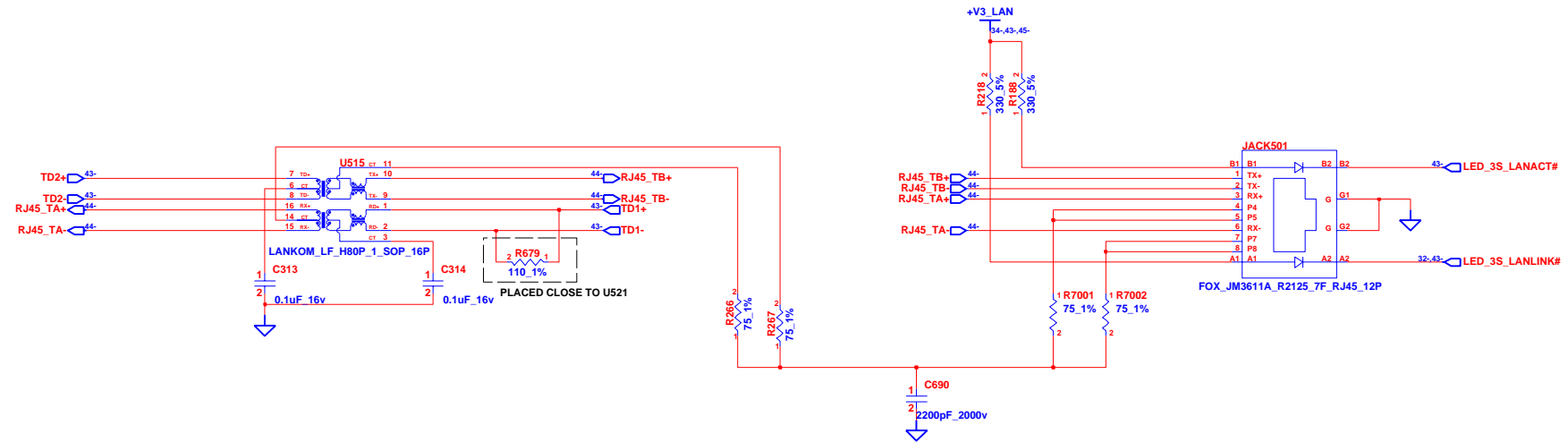
MDC CNTR

INVENTEC

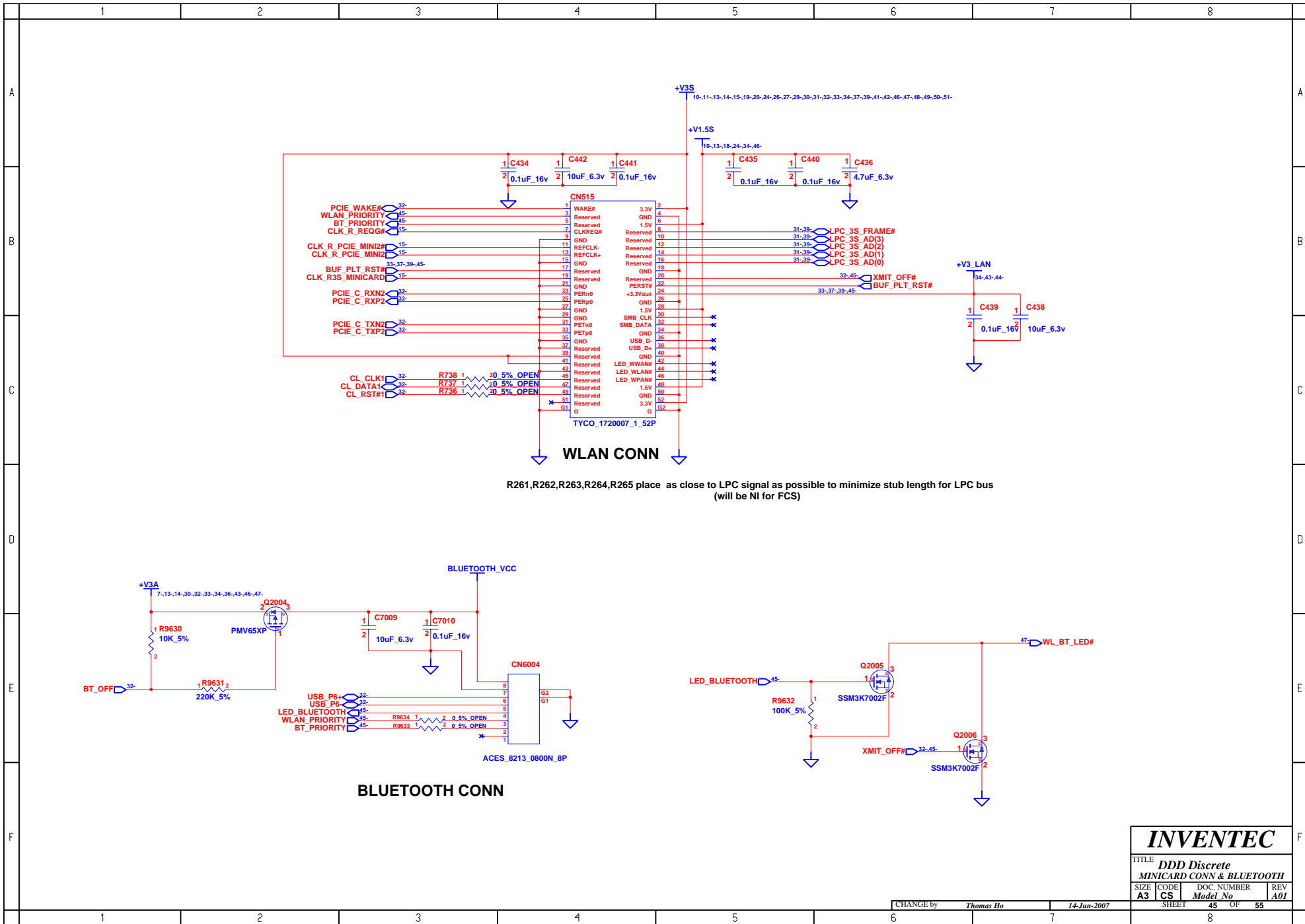
TITLE			
DDD Discrete			
MDC CNTR			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01
CHANGE by		SHEET	
Thomas Ho		42 OF 55	



INVENTEC			
TITLE DDD Discrete NIC 10/100- CONTROLLER			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV A01
CHANGE by <i>Thomas Ho</i>		12-Jun-2007	
SHEET 43		OF 55	

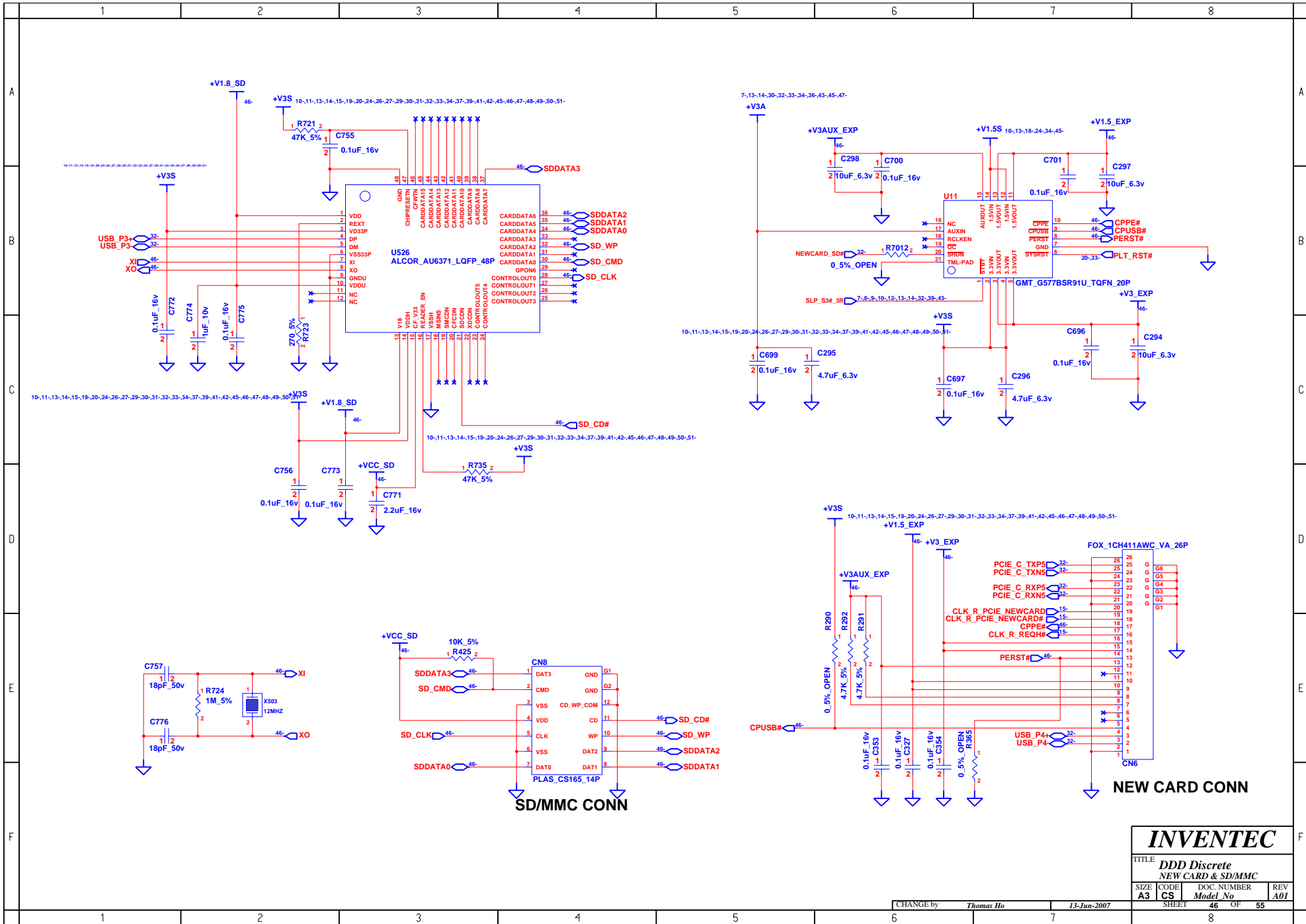


INVENTEC			
TITLE <i>DDD Discrete</i>			
NIC 10/100 - RJ45			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01
CHANGE by <i>Thomas Ho</i>		2-Jun-2007	
SHEET 44		OF 55	



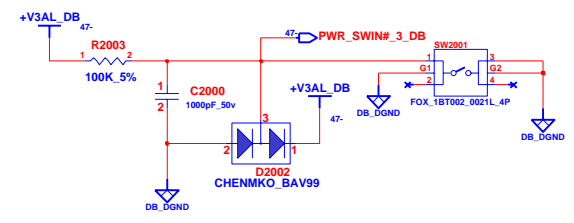
R261,R262,R263,R264,R265 place as close to LPC signal as possible to minimize stub length for LPC bus
(will be NI for FCS)

INVENTEC			
TITLE DDD Discrete			
MINICARD CONN & BLUETOOTH			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV A01
CHANGE by <i>Thomas Ho</i>		14-Jun-2007	
SHEET 45		OF 55	

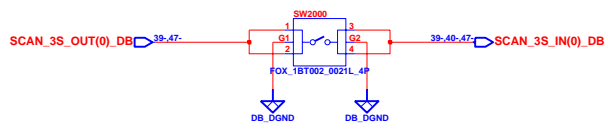


INVENTEC			
TITLE DDD Discrete NEW CARD & SD/MMC			
SIZE A3	CODE CS	DOC NUMBER Model No	REV A01
CHANGE by Thomas Ho		13-Jun-2007	
SHEET 46		OF 55	

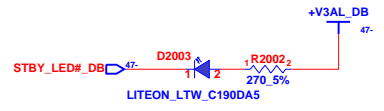
POWER BUTTON



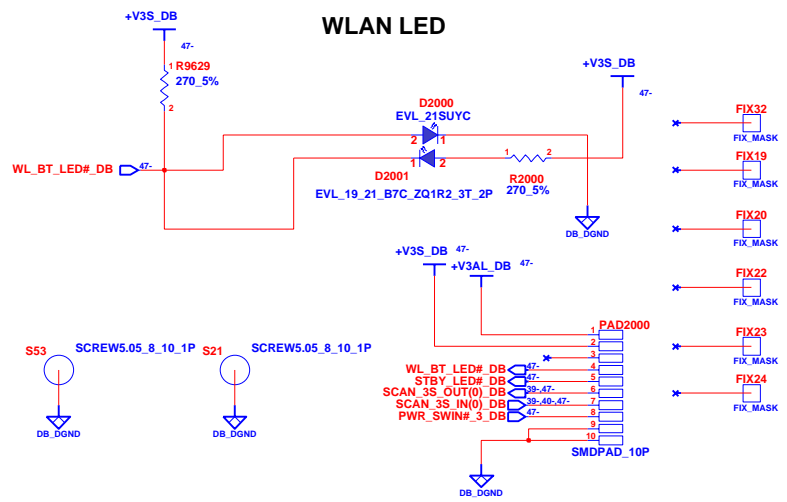
WIRELESS BUTTON



POWER / STANDBY LED

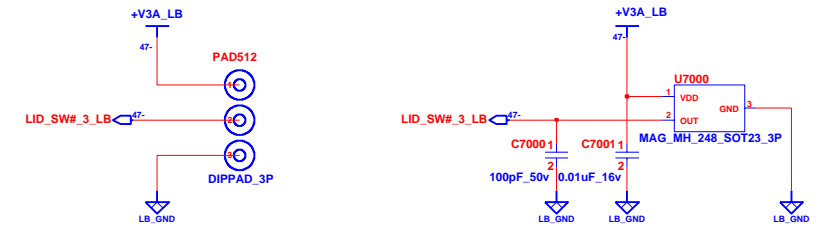


WLAN LED



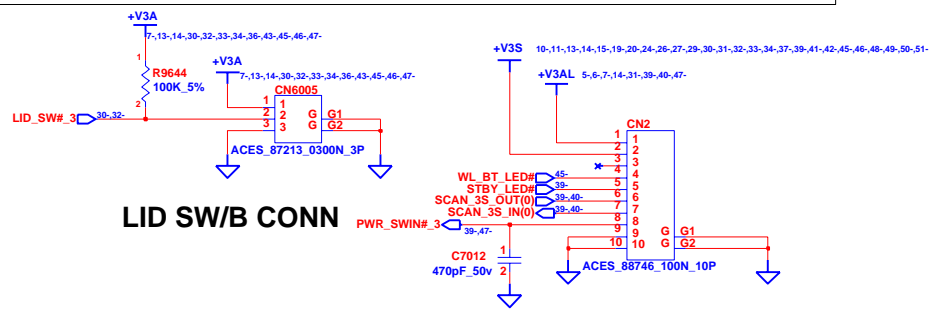
LED&SWITCH BOARD

LID SWITCH

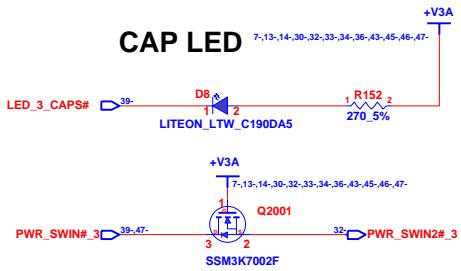


LID SW/B

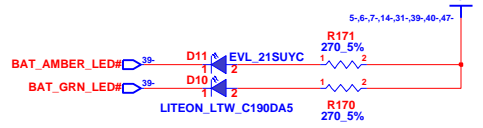
LID SW/B CONN



CAP LED

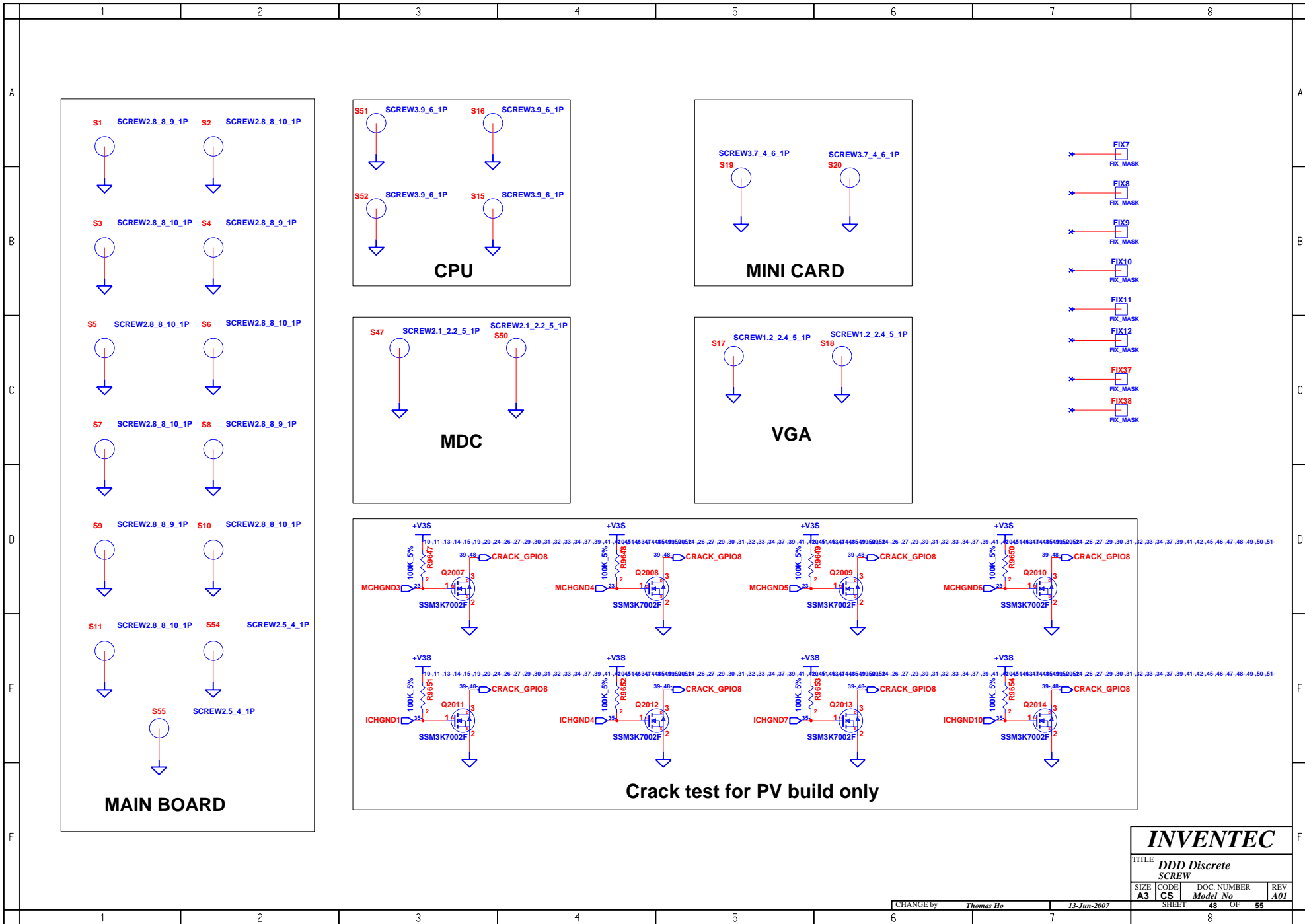


BATTERY-CHARGE LED



INVENTEC

TITLE			
DDD Discrete BUTTON & LED			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01



INVENTEC

TITLE			
DDD Discrete			
SCREW			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

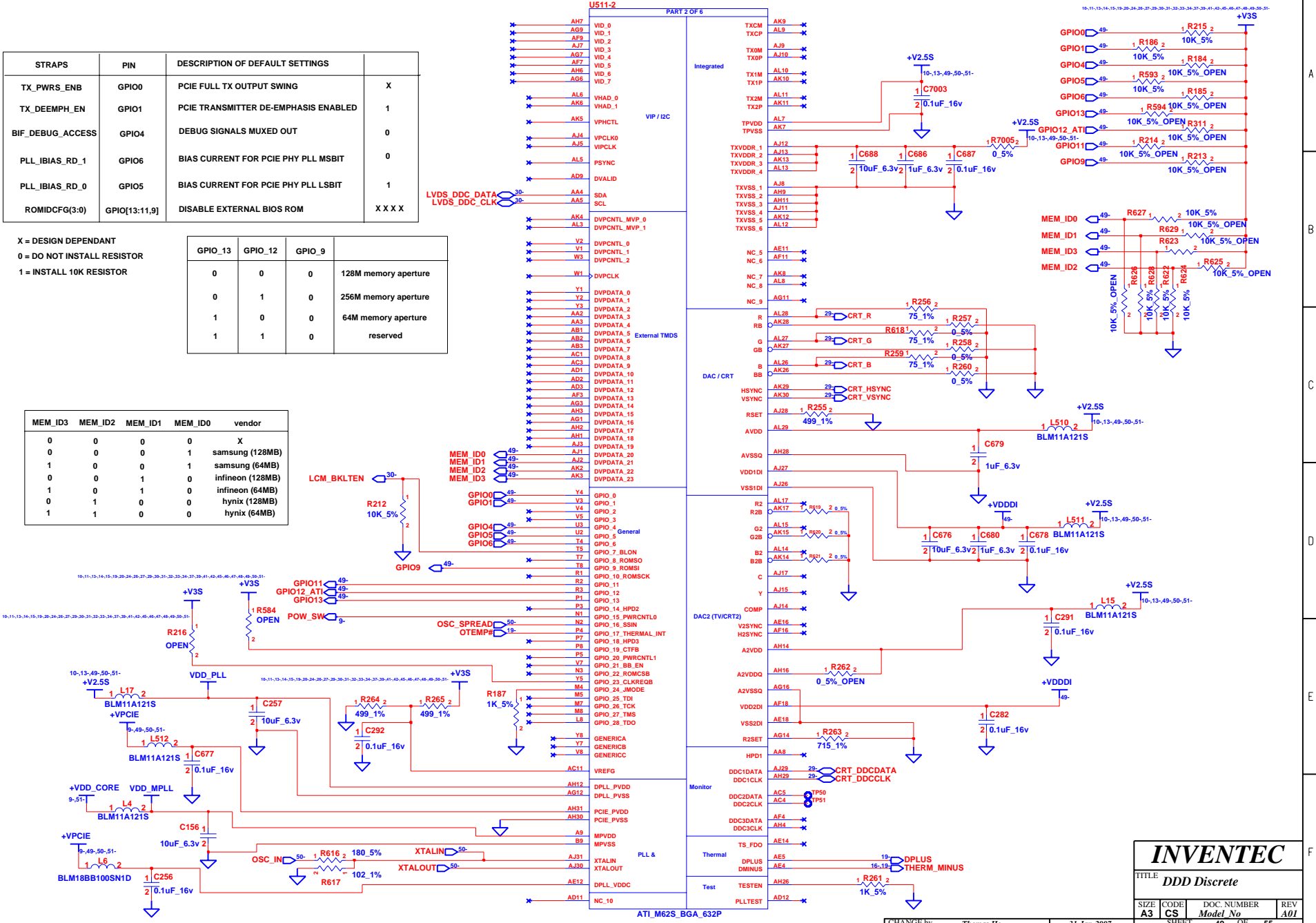
CHANGE by Thomas Ho 13-Jun-2007

STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	
TX_PWRS_ENB	GPIO0	PCIE FULL TX OUTPUT SWING	X
TX_DEEMPH_EN	GPIO1	PCIE TRANSMITTER DE-EMPHASIS ENABLED	1
BIF_DEBUG_ACCESS	GPIO4	DEBUG SIGNALS MUXED OUT	0
PLL_IBIAS_RD_1	GPIO6	BIAS CURRENT FOR PCIE PHY PLL MSBIT	0
PLL_IBIAS_RD_0	GPIO5	BIAS CURRENT FOR PCIE PHY PLL LSBIT	1
ROMIDCFG(3:0)	GPIO[13:11,9]	DISABLE EXTERNAL BIOS ROM	X X X X

X = DESIGN DEPENDANT
 0 = DO NOT INSTALL RESISTOR
 1 = INSTALL 10K RESISTOR

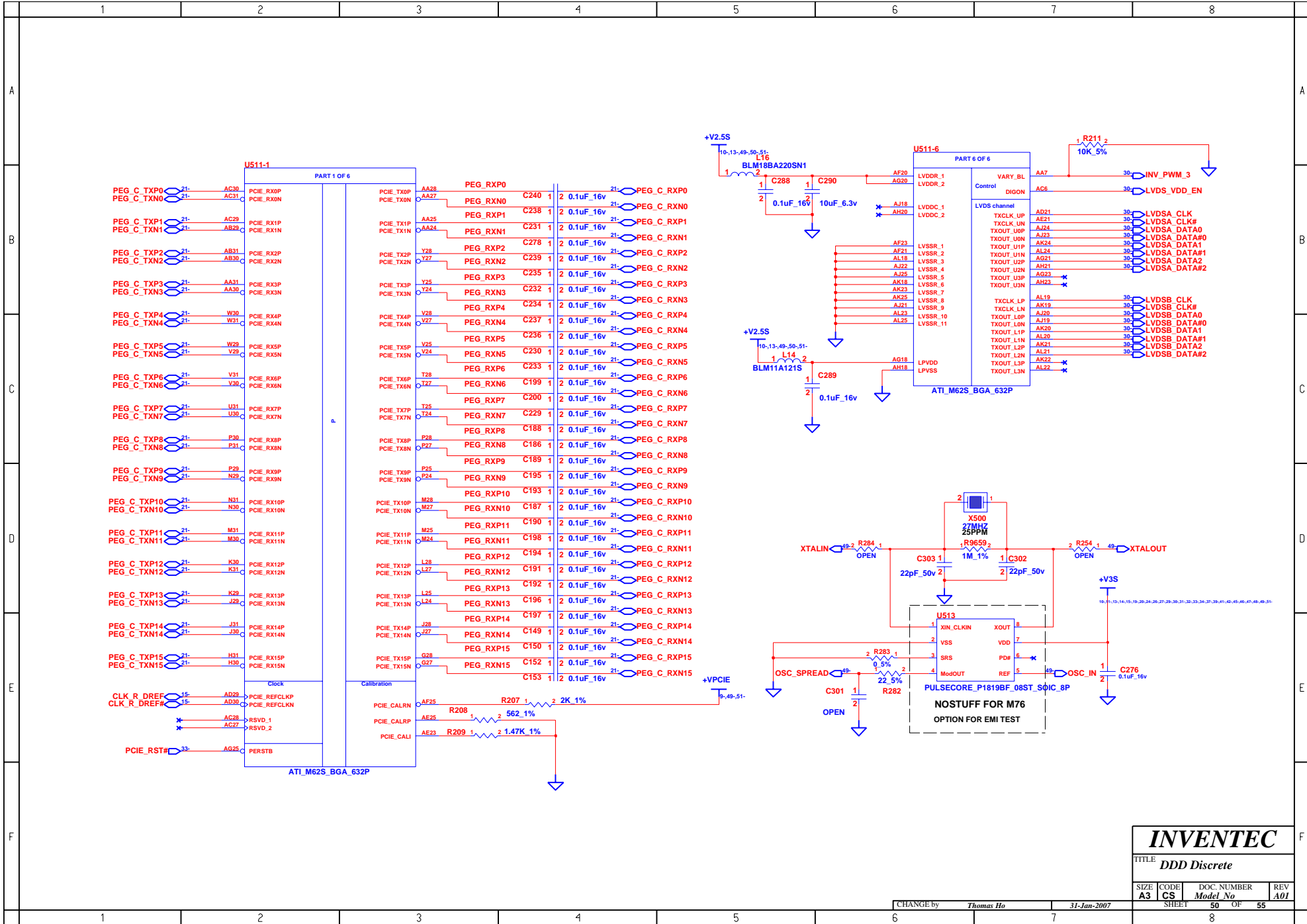
GPIO_13	GPIO_12	GPIO_9	
0	0	0	128M memory aperture
0	1	0	256M memory aperture
1	0	0	64M memory aperture
1	1	0	reserved

MEM_ID3	MEM_ID2	MEM_ID1	MEM_ID0	vendor
0	0	0	0	X
0	0	0	1	samsung (128MB)
1	0	0	1	samsung (64MB)
0	0	1	0	infineon (128MB)
1	0	1	0	infineon (64MB)
0	1	0	0	hynix (128MB)
1	1	0	0	hynix (64MB)



INVENTEC			
TITLE DDD Discrete			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV A01
SHEET 49		OF 55	

CHANGE by Thomas Ho 31-Jan-2007



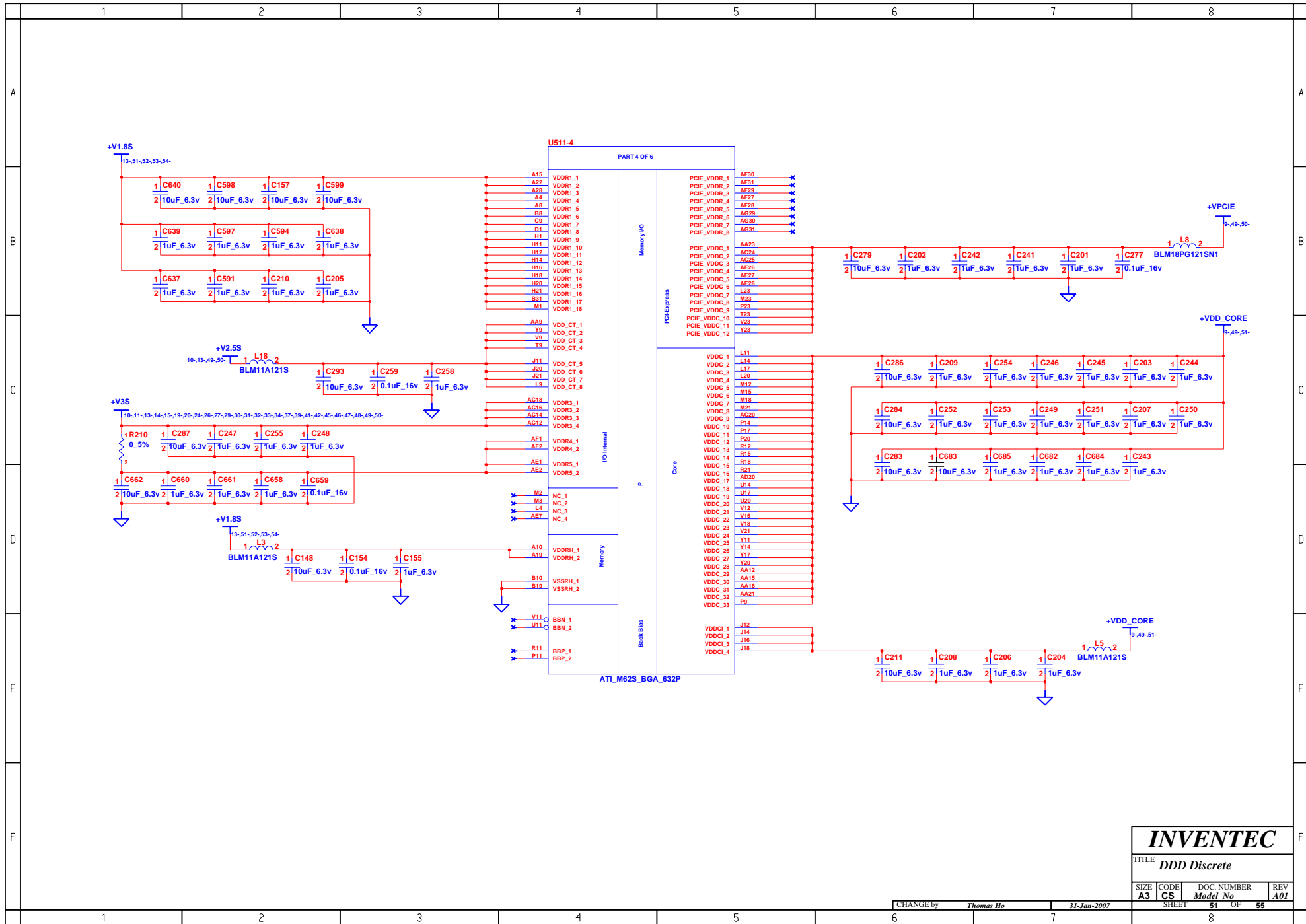
INVENTEC

TITLE
DDD Discrete

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

CHANGE by Thomas Ho 31-Jan-2007

SHEET	OF
50	55



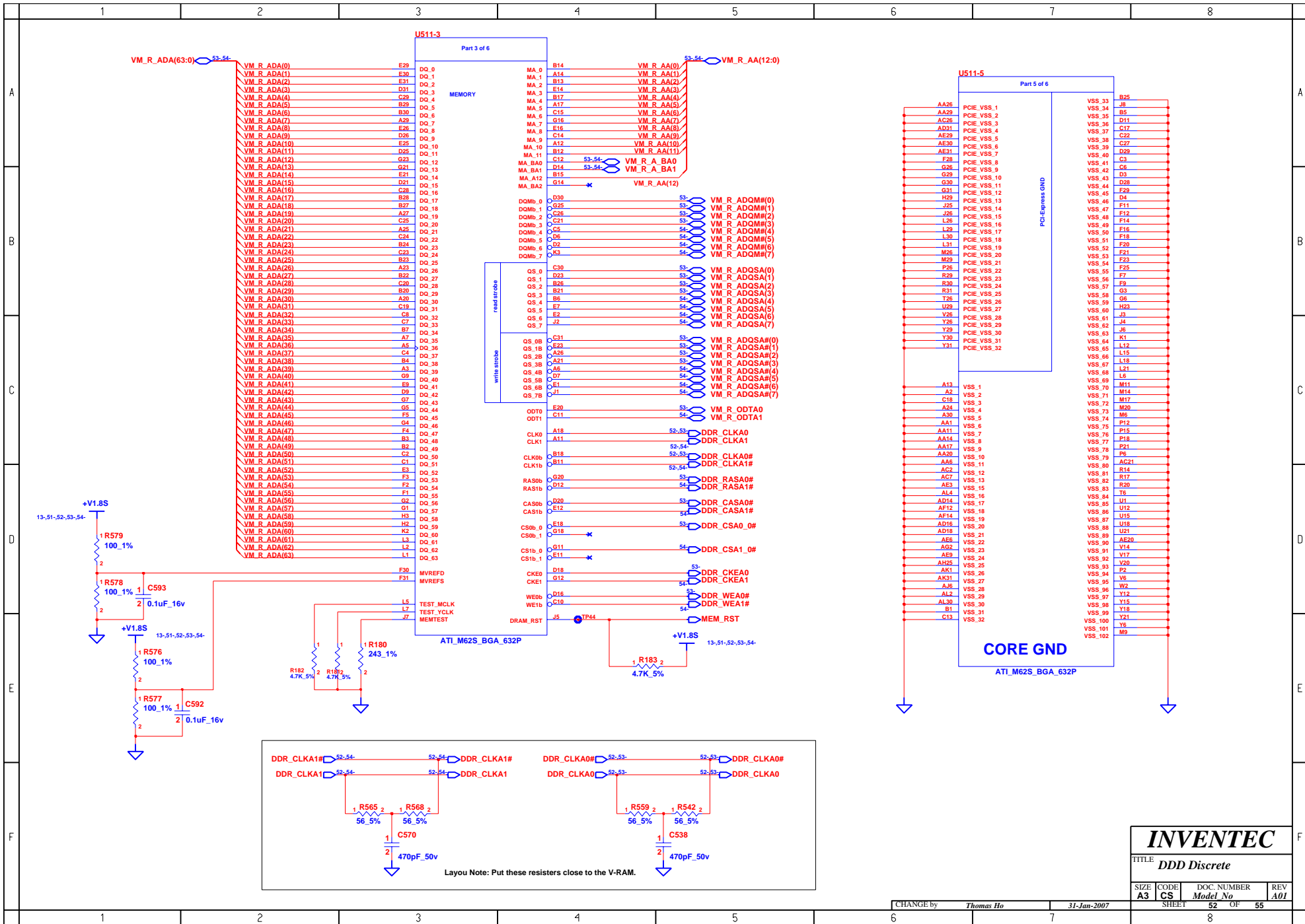
INVENTEC

TITLE
DDD Discrete

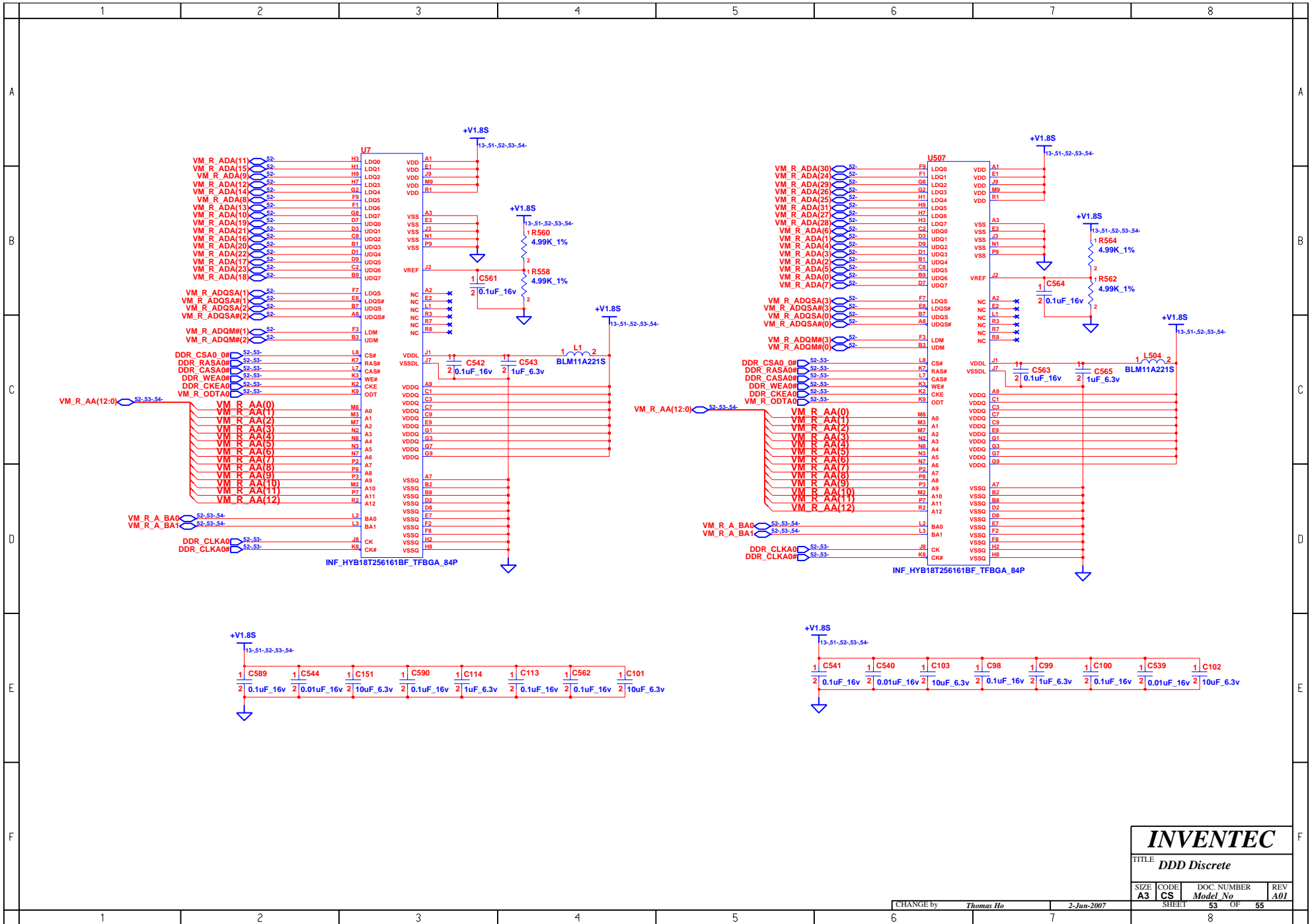
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01

CHANGE by *Thomas Ho* 31-Jan-2007

SHEET 51 OF 55



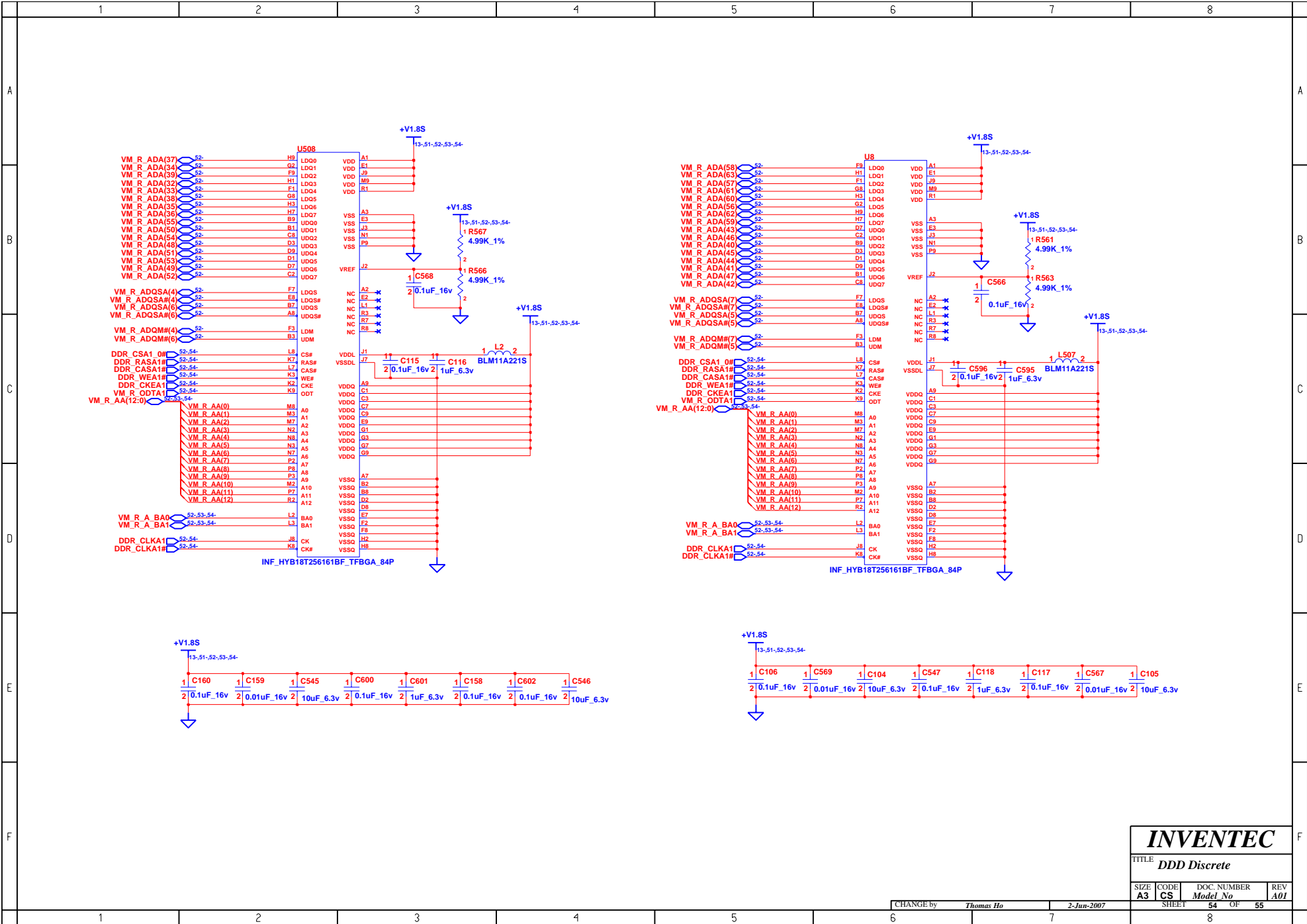
INVENTEC			
TITLE DDD Discrete			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV A01
CHANGE by Thomas Ho		31-Jan-2007	
SHEET 52		OF 55	



INVENTEC

TITLE
 DDD Discrete

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A01



INVENTEC

TITLE
DDD Discrete

SIZE A3	CODE CS	DOC. NUMBER Model No	REV A01
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