

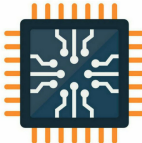


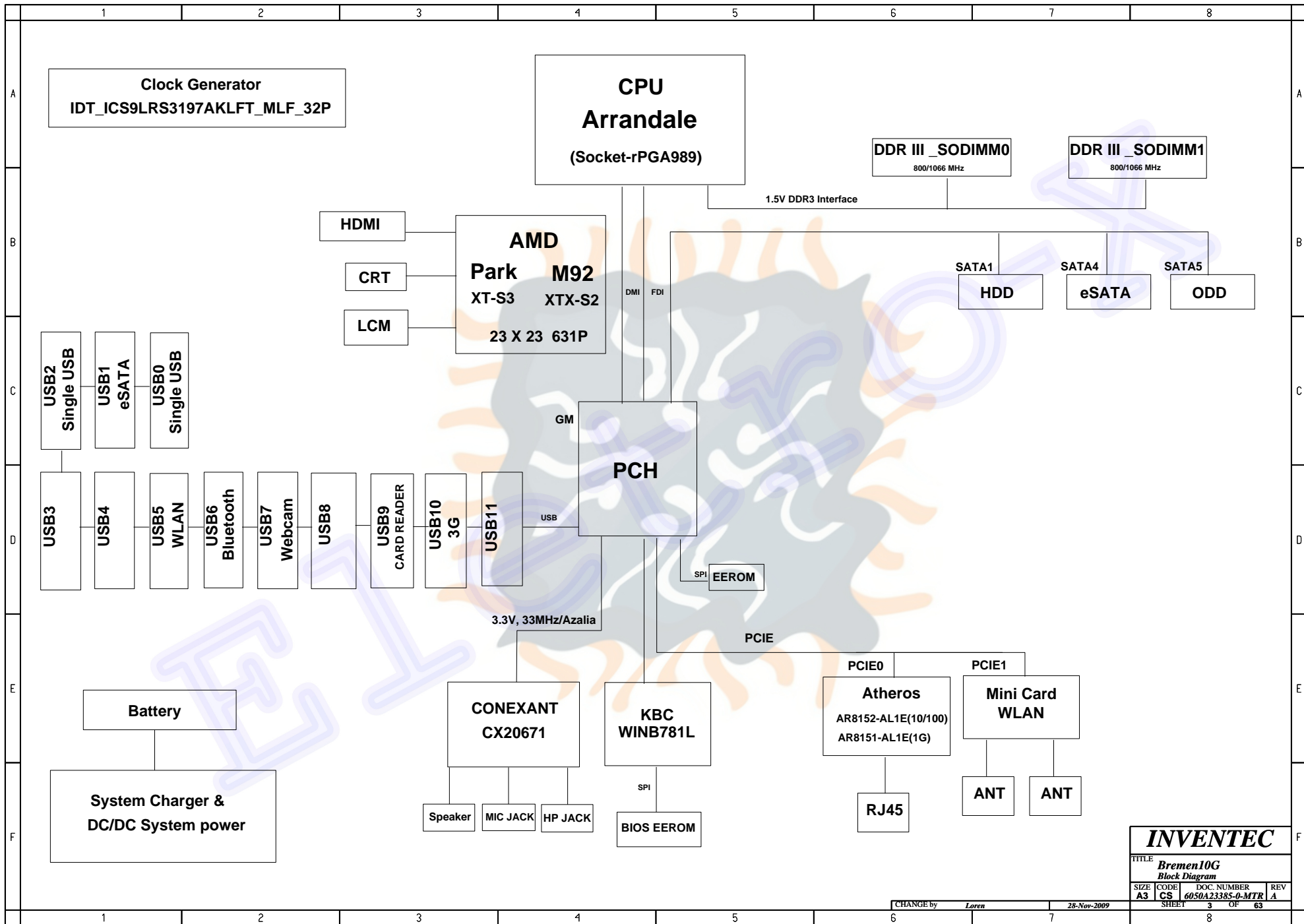
	1	2	3	4	5	6	7	8	
A									A
B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

Bremen 10G
ES build(AX2)

2009.10.10

INVENTEC			
TITLE Bremen10G			
SIZE A3	CODE CS	DOC. NUMBER 6050A23385-0-MTR	REV A
CHANGE by Loren		15-Jan-2010	
SHEET 1		OF 63	

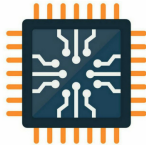


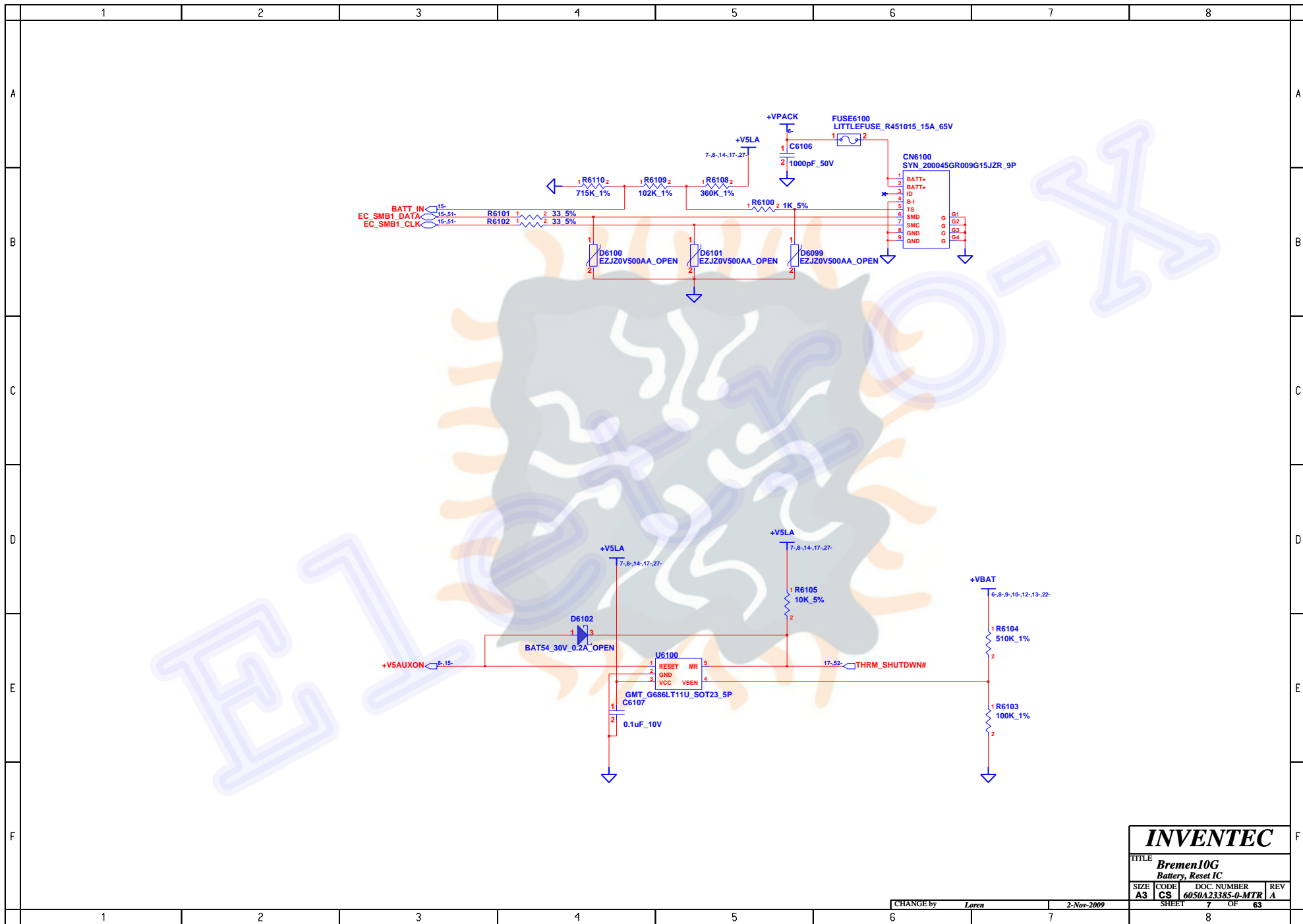


INVENTEC

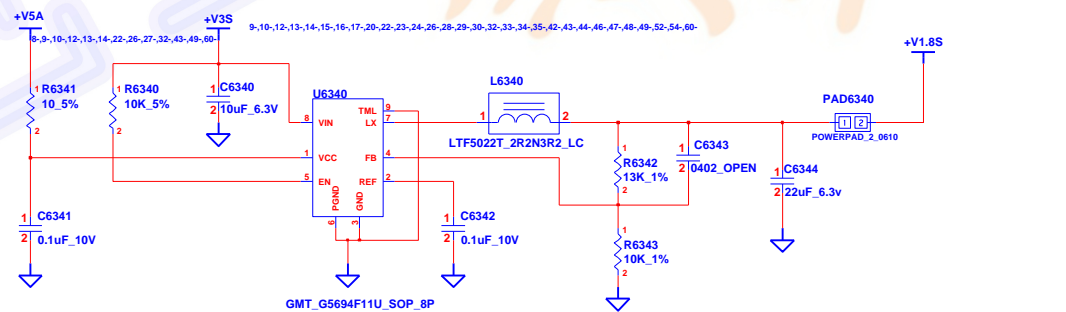
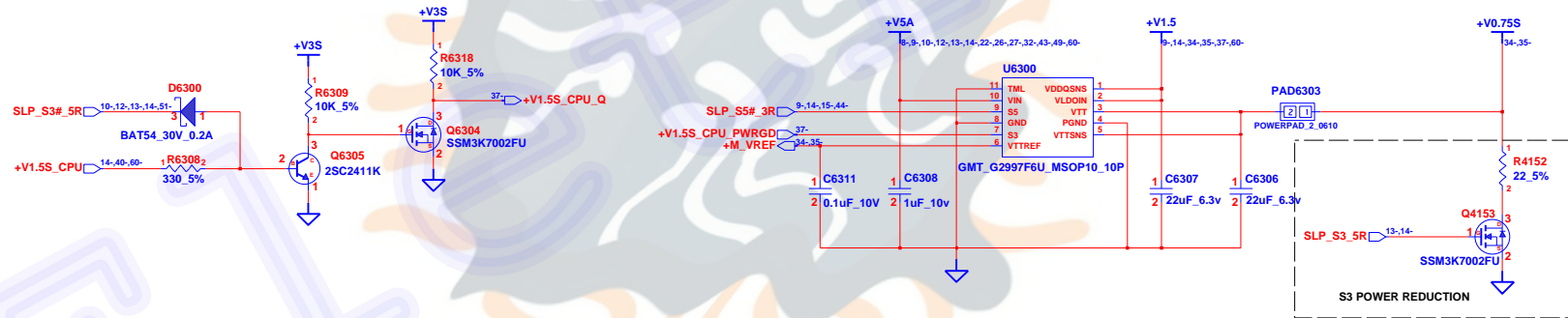
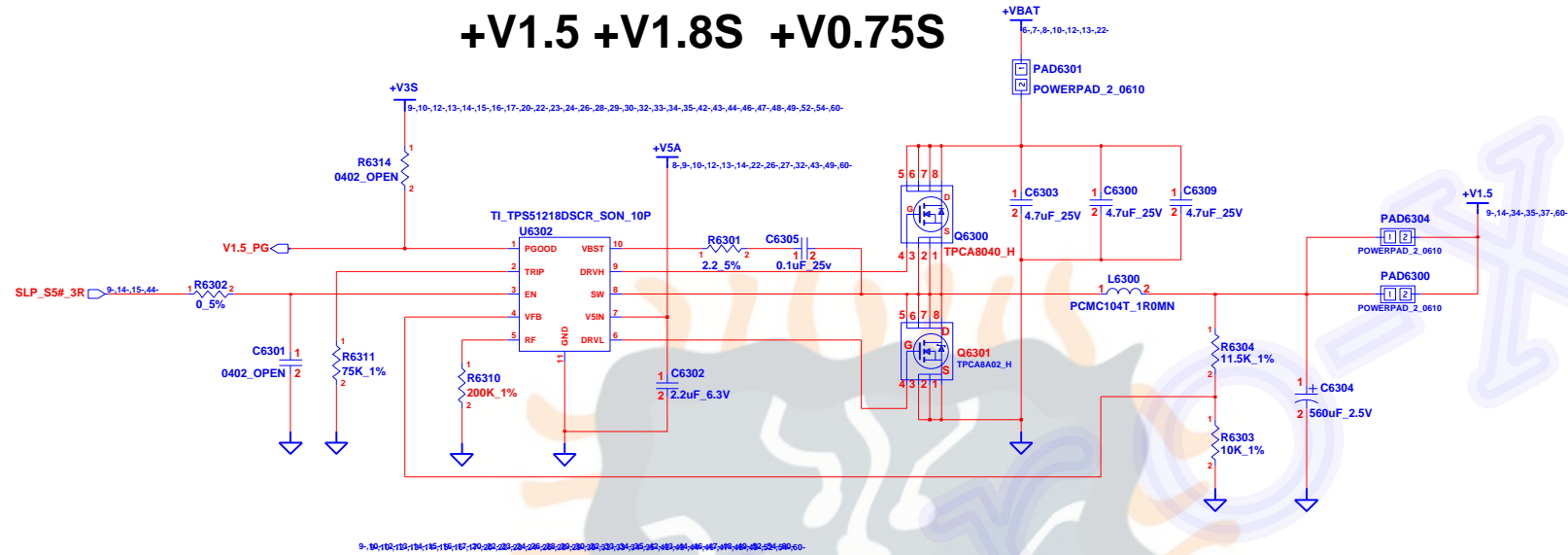
TITLE			
Bremen10G			
Block Diagram			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
SHEET		3	OF 63

CHANGE by Loren 28-Nov-2009





+V1.5 +V1.8S +V0.75S

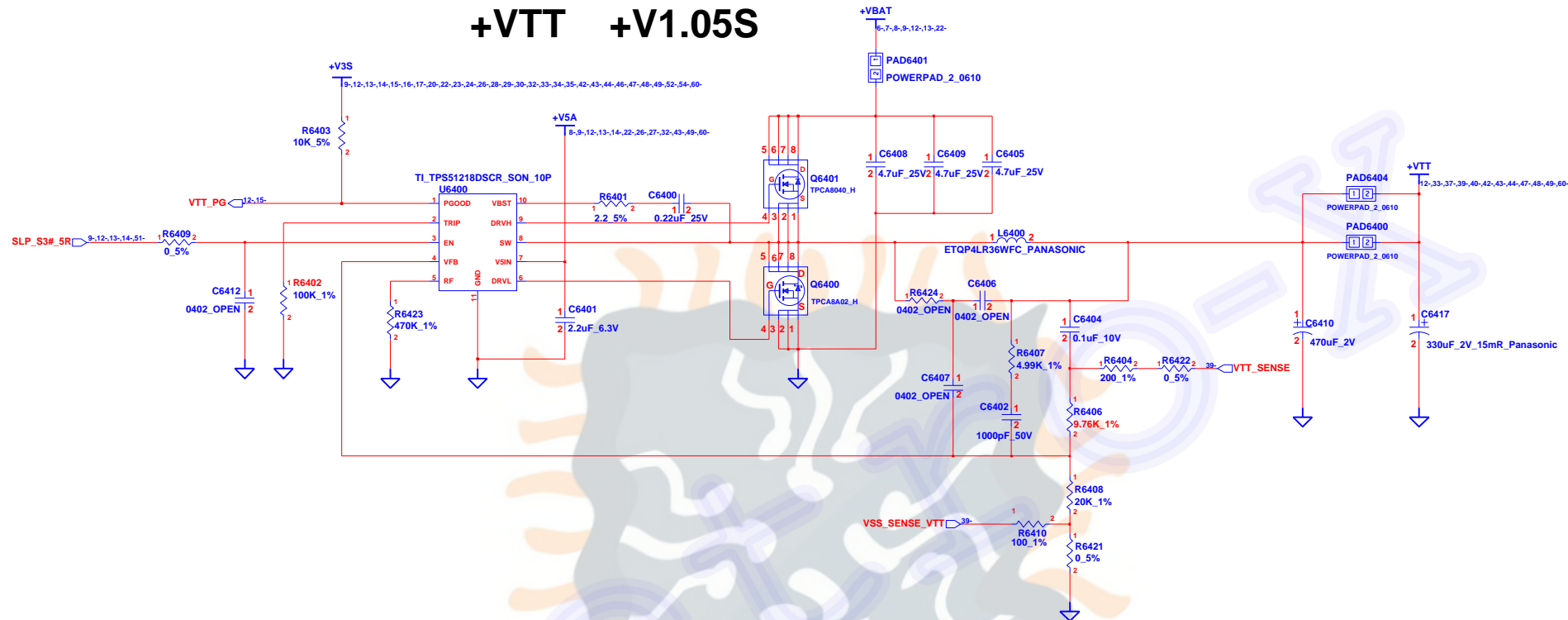


INVENTEC			
TITLE Bremen10G +V1.5, +V1.8S, +V0.75S			
SIZE A3	CODE CS	DOC NUMBER 6050A23385-0-MTR	REV A
SHEET 9		OF 63	

CHANGE by	Loren	7-Dec-2009
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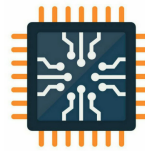
+VTT +V1.05S

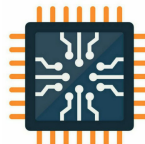
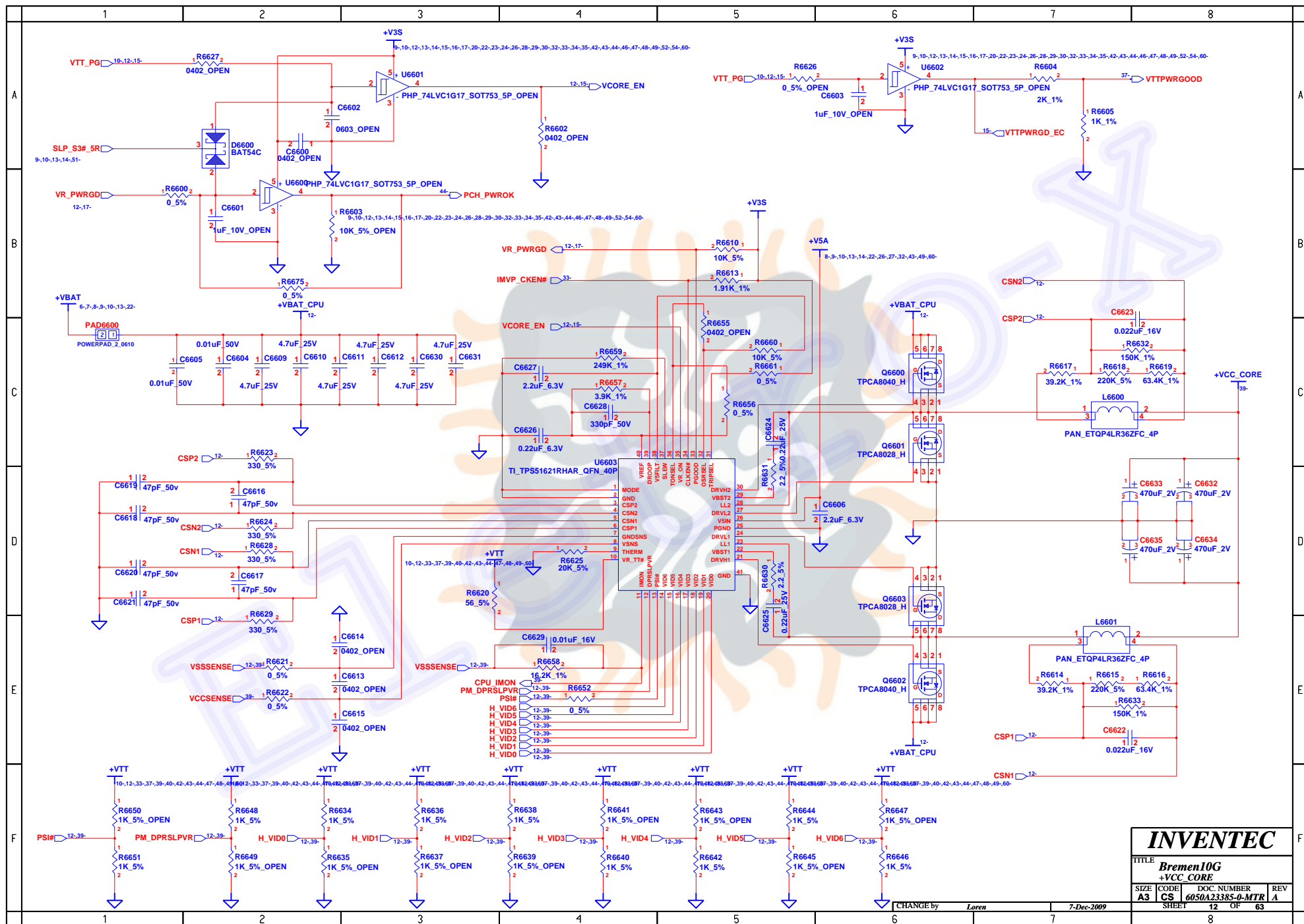


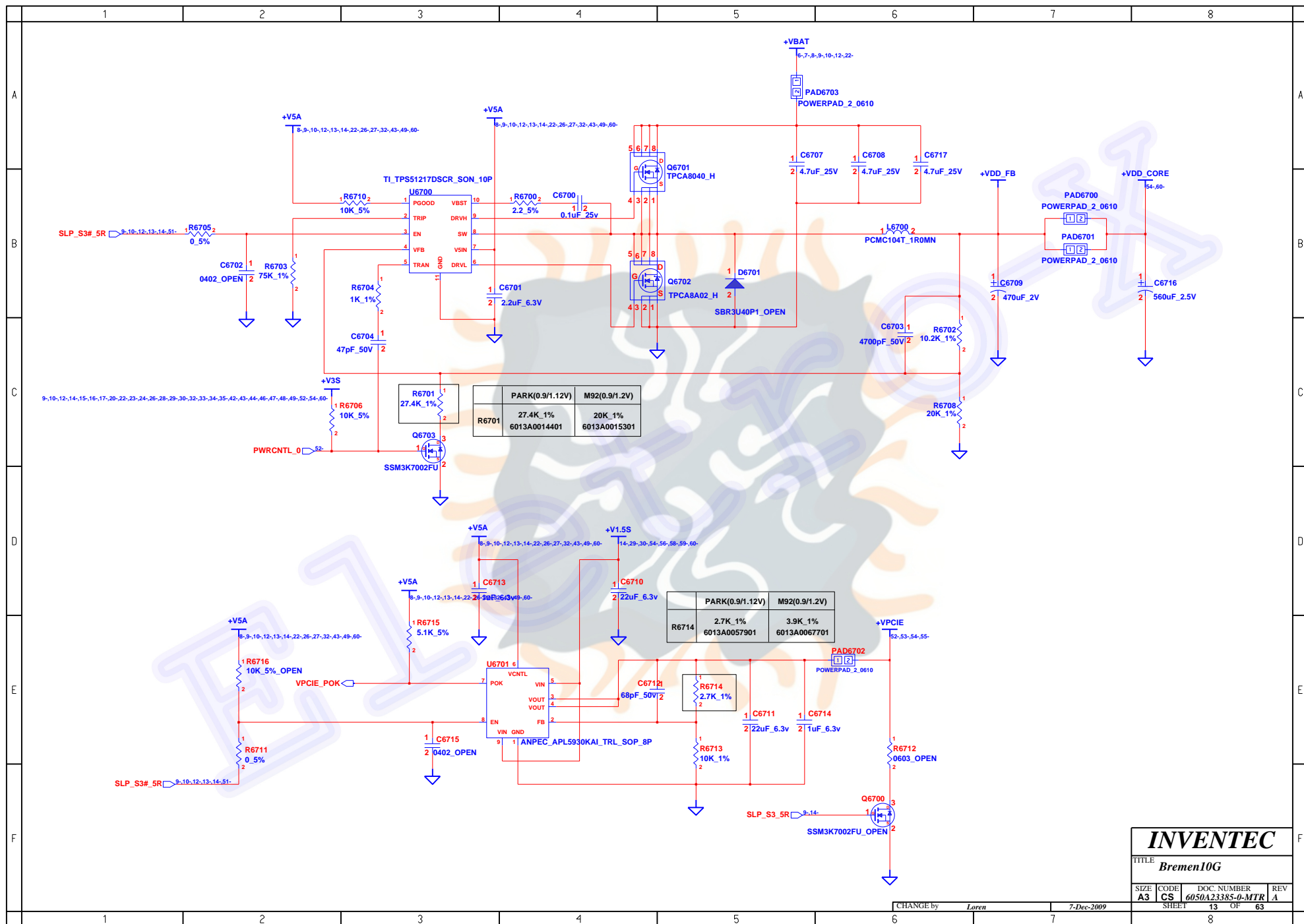
INVENTEC

TITLE			
Bremen10G			
+VTT, +V1.05S			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
SHEET		10	OF 63

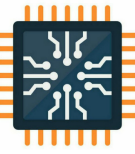
CHANGE by Loren 7-Dec-2009





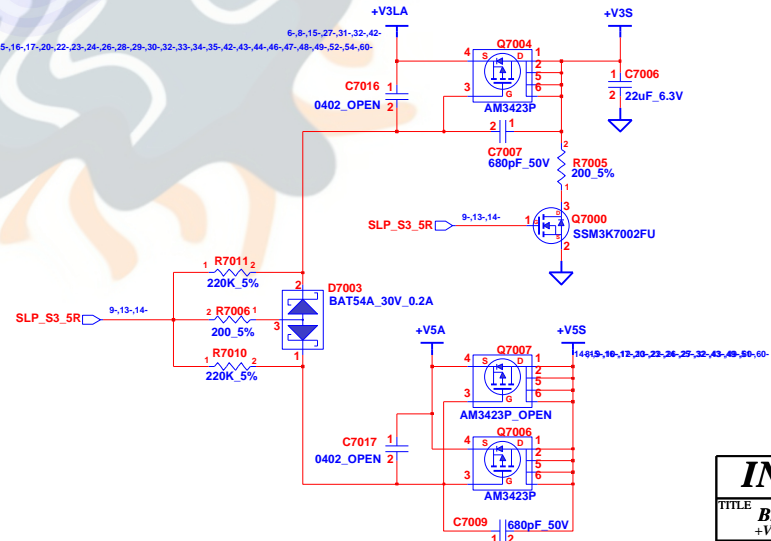
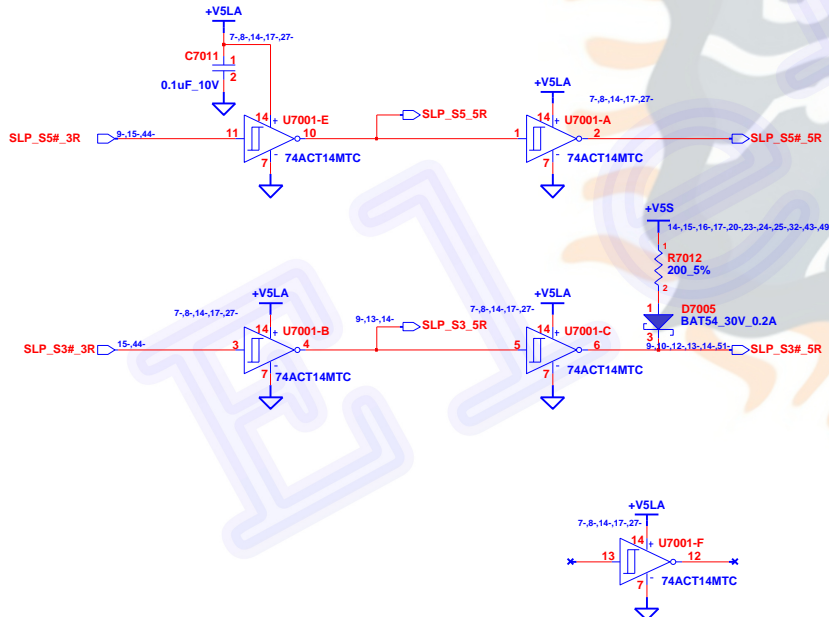
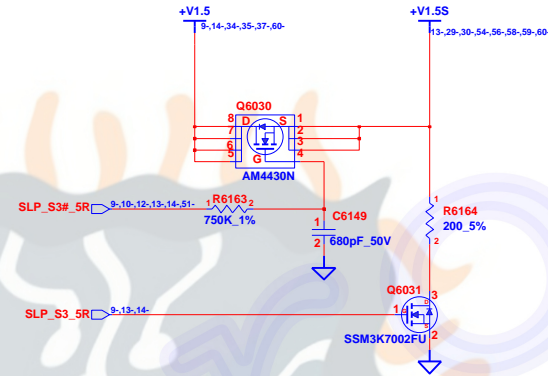
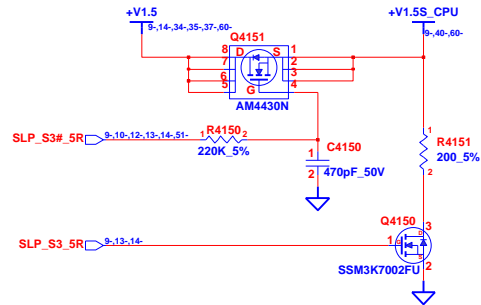


INVENTEC				
TITLE Bremen10G				
SIZE A3	CODE CS	DOC. NUMBER 6050A23385-0-MTR	REV A	
CHANGE by Loren		7-Dec-2009		
SHEET 13		OF 63		
1		2		8



+V5S +V3S +V1.5S +V1.5S_CPU

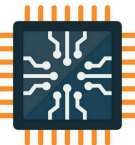
S3 POWER REDUCTION

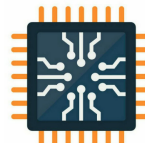
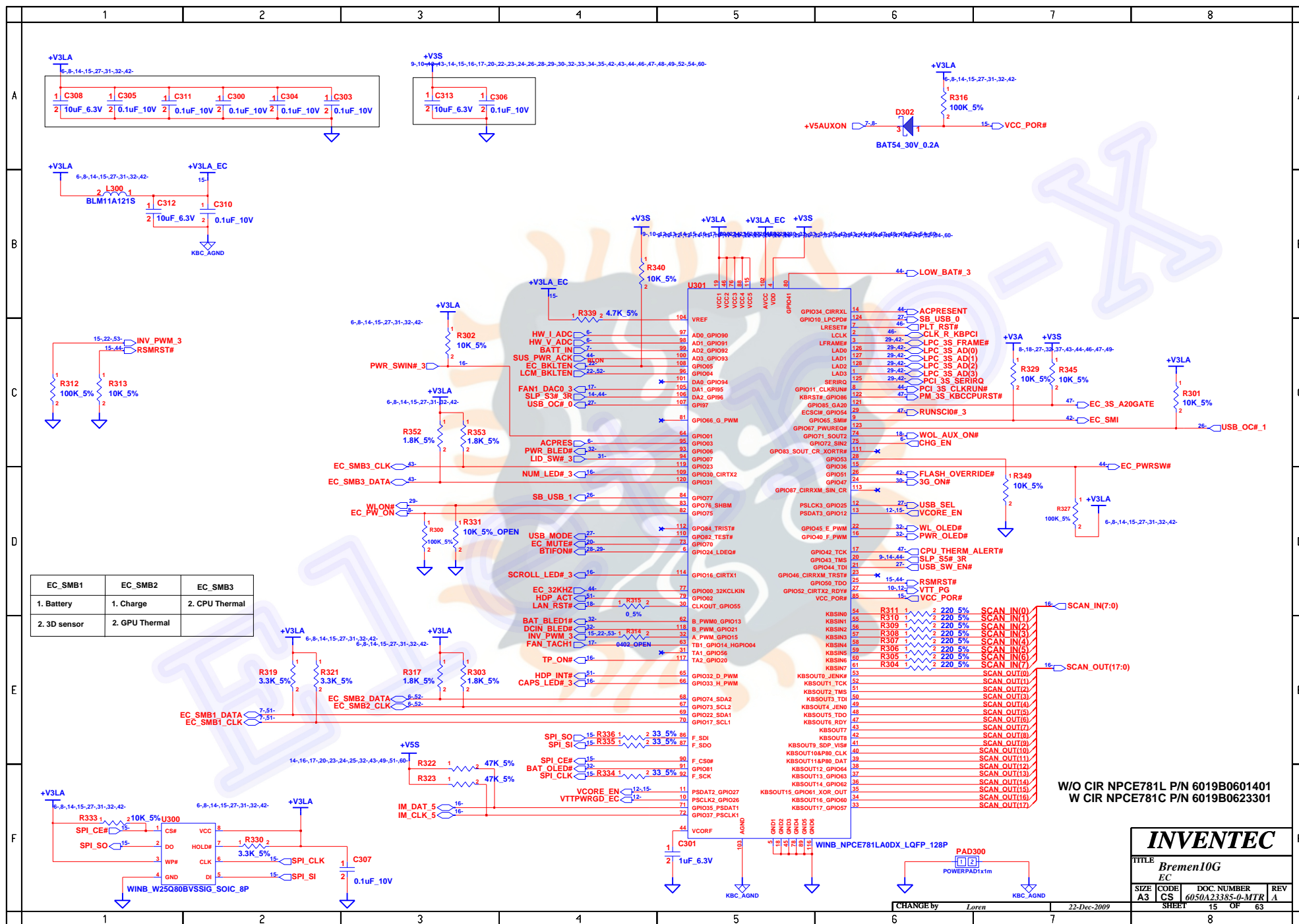


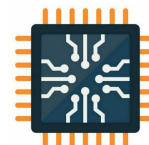
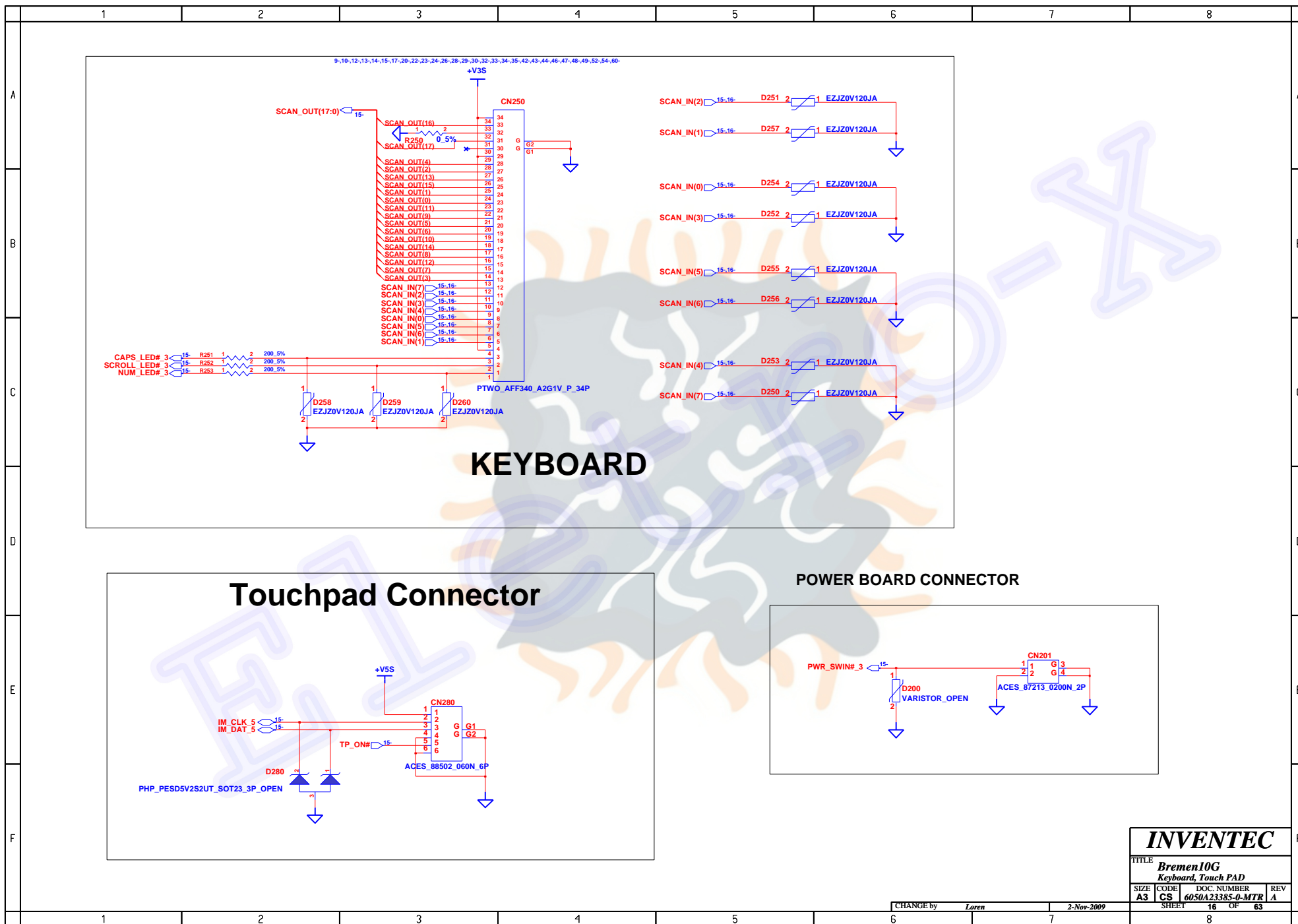
INVENTEC

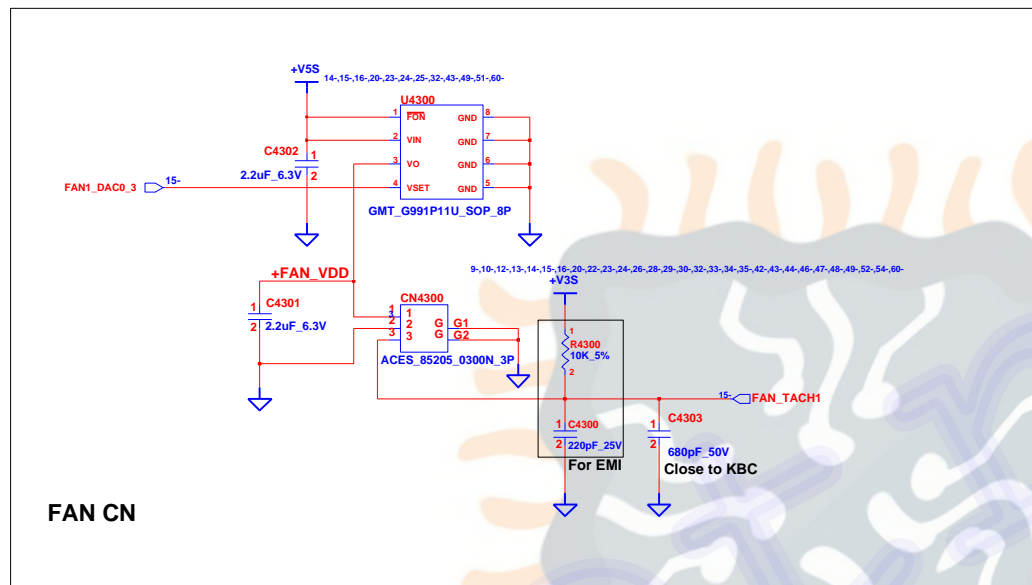
TITLE			
Bremen10G			
+V5S +V3S +V1.5S			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
SHEET		14 OF	63

CHANGE by Loren 2-Nov-2009



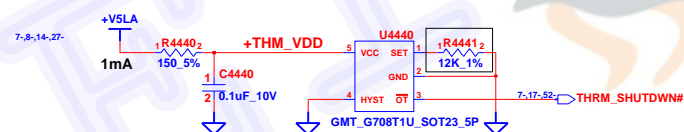






FAN CN

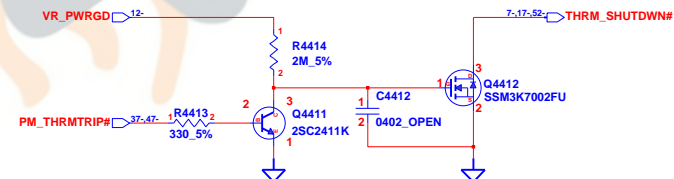
Board Thermal Sensor



Thermal shutdown at 90 C° +/- 3 C° from 60 C° to 100 C°

$$RSET = 0.0012 * T^2 - 0.9308 * T + 96.147$$

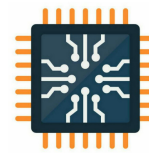
Hysteresis is 30C

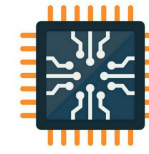
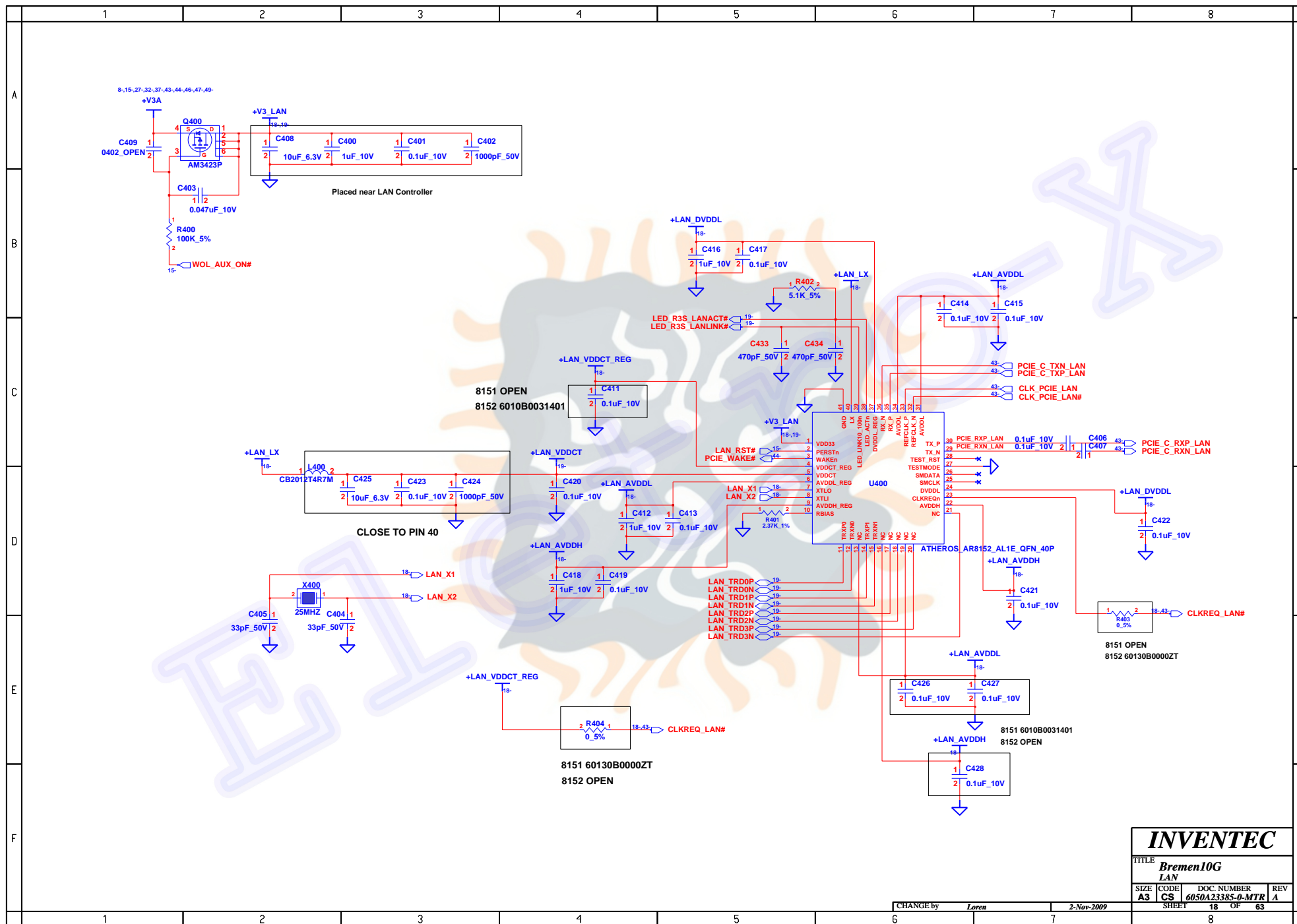


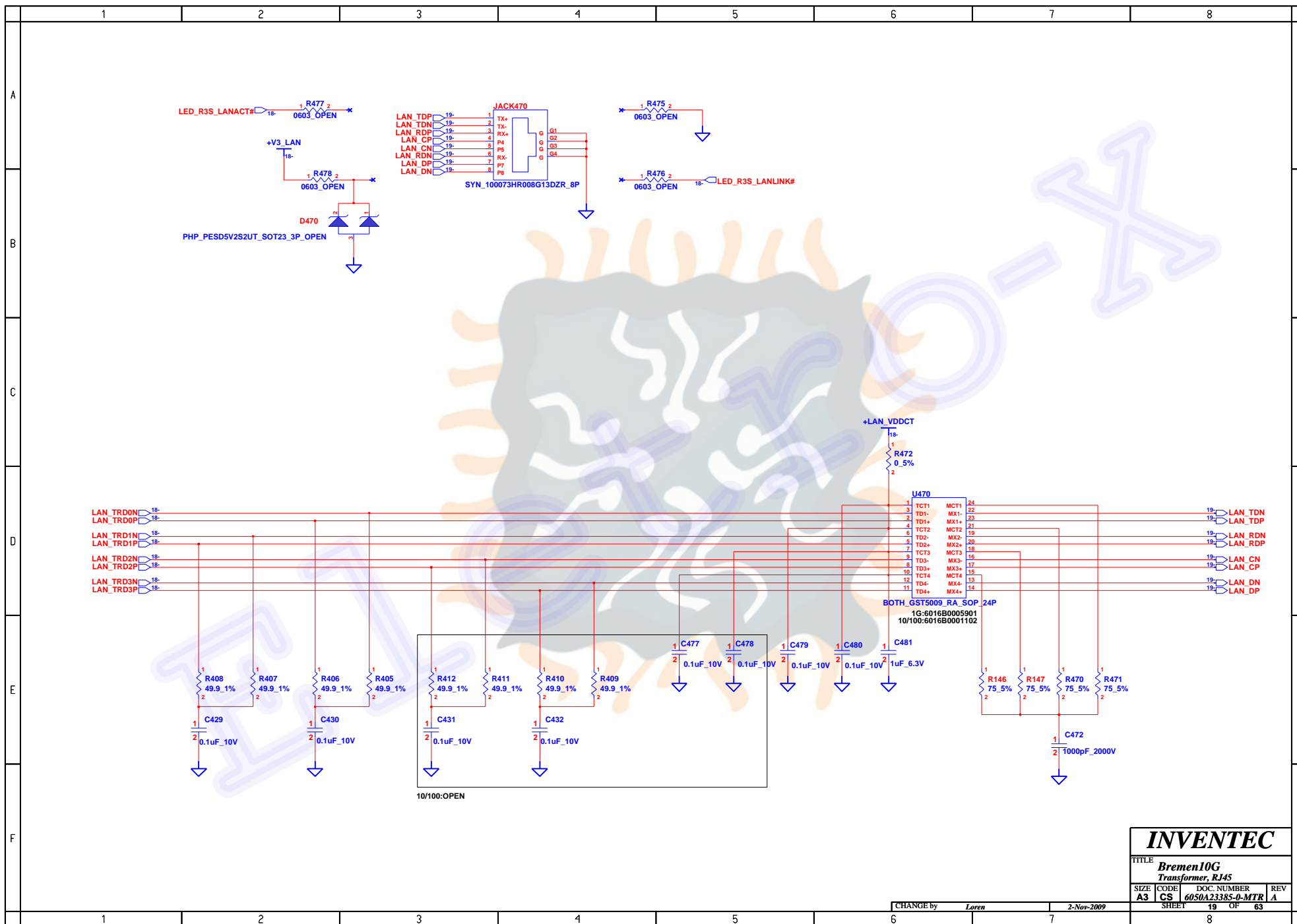
INVENTEC

TITLE			
Bremen10G			
FAN, Thermal controller			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
SHEET		OF	63
17		8	

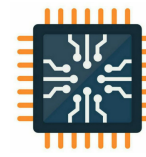
CHANGE by Loren 2-Nov-2009

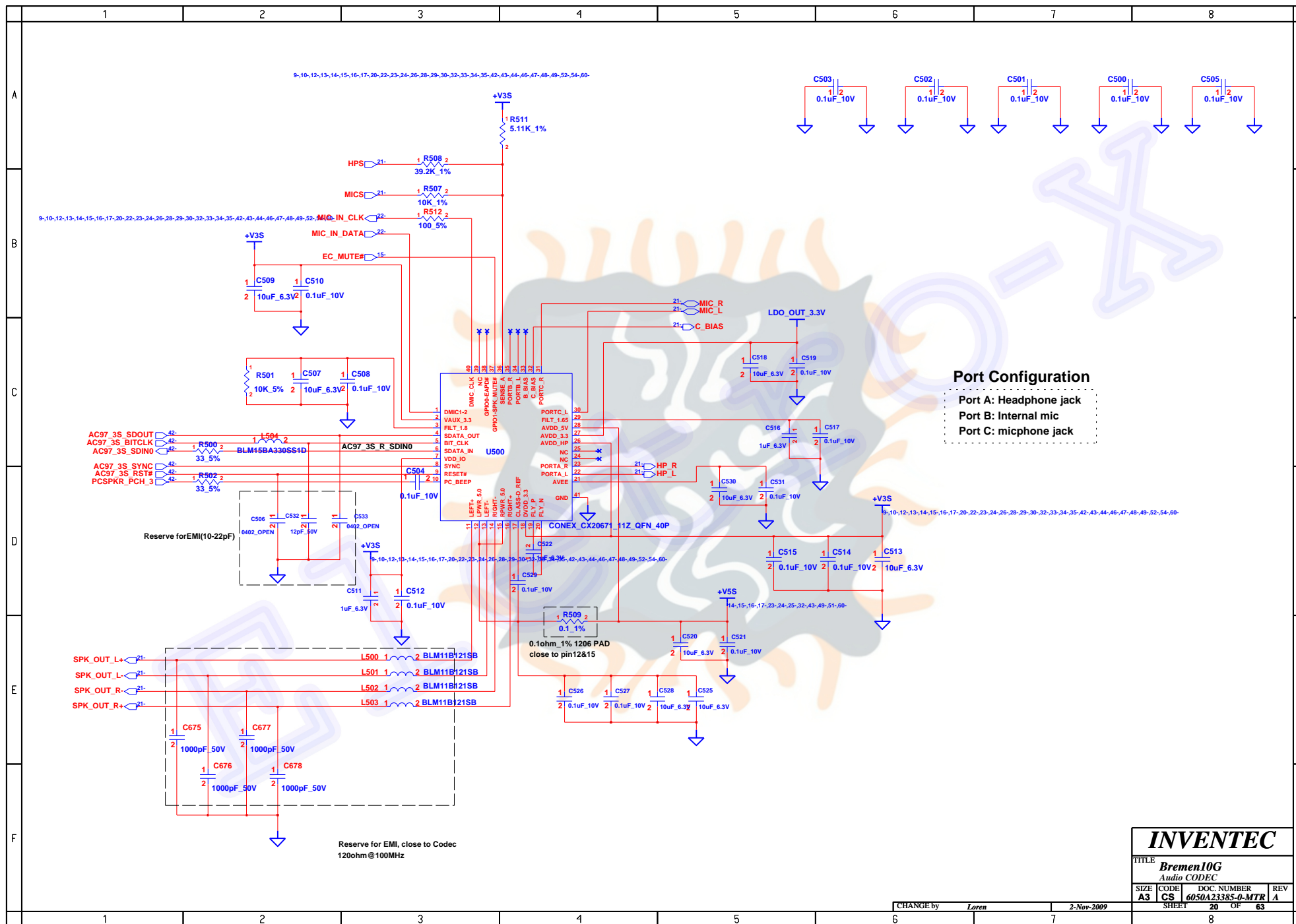






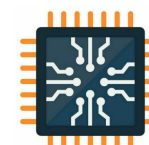
INVENTEC			
TITLE			
Bremen10G			
Transformer, RJ45			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
CHANGE by		2-Nov-2009	
Loren			
SHEET		19	OF 63



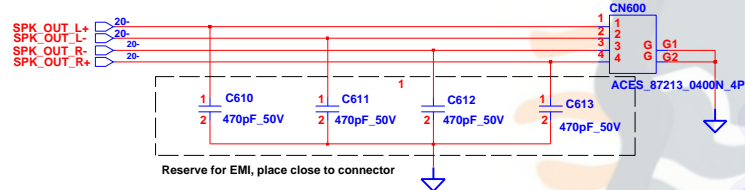


INVENTEC

TITLE			
Bremen10G			
Audio CODEC			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
SHEET		20	OF 63

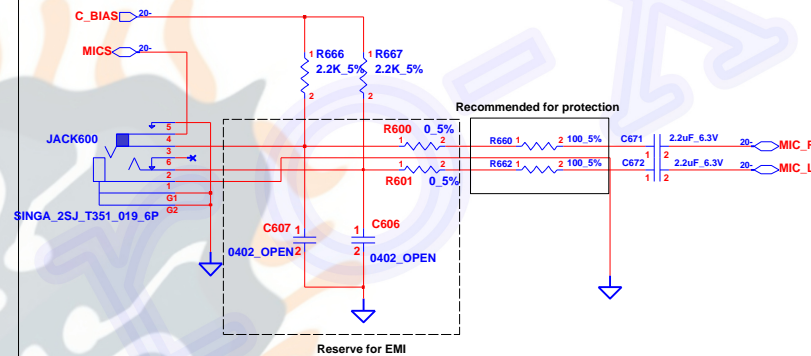


INTERNAL SPEAKERS

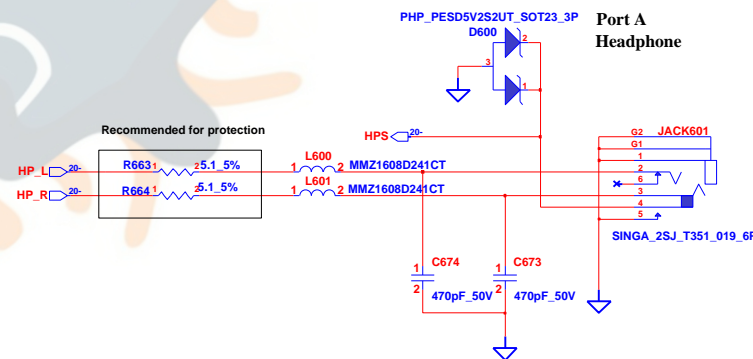


AUDIO JACKS

Port C External microphone



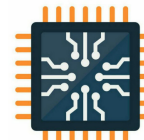
Port A Headphone

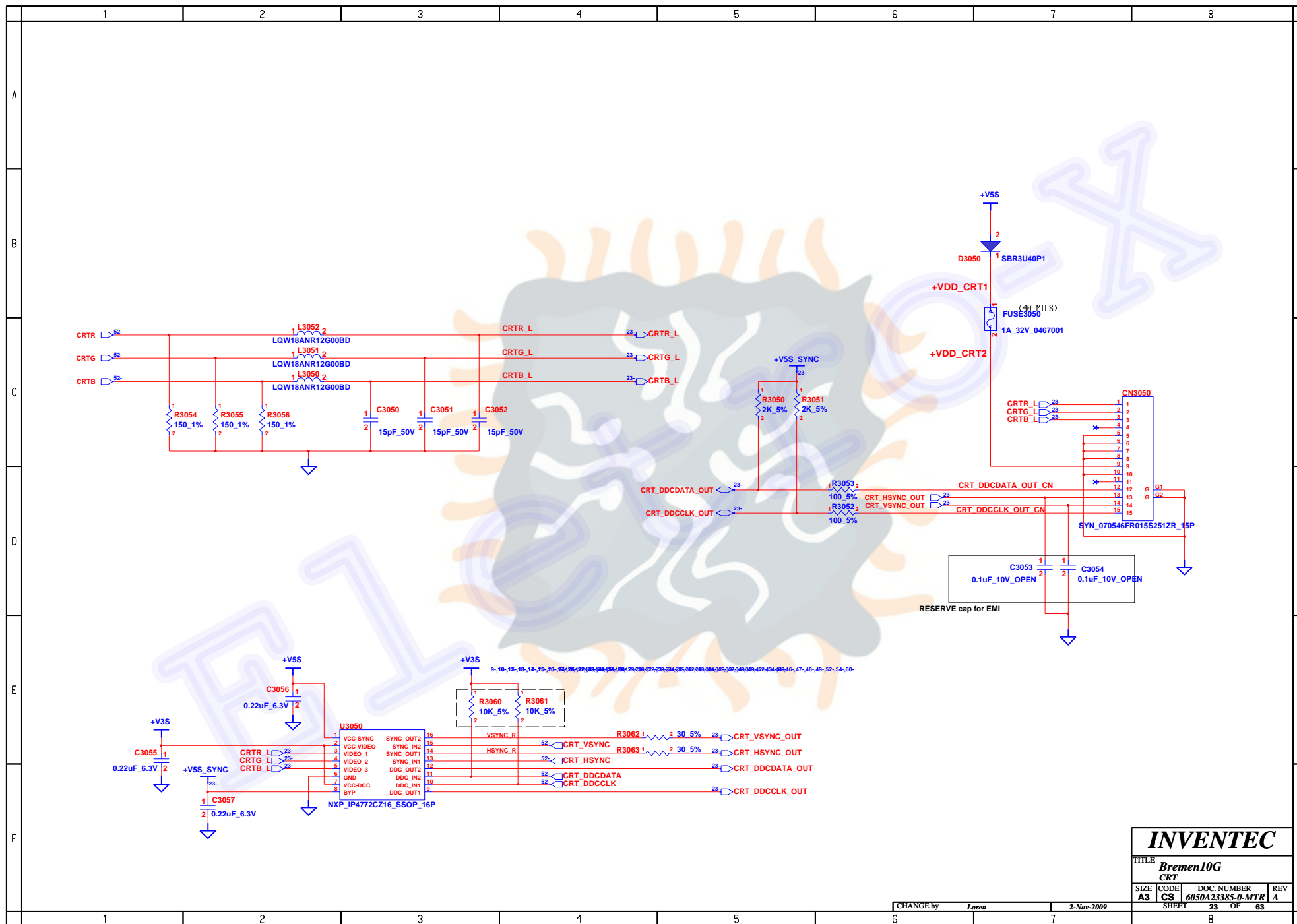


INVENTEC

TITLE Bremen10G JACK			
SIZE A3	CODE CS	DOC. NUMBER 6050A23385-0-MTR	REV A
SHEET 21		OF 63	

CHANGE by *Loren* 2-Nov-2009





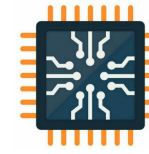
INVENTEC

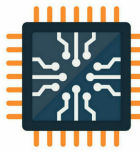
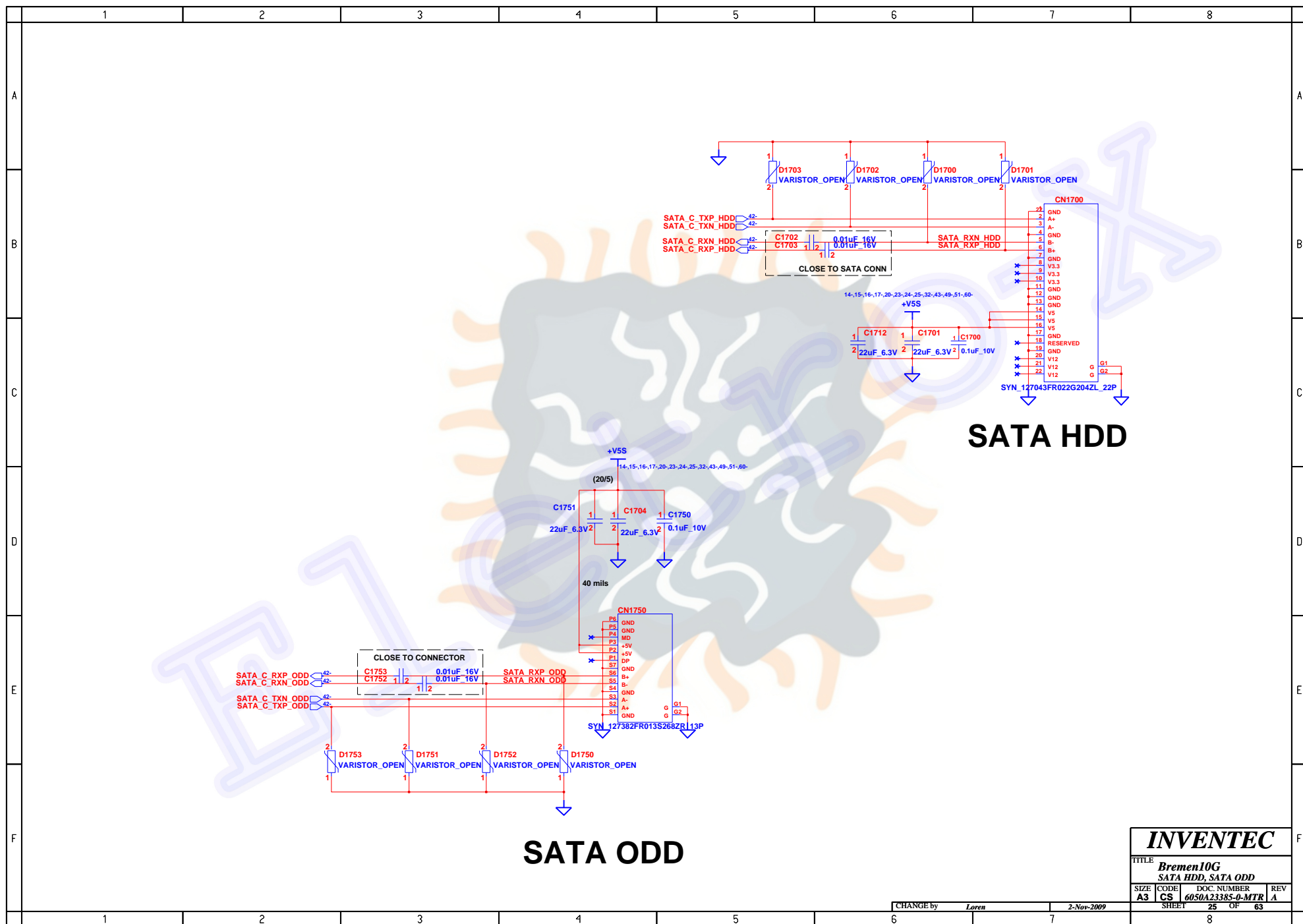
TITLE
**Bremen10G
CRT**

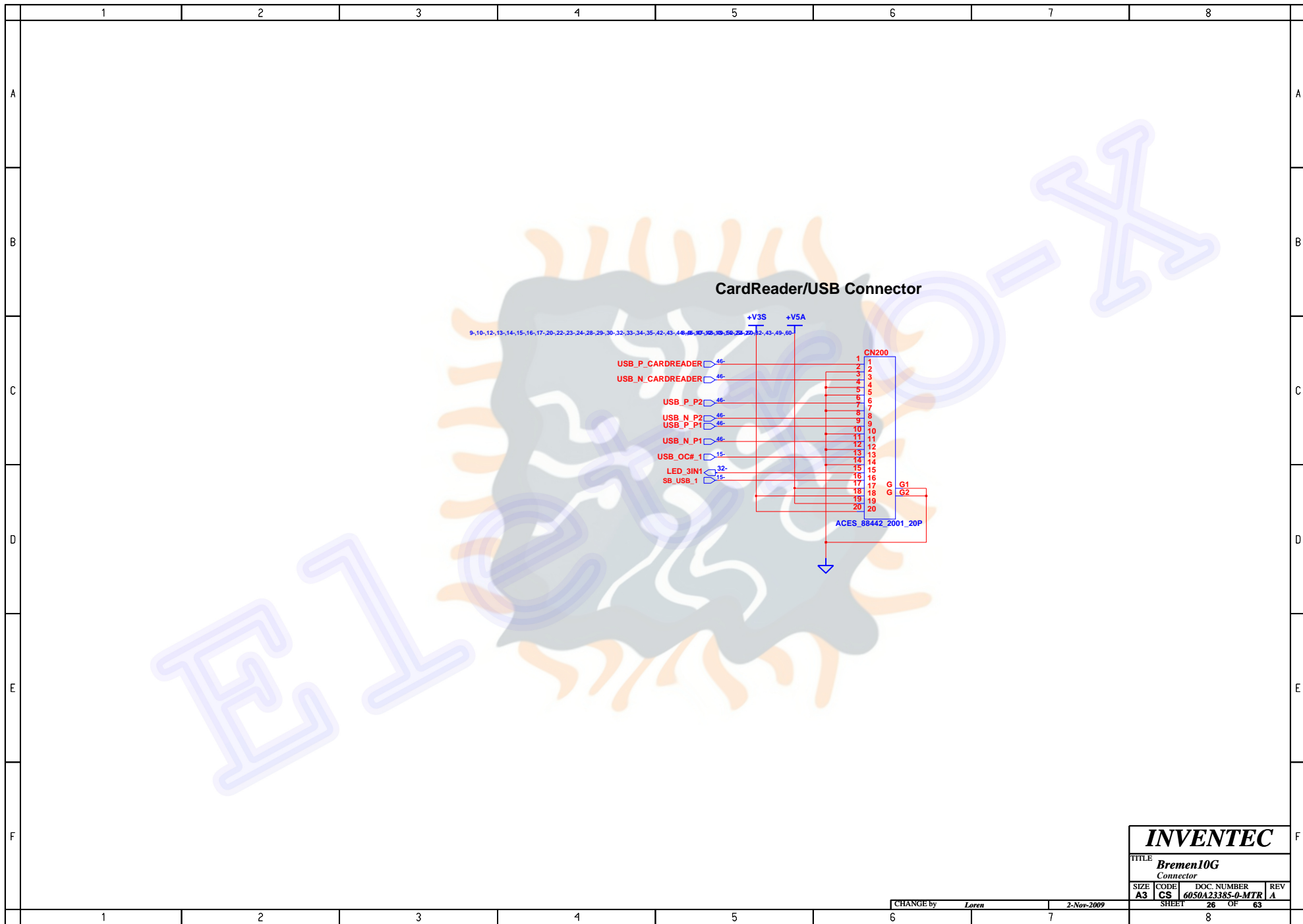
SIZE A3	CODE CS	DOC. NUMBER 6050A23385-0-MTR	REV A
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CHANGE by *Loren* 2-Nov-2009

SHEET 23 OF 63







INVENTEC			
TITLE			
Bremen10G			
Connector			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
CHANGE by		Loren	2-Nov-2009
SHEET		26	OF 63



USB/eSATA COMBO

EN	D0	D1	FUNCTION
0	X	X	STANDBY
1	0	0	DEFAULT
1	1	0	CH0->5DB
1	0	1	CH1->5DB
1	1	1	CH0,1->5DB

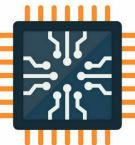
S	OE#	Function
X	H	Disconnect
L	L	D=1D
H	L	D=2D

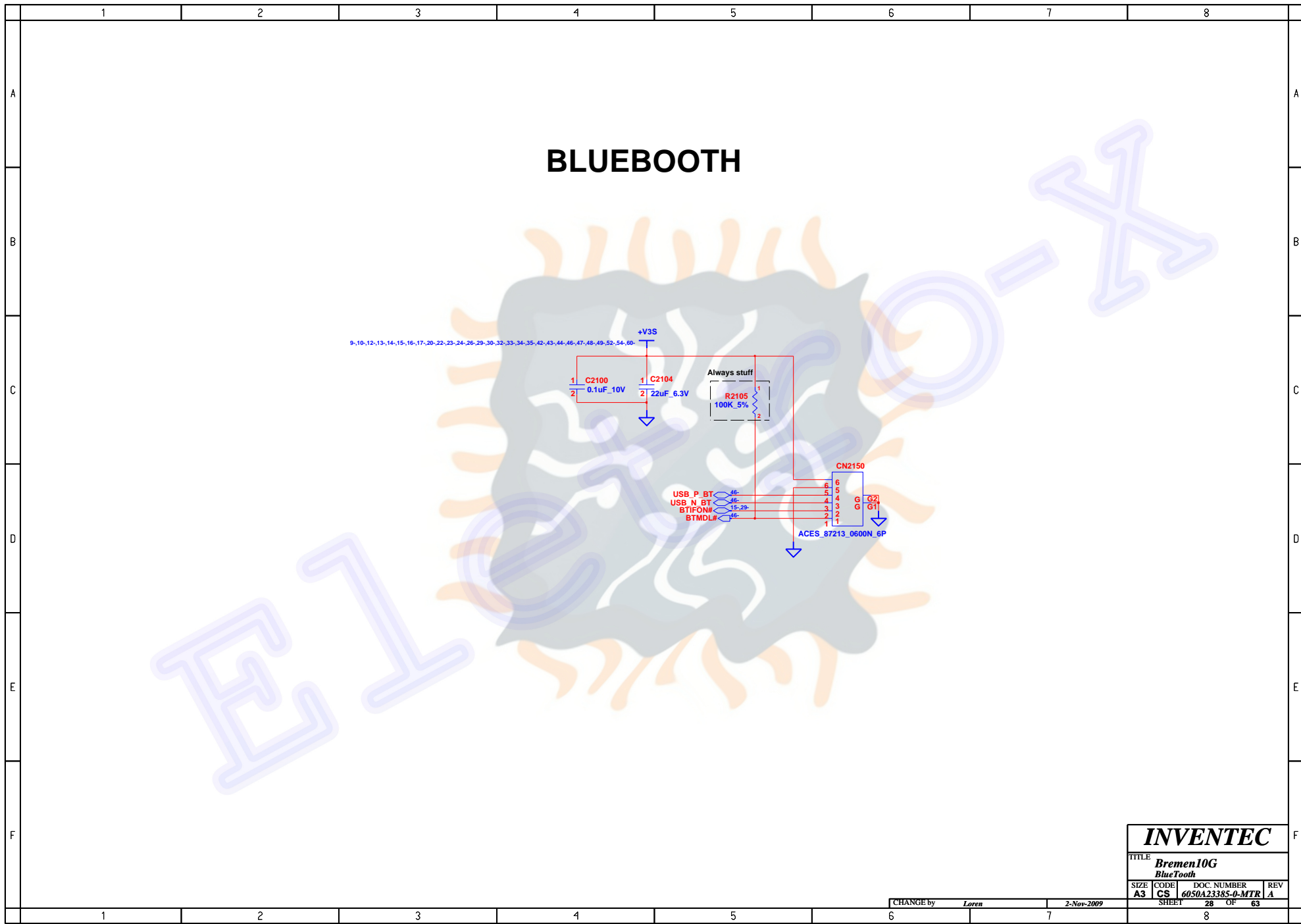
	1OE#	2OE#	3OE#	4OE#
Mode3	High	High	Low	Low
Mode4	Low	Low	High	High

INVENTEC

TITLE			
Bremen10G			
USB/eSATA combo			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
SHEET		27	OF 63

CHANGE by Loren 2-Nov-2009

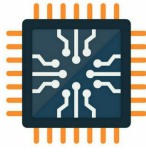




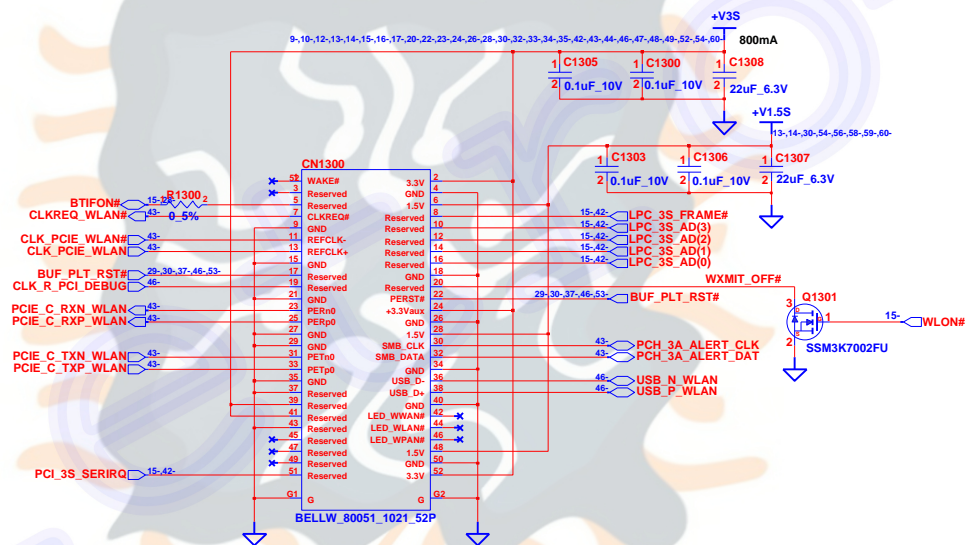
INVENTEC

TITLE			
Bremen10G BlueTooth			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
SHEET		28 OF	63

CHANGE by Loren 2-Nov-2009



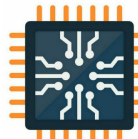
Wireless & Debug card



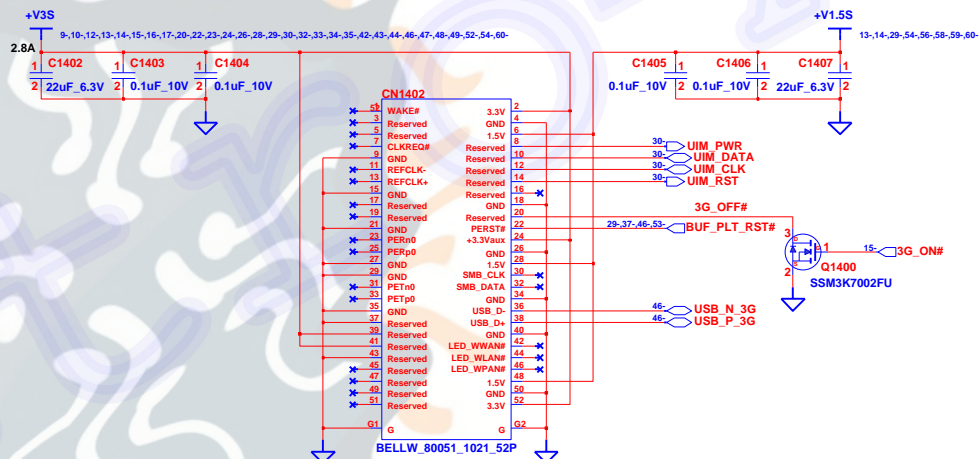
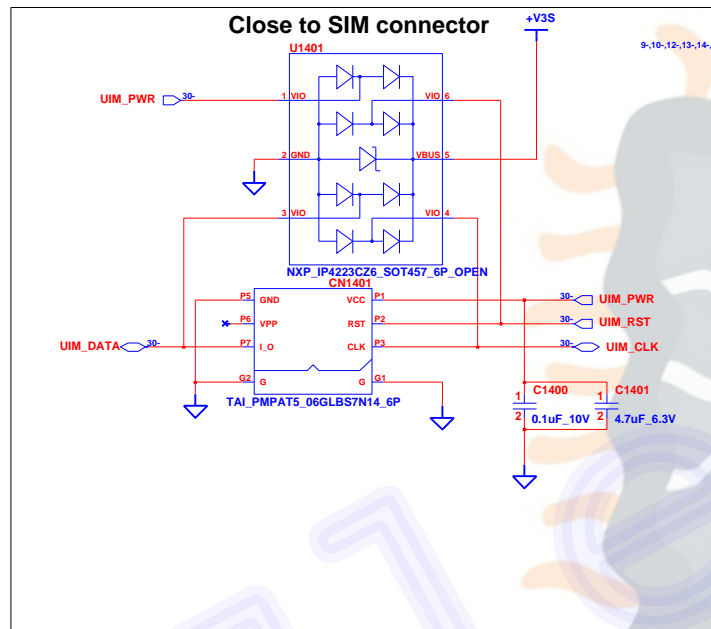
INVENTEC

TITLE			
Bremen10G WLAN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
SHEET		29	OF 63
		8	

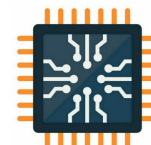
CHANGE by Loren 2-Nov-2009

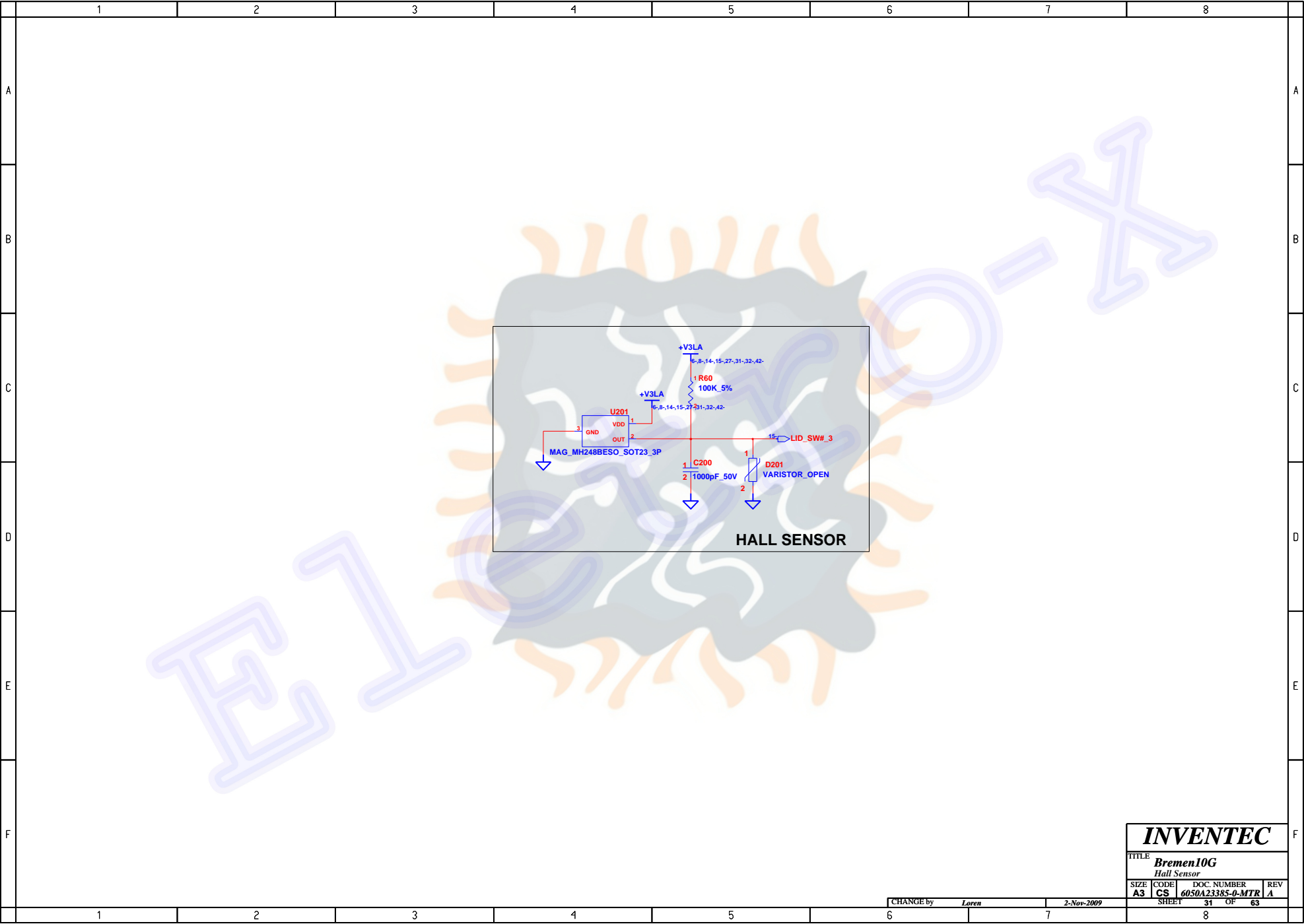


3G



INVENTEC			
TITLE			
Bremen10G			
3G			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
CHANGE by		2-Nov-2009	
SHEET		30 OF	63
		8	





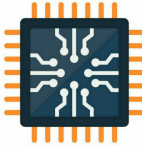
INVENTEC

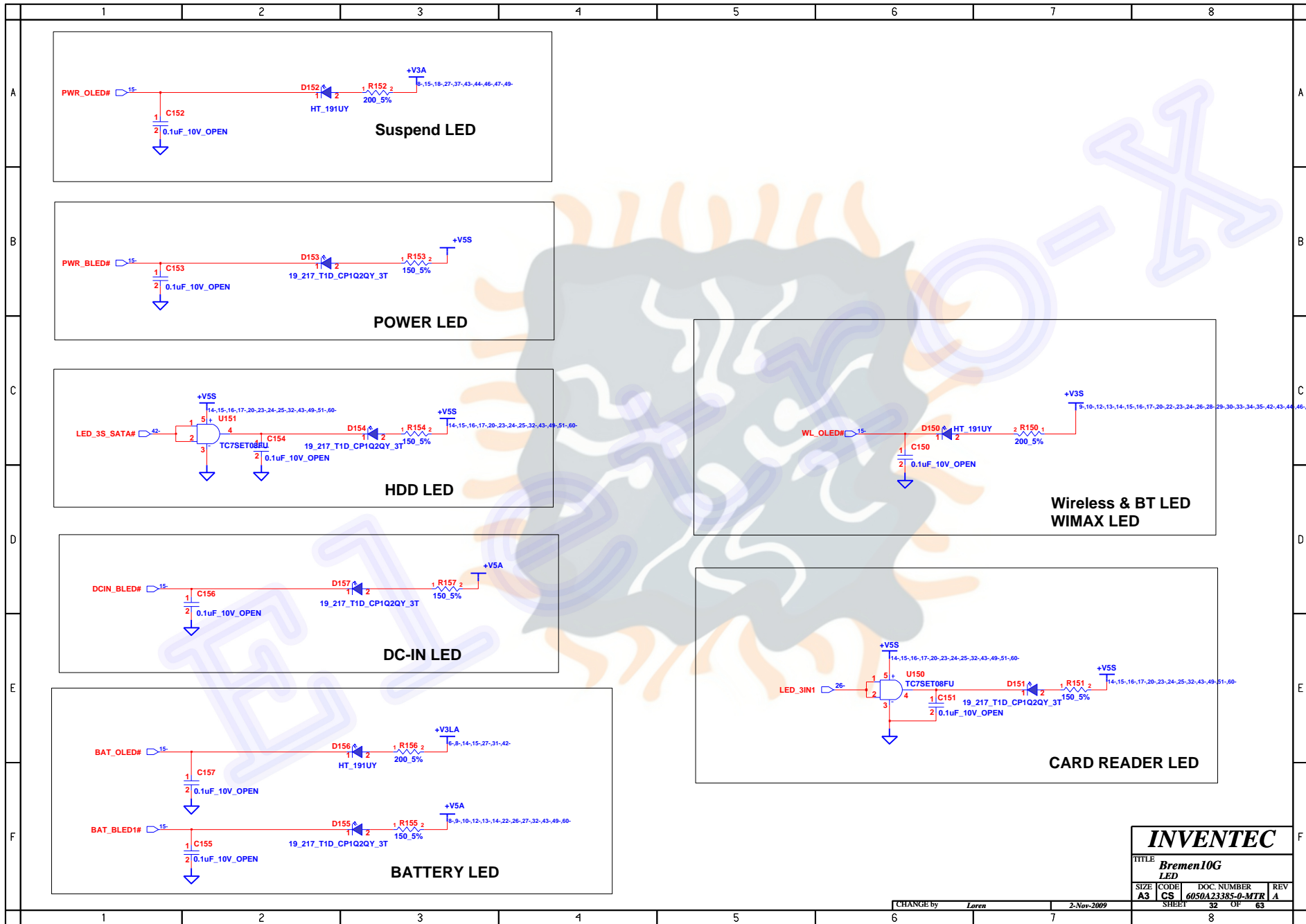
TITLE
Bremen10G
Hall Sensor

SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A

CHANGE by *Loren* 2-Nov-2009

SHEET 31 OF 63

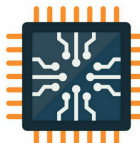
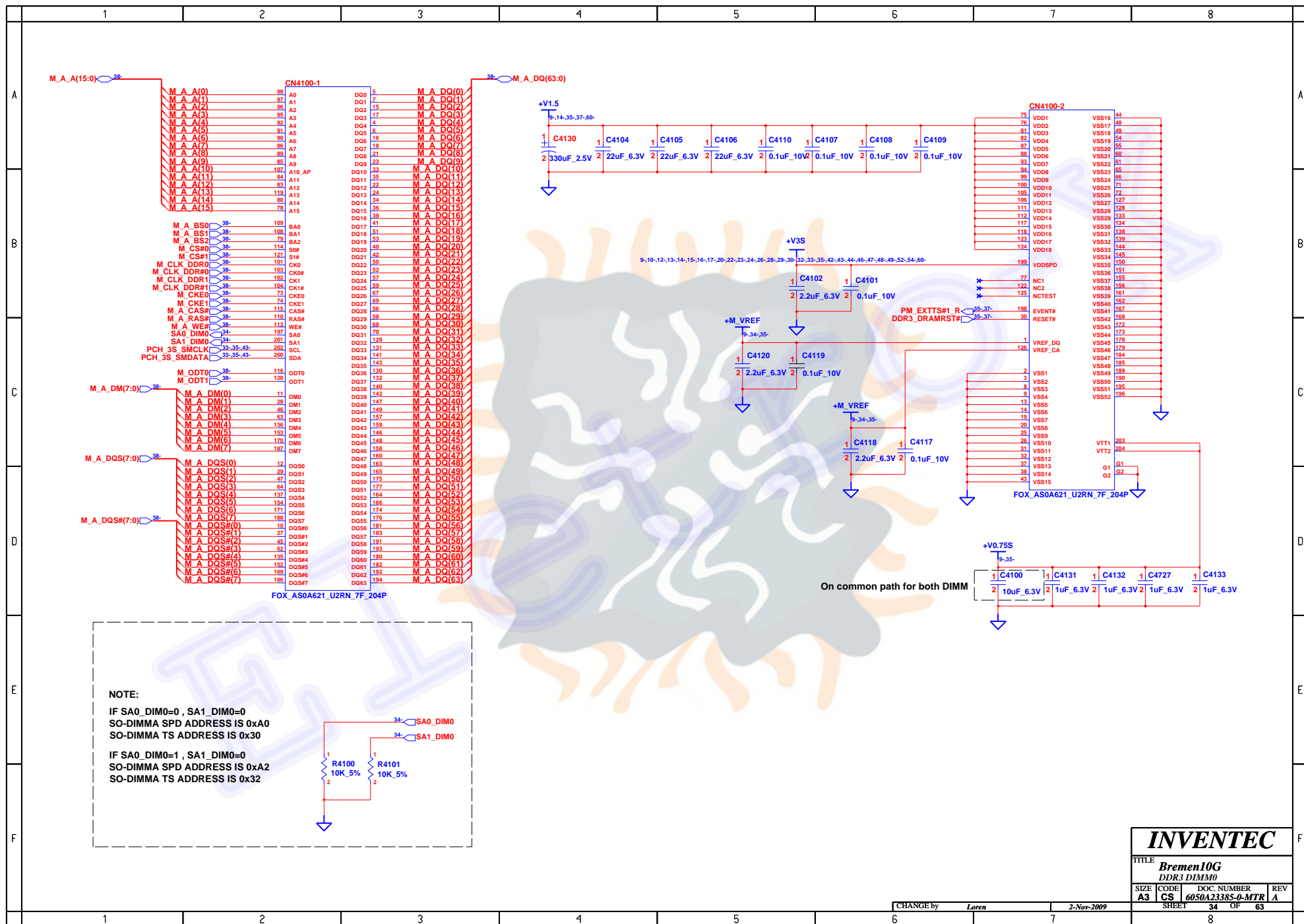


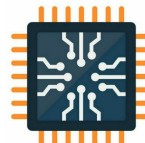
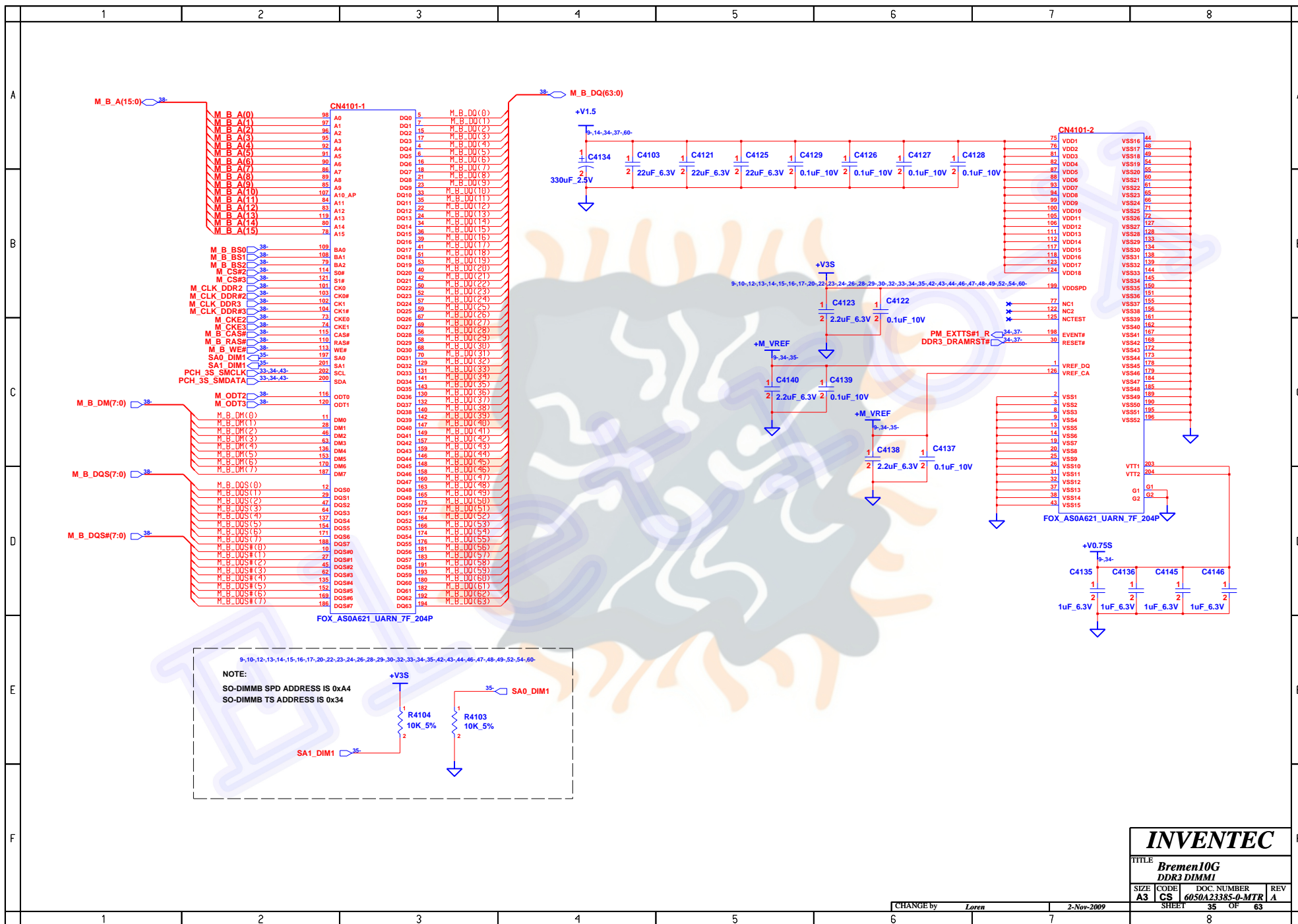


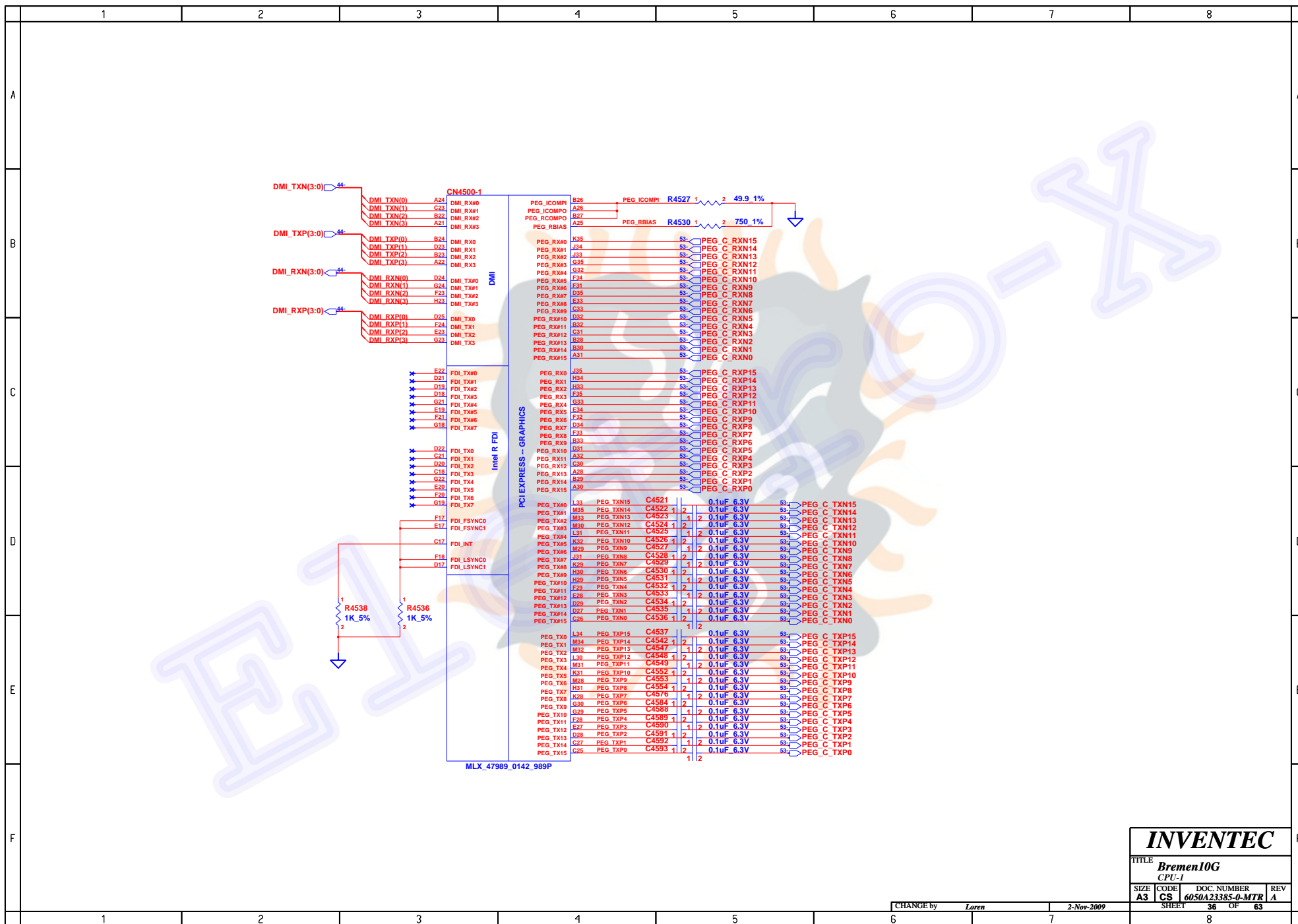
INVENTEC			
TITLE Bremen10G LED			
SIZE A3	CODE CS	DOC. NUMBER 6050A23385-0-MTR	REV A
SHEET 32		OF 63	

CHANGE by *Loren* 2-Nov-2009









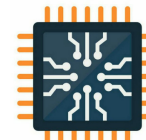
INVENTEC

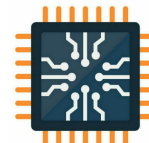
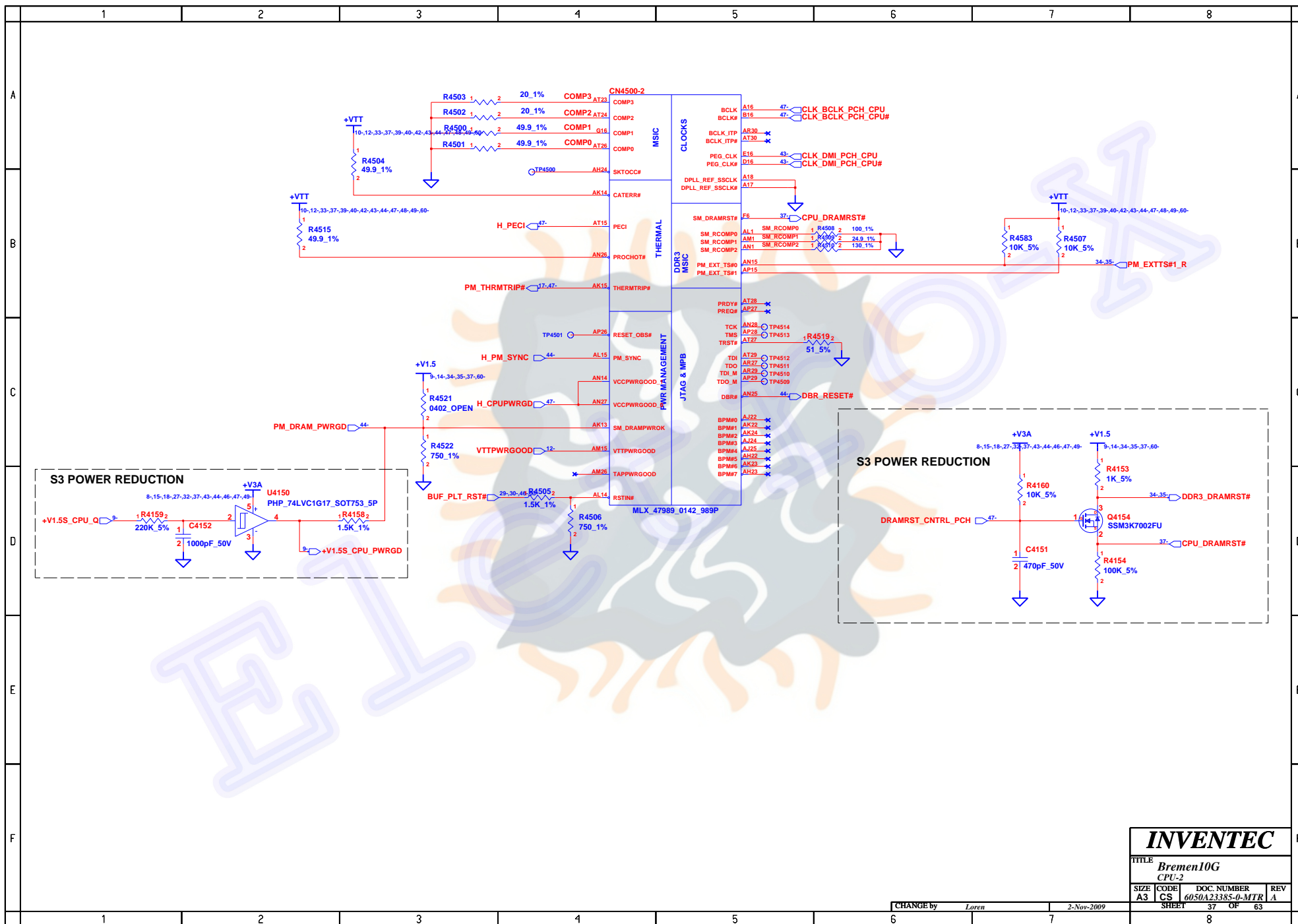
TITLE
Bremen10G
CPU-1

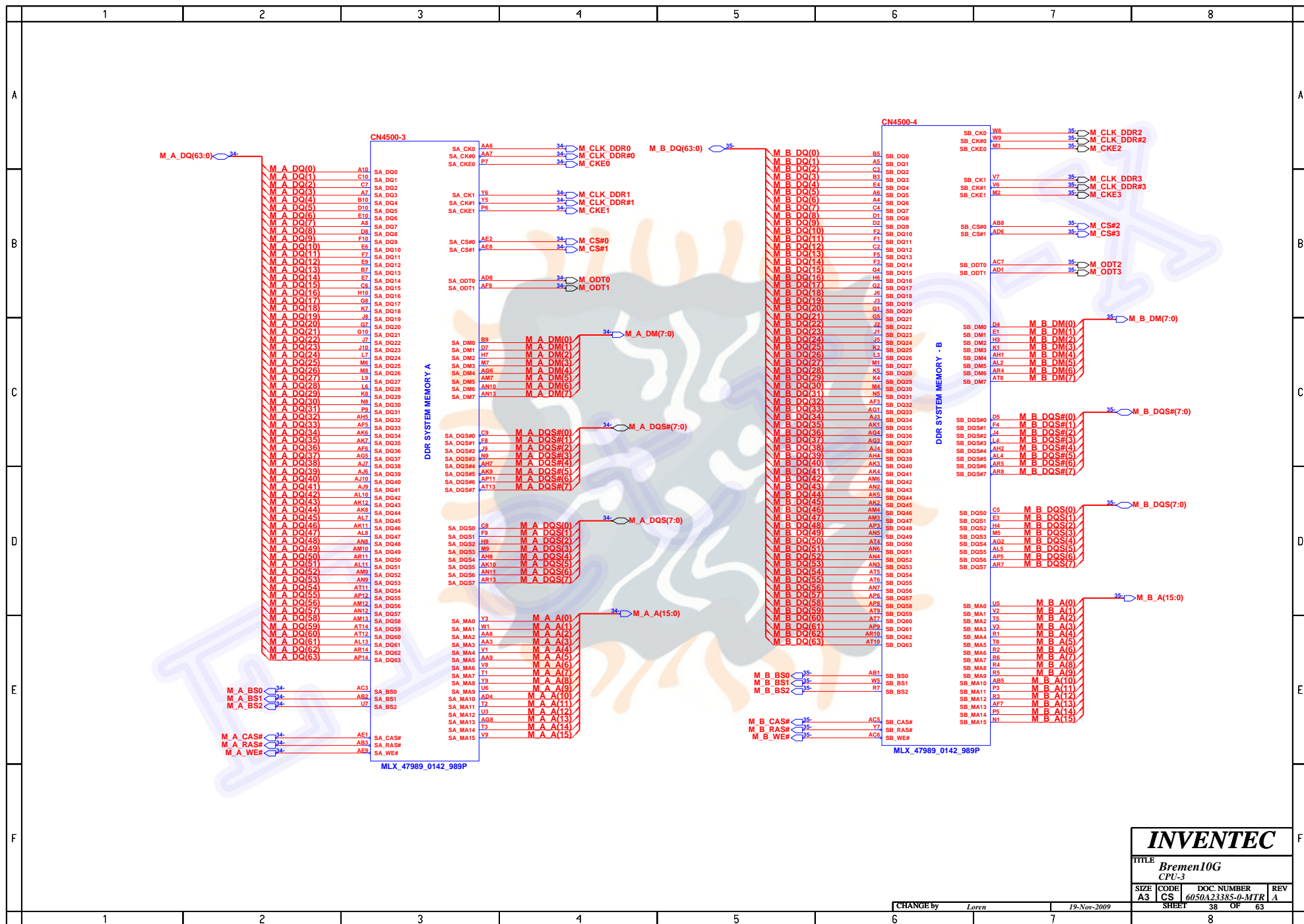
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A

CHANGE by **Loren** 2-Nov-2009

SHEET 36 OF 63

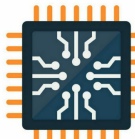


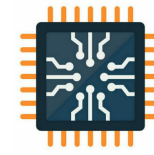
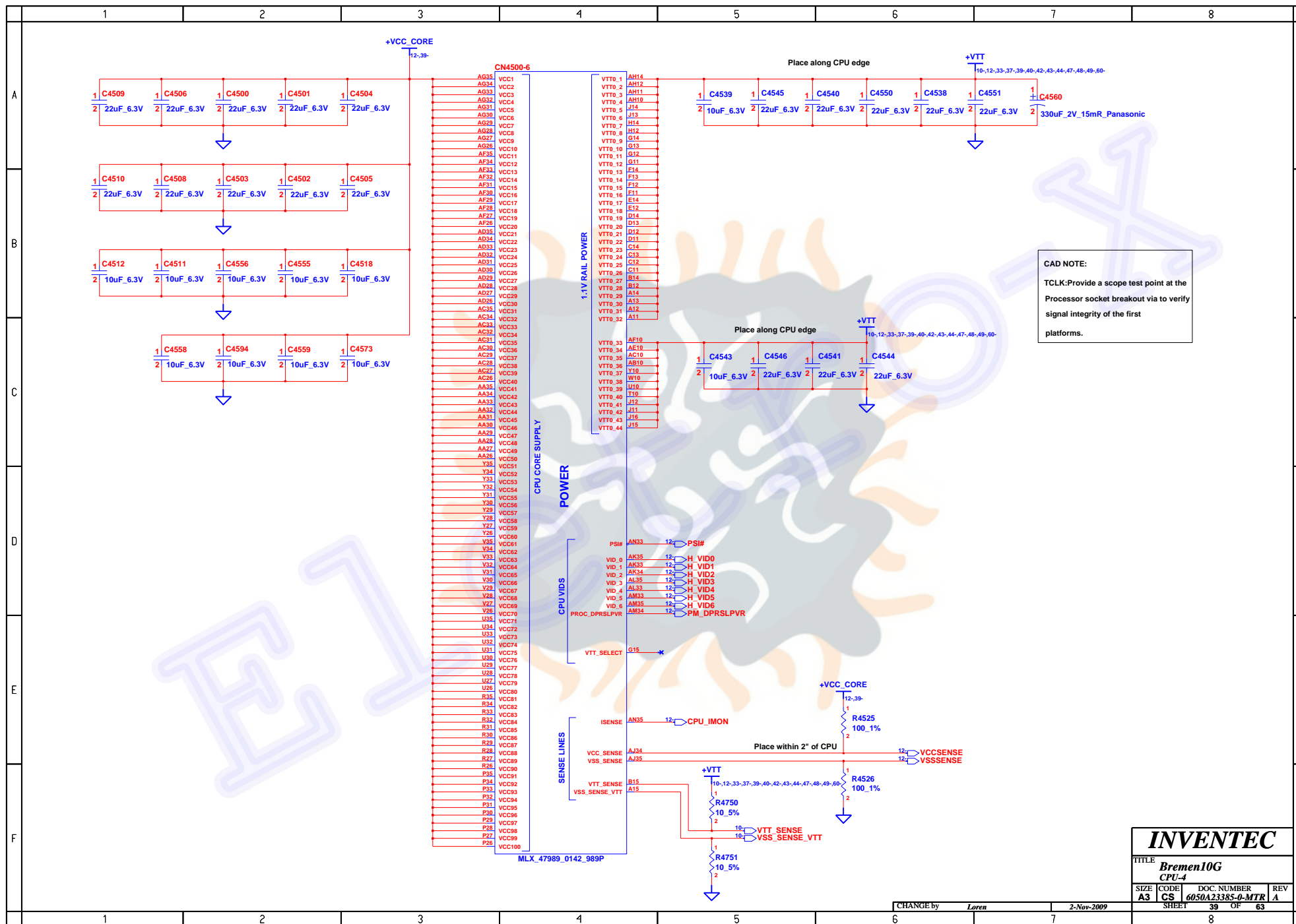


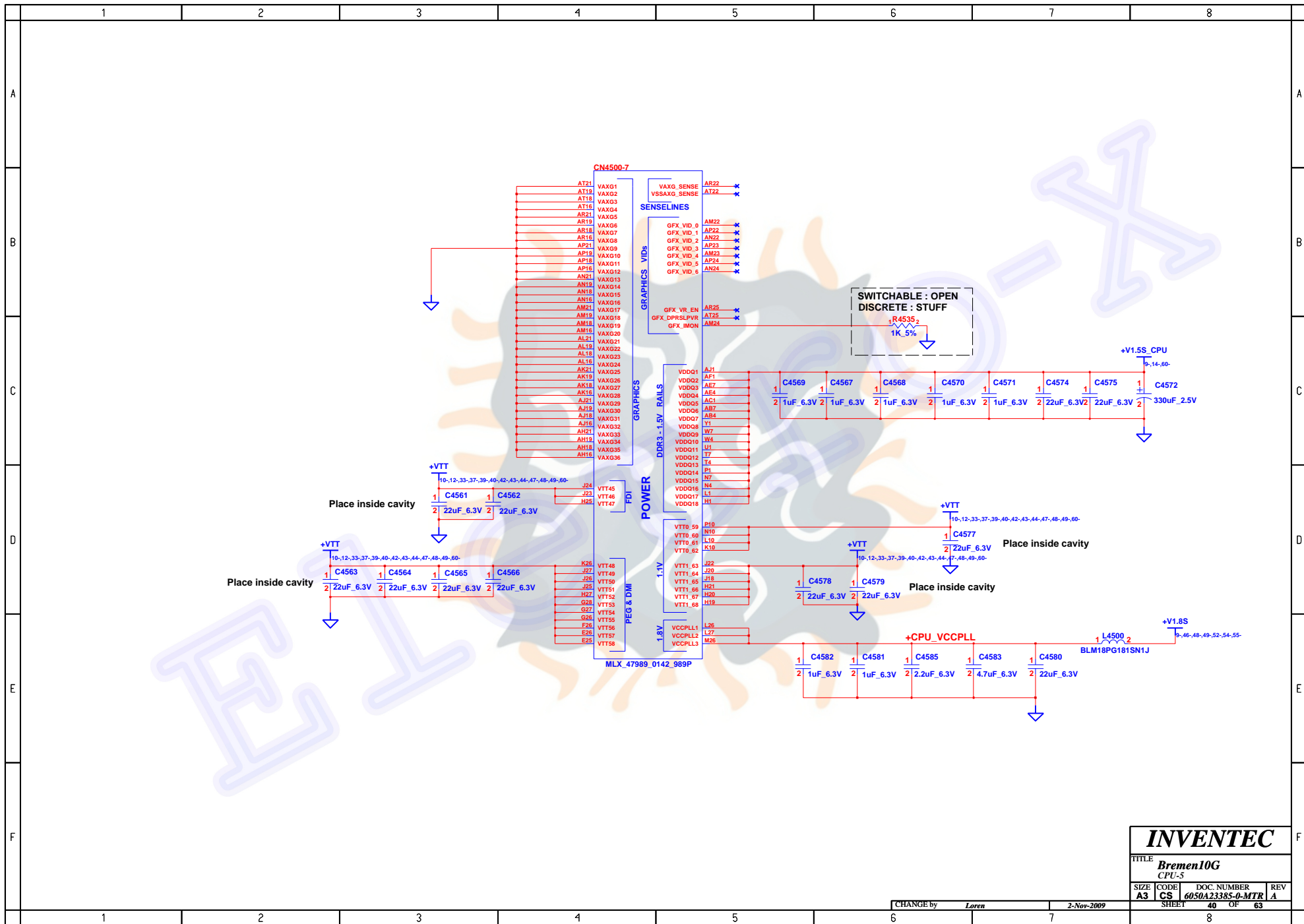


INVENTEC

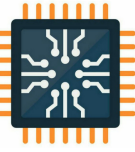
TITLE			
Bremen10G CPU-3			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
CHANGE by		Loren	19-Nov-2009
SHEET		38	OF 63

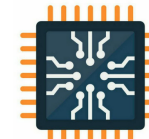
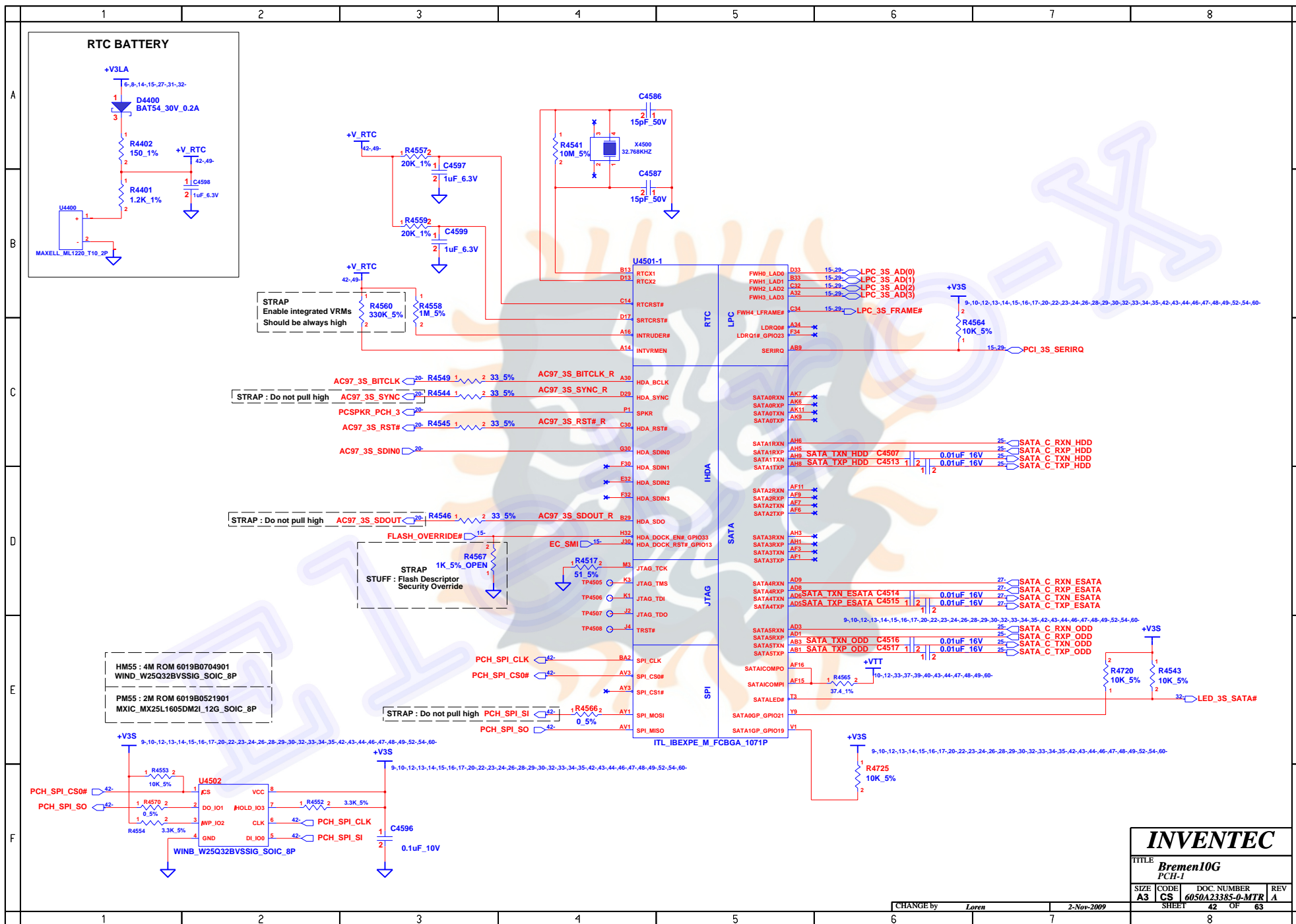


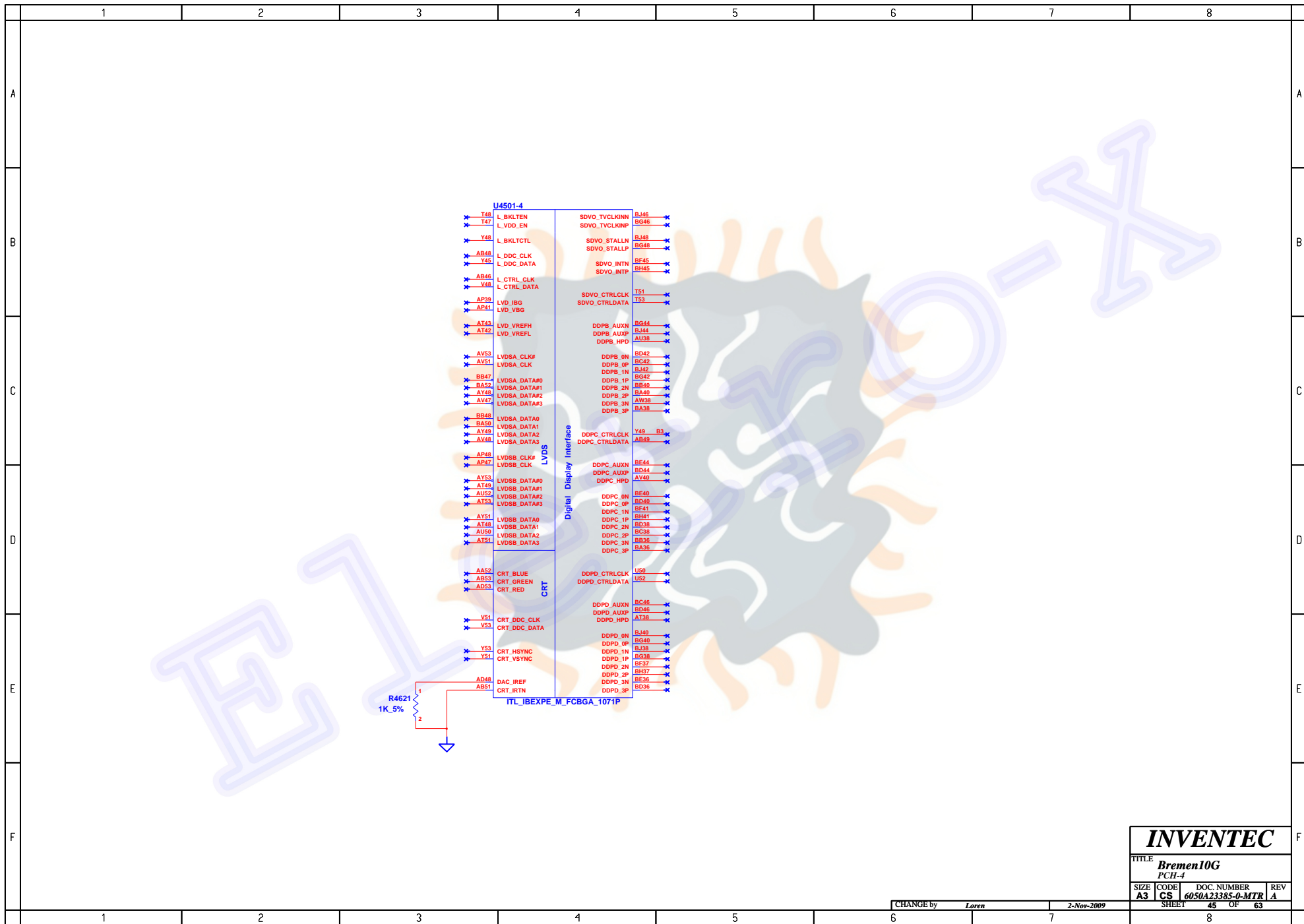




INVENTEC			
TITLE Bremen10G CPU-5			
SIZE A3	CODE CS	DOC. NUMBER 6050A23385-0-MTR	REV A
CHANGE by Loren		2-Nov-2009	
SHEET 40		OF 63	

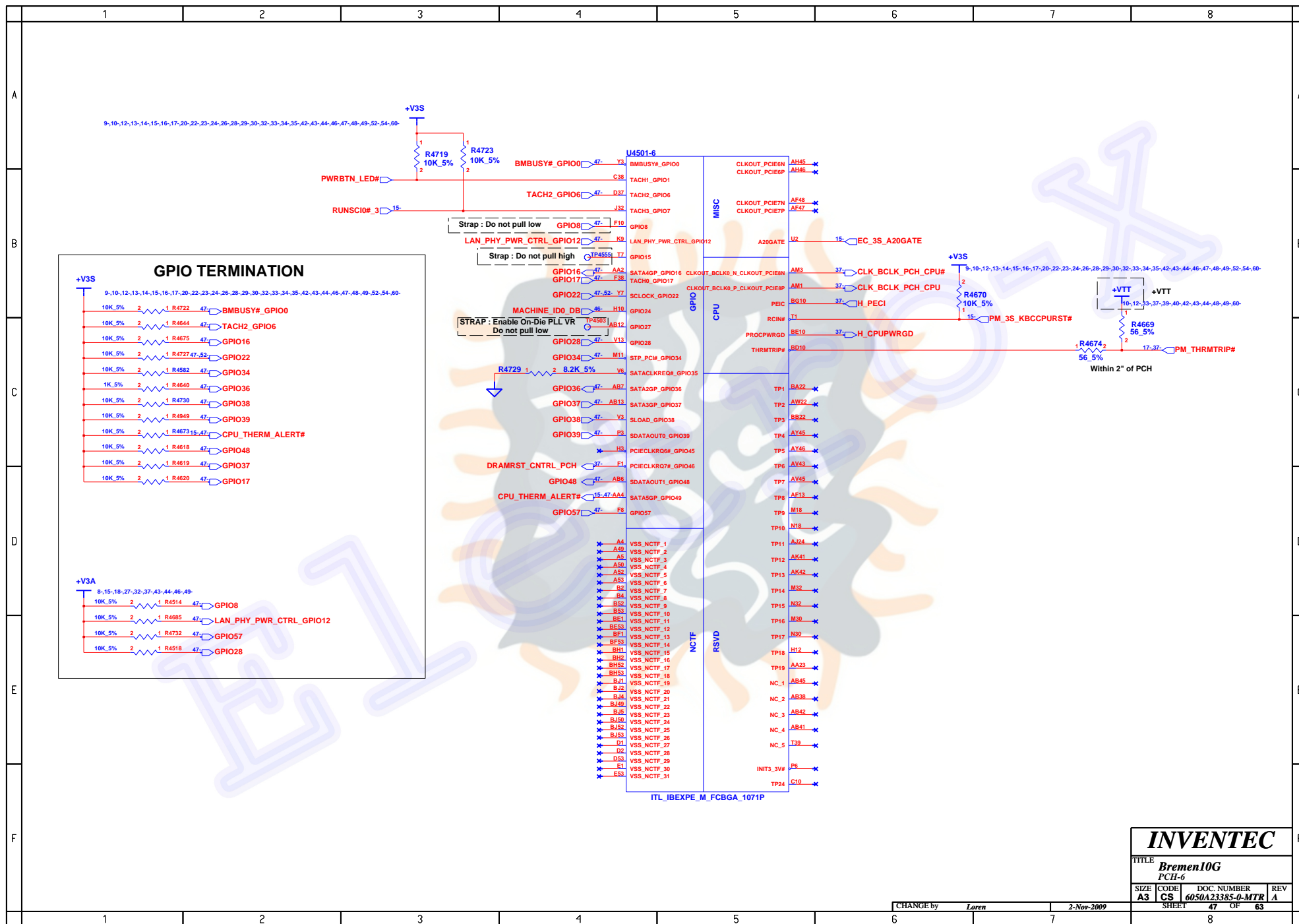






INVENTEC			
TITLE Bremen10G PCH-4			
SIZE A3	CODE CS	DOC. NUMBER 6050A23385-0-MTR	REV A
CHANGE by Loren		2-Nov-2009	
SHEET 45		OF 63	
1		8	

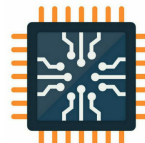


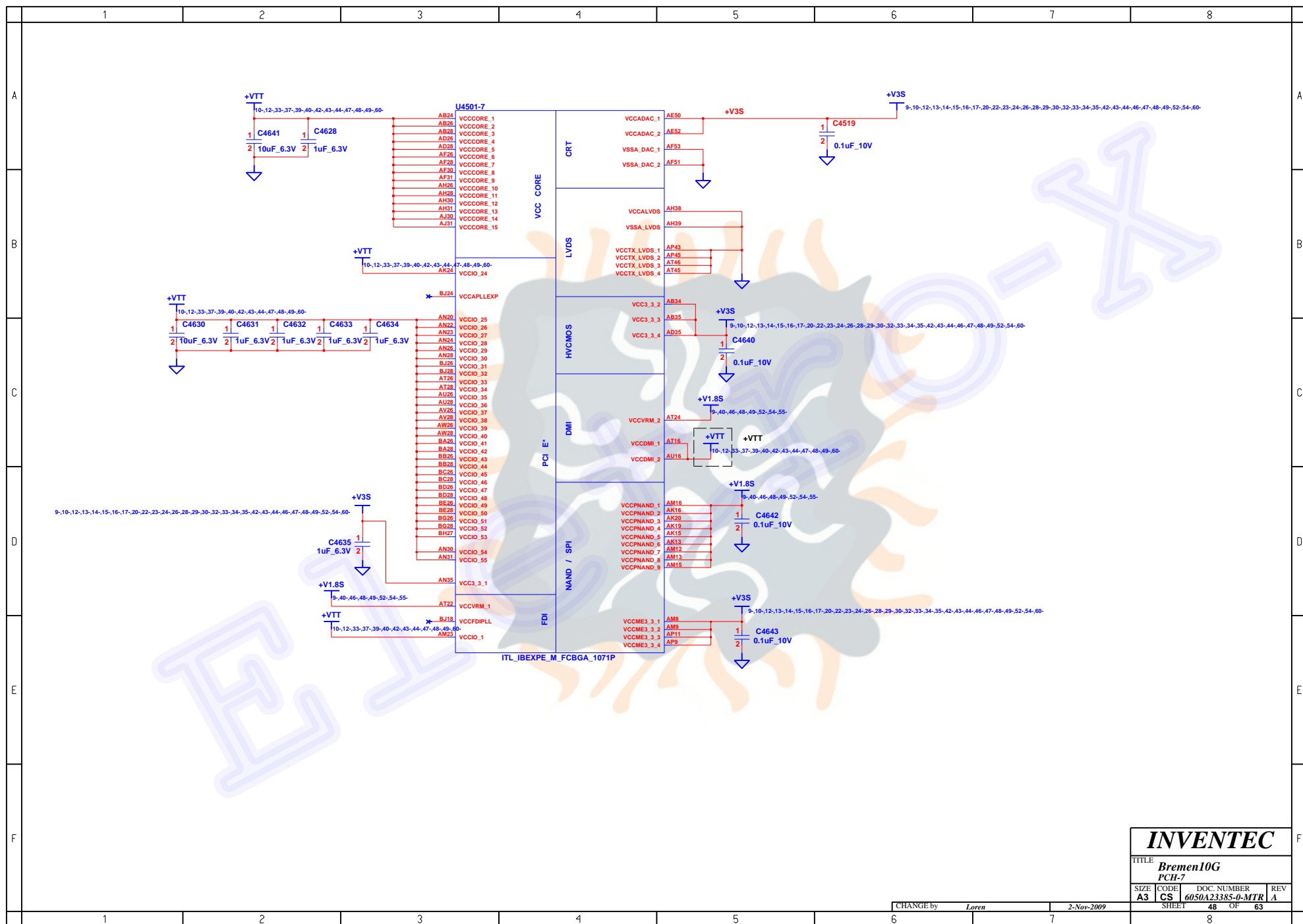


INVENTEC

TITLE			
Bremen10G			
PCH-6			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
SHEET		47	OF 63

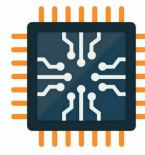
CHANGE by Loren 2-Nov-2009

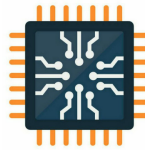
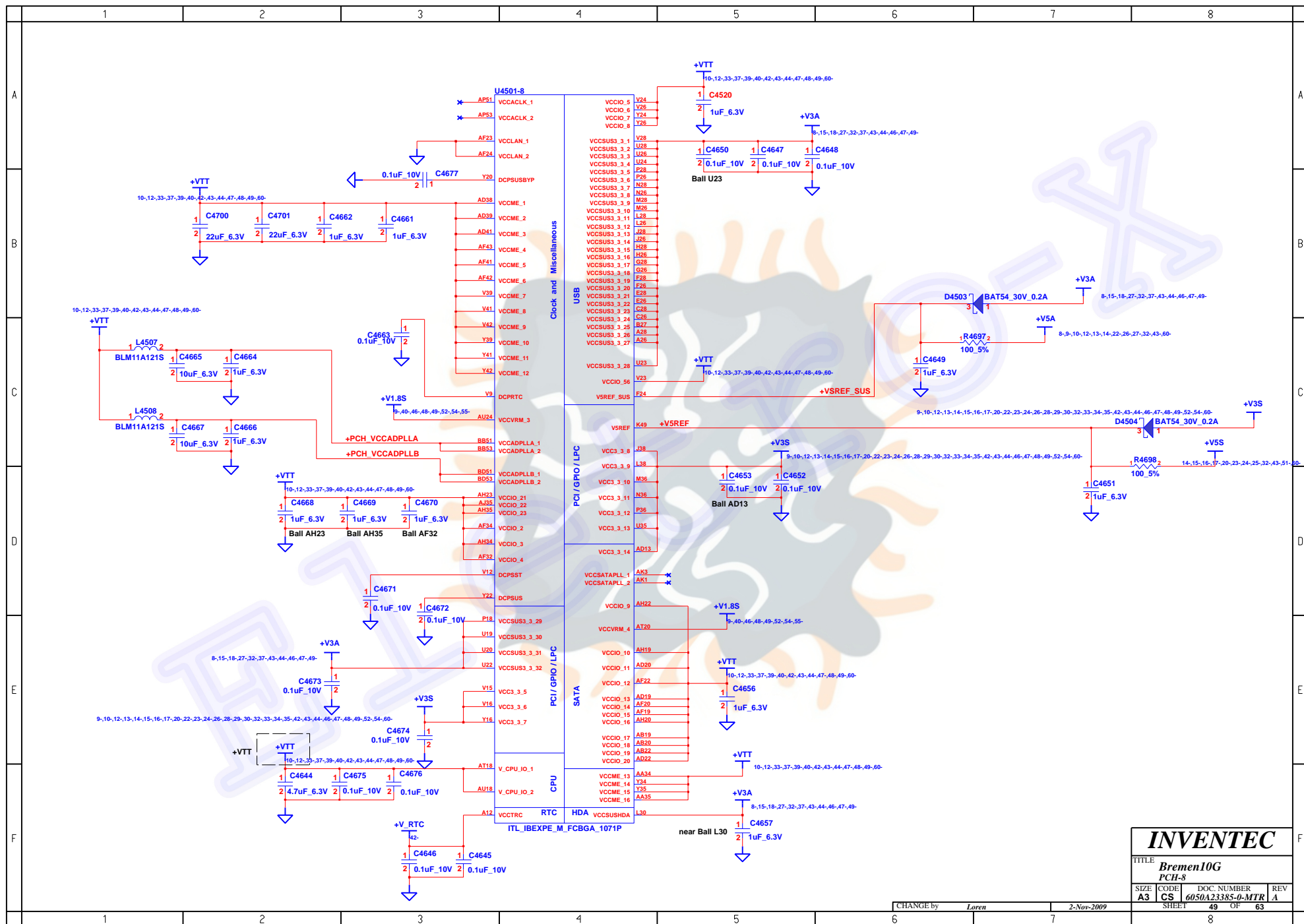


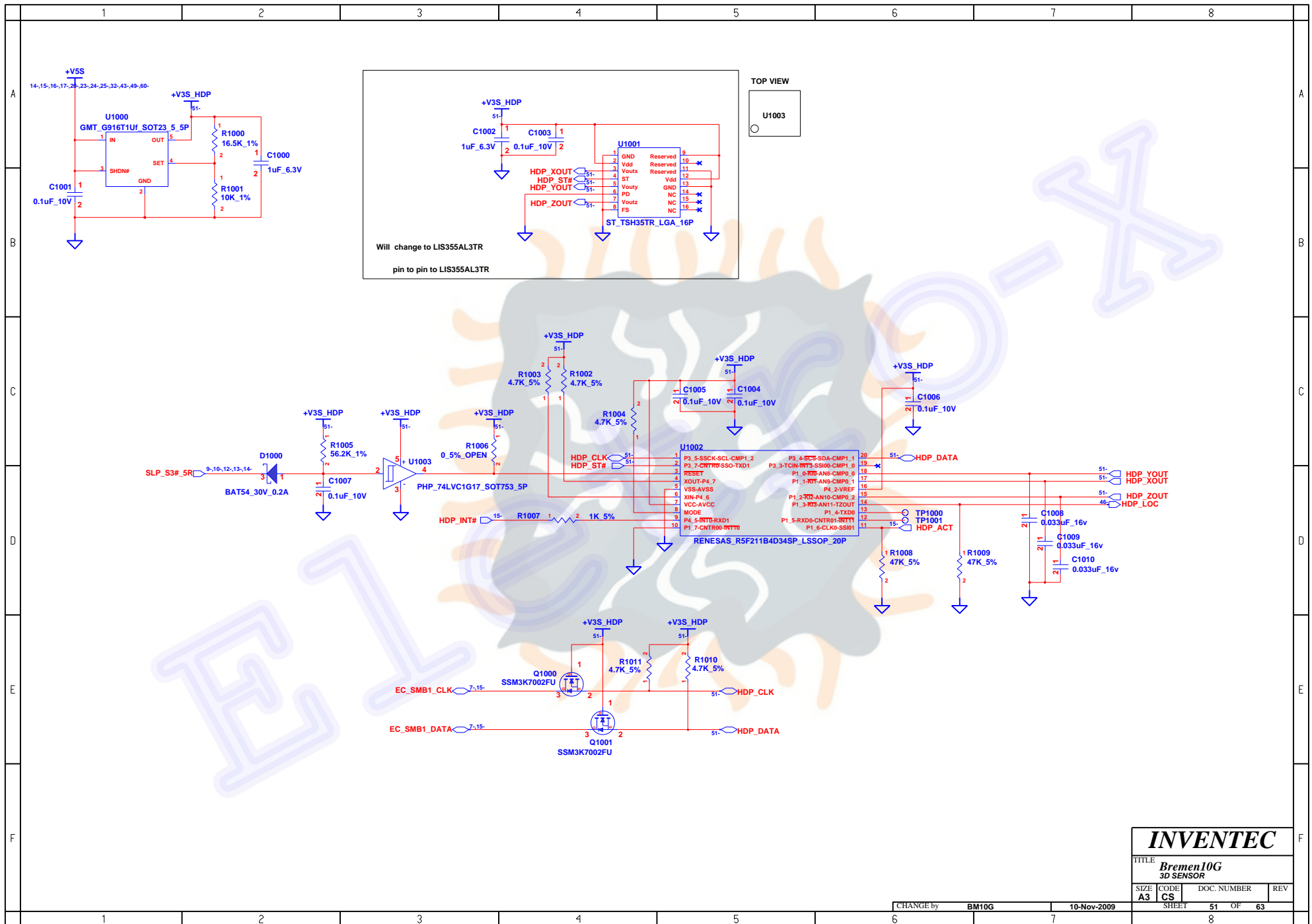
**INVENTEC**

TITLE			
Bremen10G			
PCH-7			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
SHEET		48	OF 63

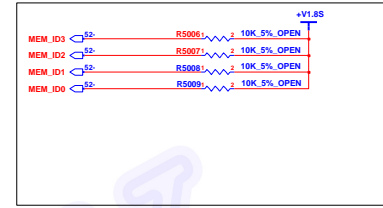
CHANGE by Loren 2-Nov-2009







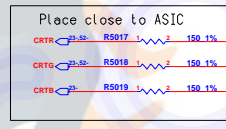
PARK XT-S3 P/N = 6019B0730201
M92 XTX-S2 P/N = 6019B0678502



MEM. ID	VRAM Vendor & Size	M92-XTX-S2
00h	Hyundai 64MBx16 (256MB)	Hyundai 64MBx16 (256MB)
01h	Hyundai 64MBx16 (512MB)	Hyundai 64MBx16 (512MB)
02h	Samsung 64MBx16 (256MB)	Samsung 64MBx16 (256MB)
03h	Samsung 64MBx16 (512MB)	Samsung 64MBx16 (512MB)
04h	Hyundai 128MBx16 (1GB)	Hyundai 128MBx16 (1GB)
05h	Samsung 128MBx16 (1GB)	Samsung 128MBx16 (1GB)
06h
07h

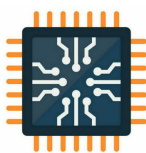
Pin Base Straps																											
GPIO_0	Transmitter Power Saving Enable	0 : 50% Tx output swing (default) 1 : Full Tx output swing																									
GPIO_1	PCIe transmitter De-emphasis	0 : De-emphasis disabled (default) 1 : De-emphasis enabled																									
GPIO_2	GEN1/GEN2 enable	0 : GEN1 (default) 1 : GEN2																									
GPIO_8 GPIO_21	Must be low during reset	Left unconnected																									
GPIO_9	VGA Disable	0 : Enable (default) 1 : Disable																									
GPIO_11[1:13]	Memory aperture size	<table><tr><th>GPIO 13</th><th>GPIO 12</th><th>GPIO 11</th><th>Memory aperture size</th></tr><tr><td>0</td><td>0</td><td>0</td><td>128M</td></tr><tr><td>0</td><td>0</td><td>1</td><td>256M</td></tr><tr><td>0</td><td>1</td><td>0</td><td>512M</td></tr><tr><td>0</td><td>1</td><td>1</td><td>1GB</td></tr><tr><td>0</td><td>1</td><td>-1</td><td>32MB</td></tr></table>		GPIO 13	GPIO 12	GPIO 11	Memory aperture size	0	0	0	128M	0	0	1	256M	0	1	0	512M	0	1	1	1GB	0	1	-1	32MB
GPIO 13	GPIO 12	GPIO 11	Memory aperture size																								
0	0	0	128M																								
0	0	1	256M																								
0	1	0	512M																								
0	1	1	1GB																								
0	1	-1	32MB																								
GPIO_22	Enable external BIOS ROM device	0 : Disable (default) 1 : Enable																									
HSYNC[1] VSYNC[0]	Audio[1:0]	00 : No audio function 01 : Audio for DP and HDMI if dongle is detected 10 : Audio for DP 11 : Audio for DP and HDMI																									

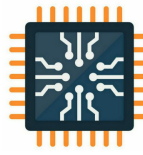
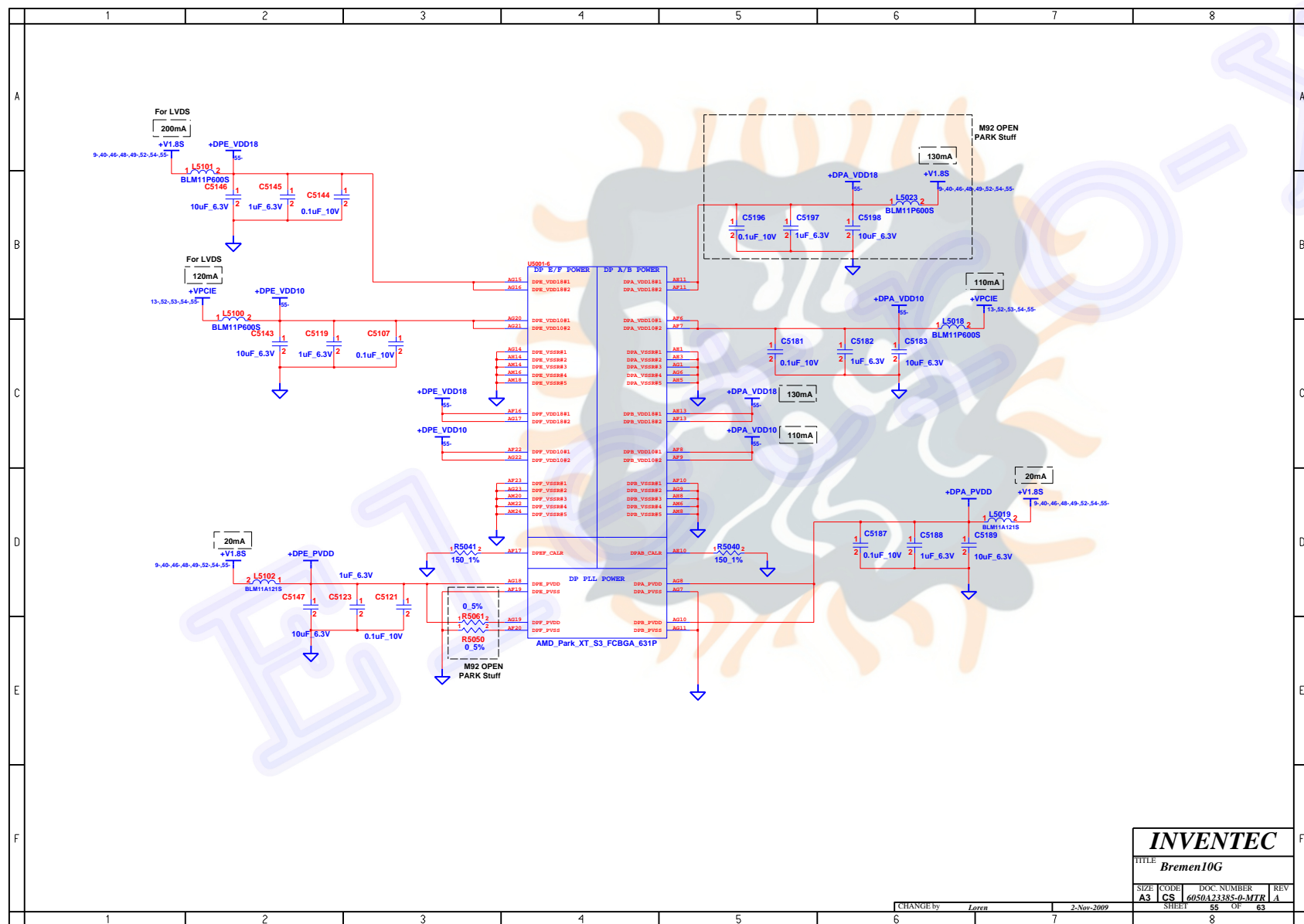
M92 OPEN
Park Stuf

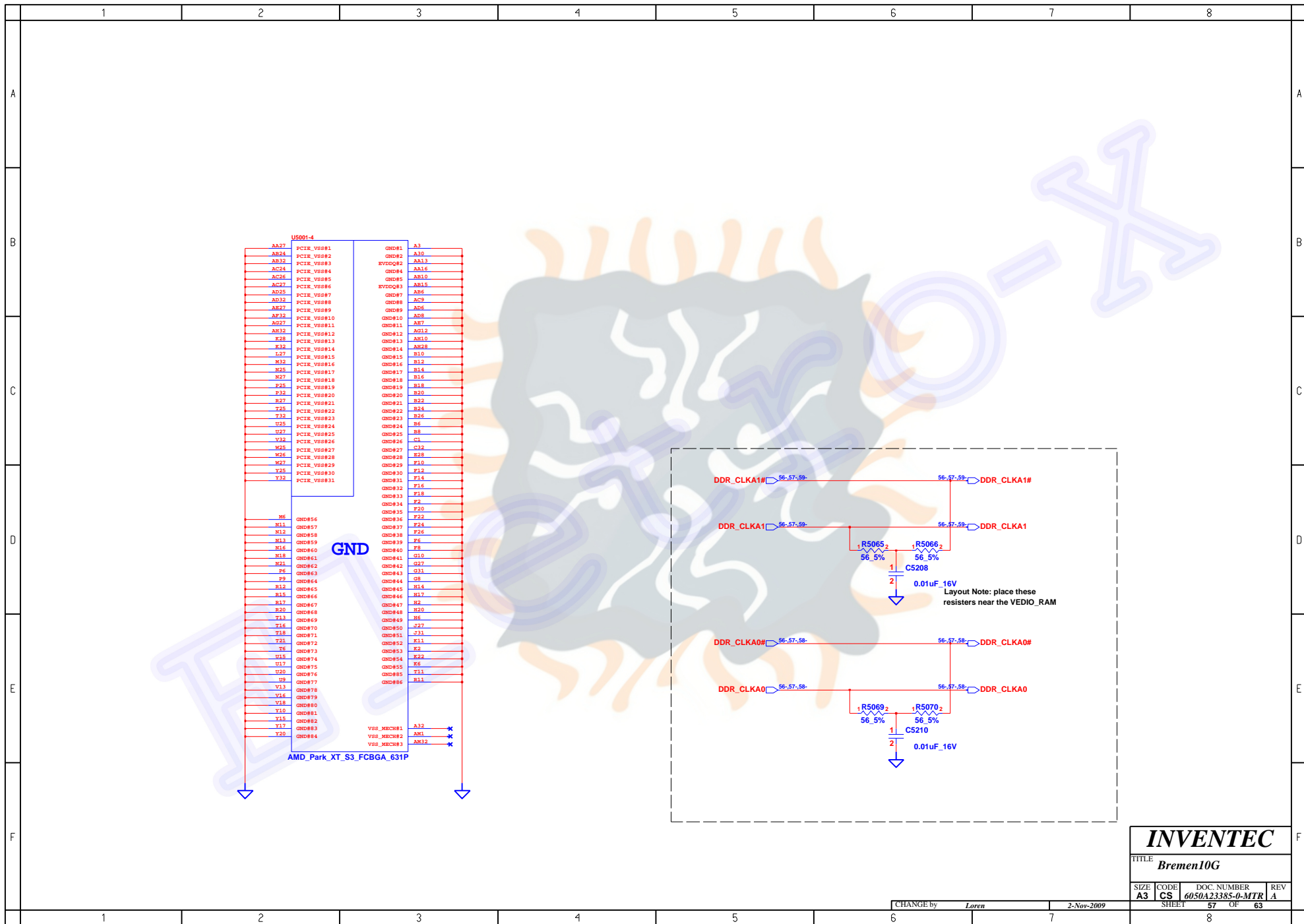


M92 R5024 Stuf
PARK A11 R5015 Stuf
PARK A11P R5024 Stuf

Engineer	COMPANY NAME
Drawn by	City
Rev. CHK	TITLE
QA CTRL. CHK	Rev. 01
ENG. ENG. CHK	REV. Drawing Number
Sheet 52 of 63	







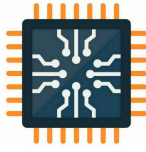
INVENTEC

TITLE
Bremen10G

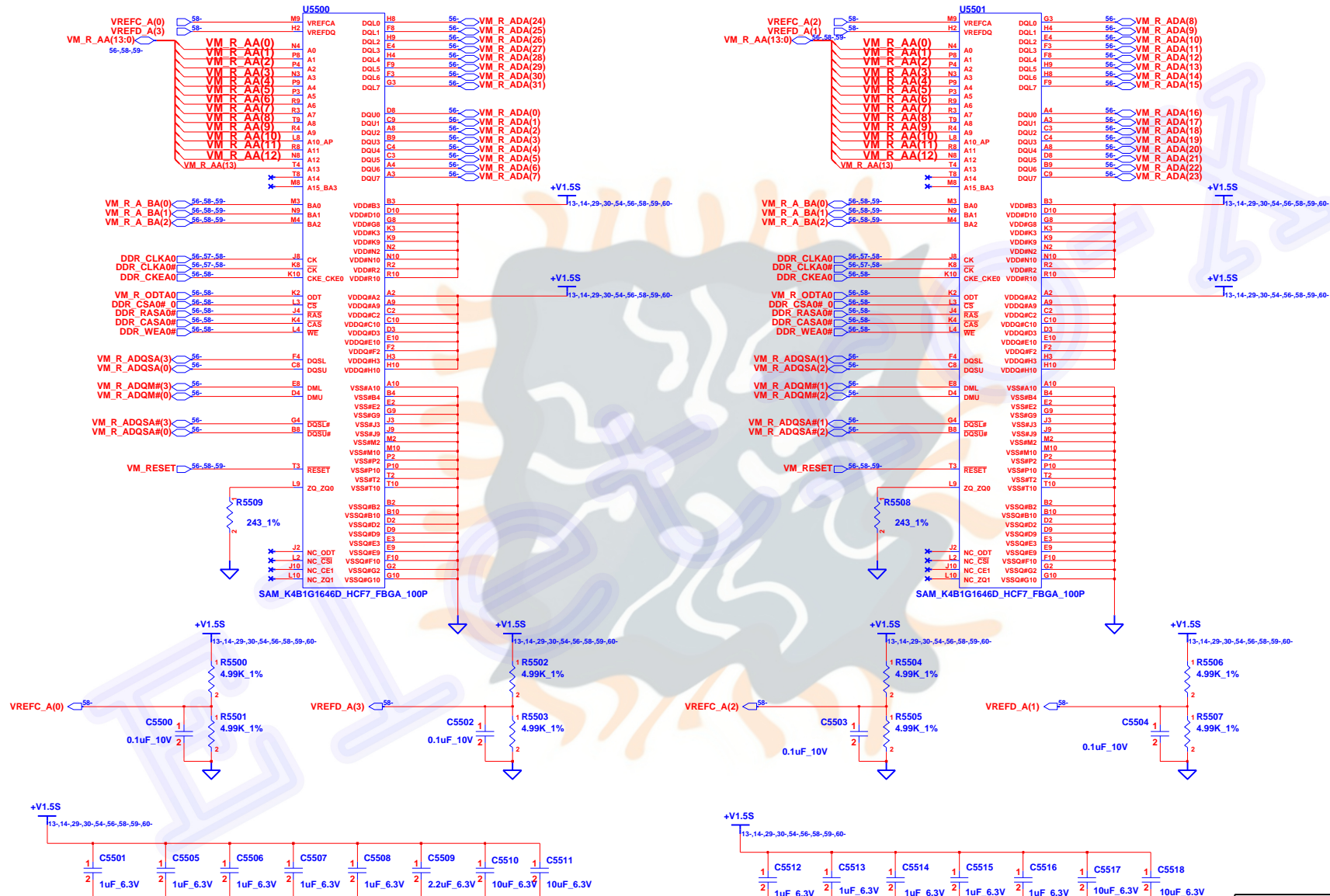
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A

CHANGE by *Loren* 2-Nov-2009

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PARK Use channel A

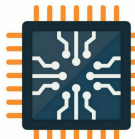


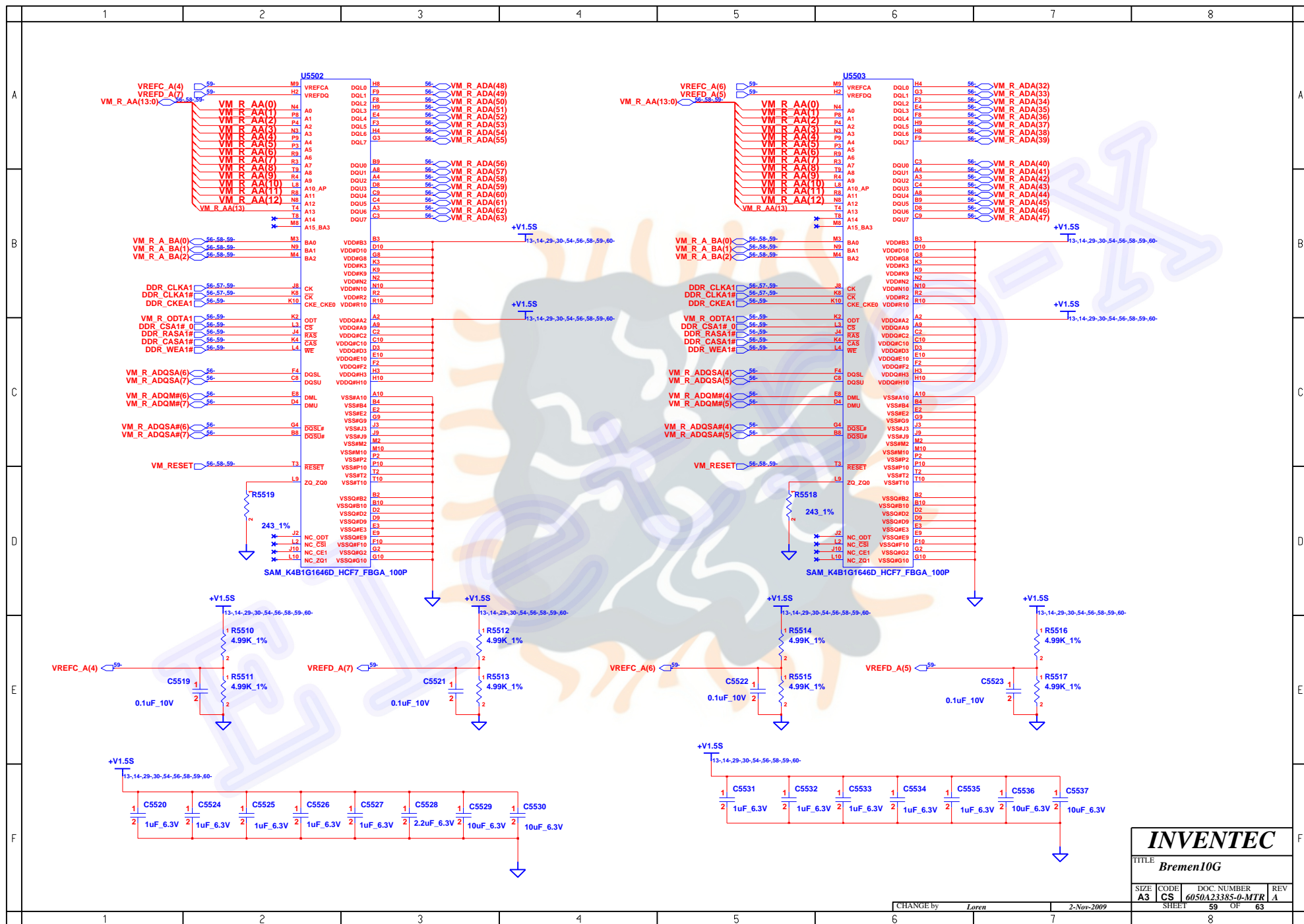
INVENTEC

TITLE
Bremen10G

SIZE A3	CODE CS	DOC. NUMBER 6050A23385-0-MTR	REV A
SHEET 58		OF 63	

CHANGE by **Loren** 2-Nov-2009



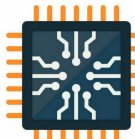


INVENTEC

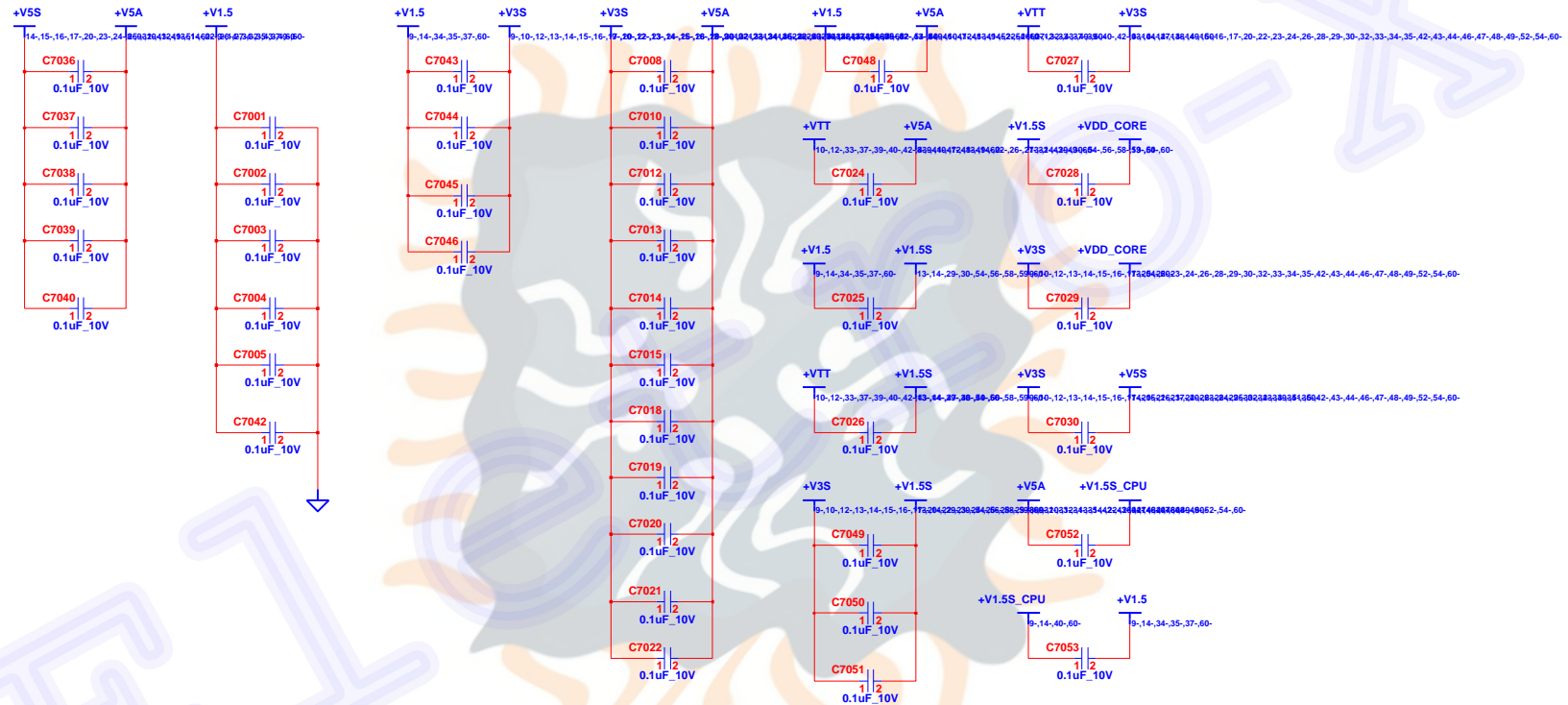
TITLE
Bremen10G

SIZE A3	CODE CS	DOC. NUMBER 6050A23385-0-MTR	REV A
SHEET 59		OF 63	

CHANGE by **Loren** 2-Nov-2009



EMI



INVENTEC

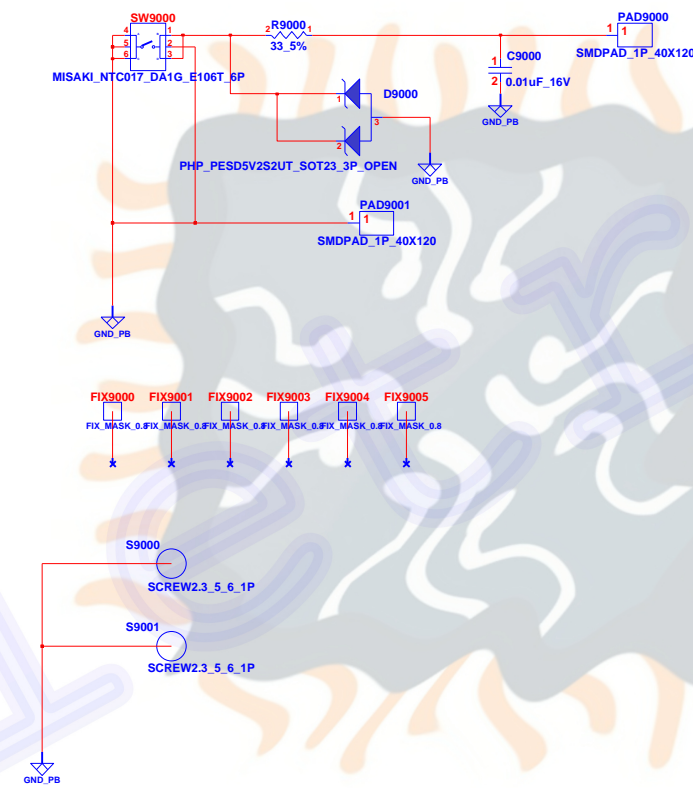
TITLE			
Bremen10G			
EMI			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
SHEET		60	OF 63

CHANGE by Loren 14-Nov-2009





TOUCHPAD SWITCH BOARD



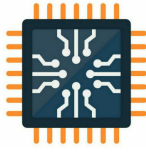
INVENTEC

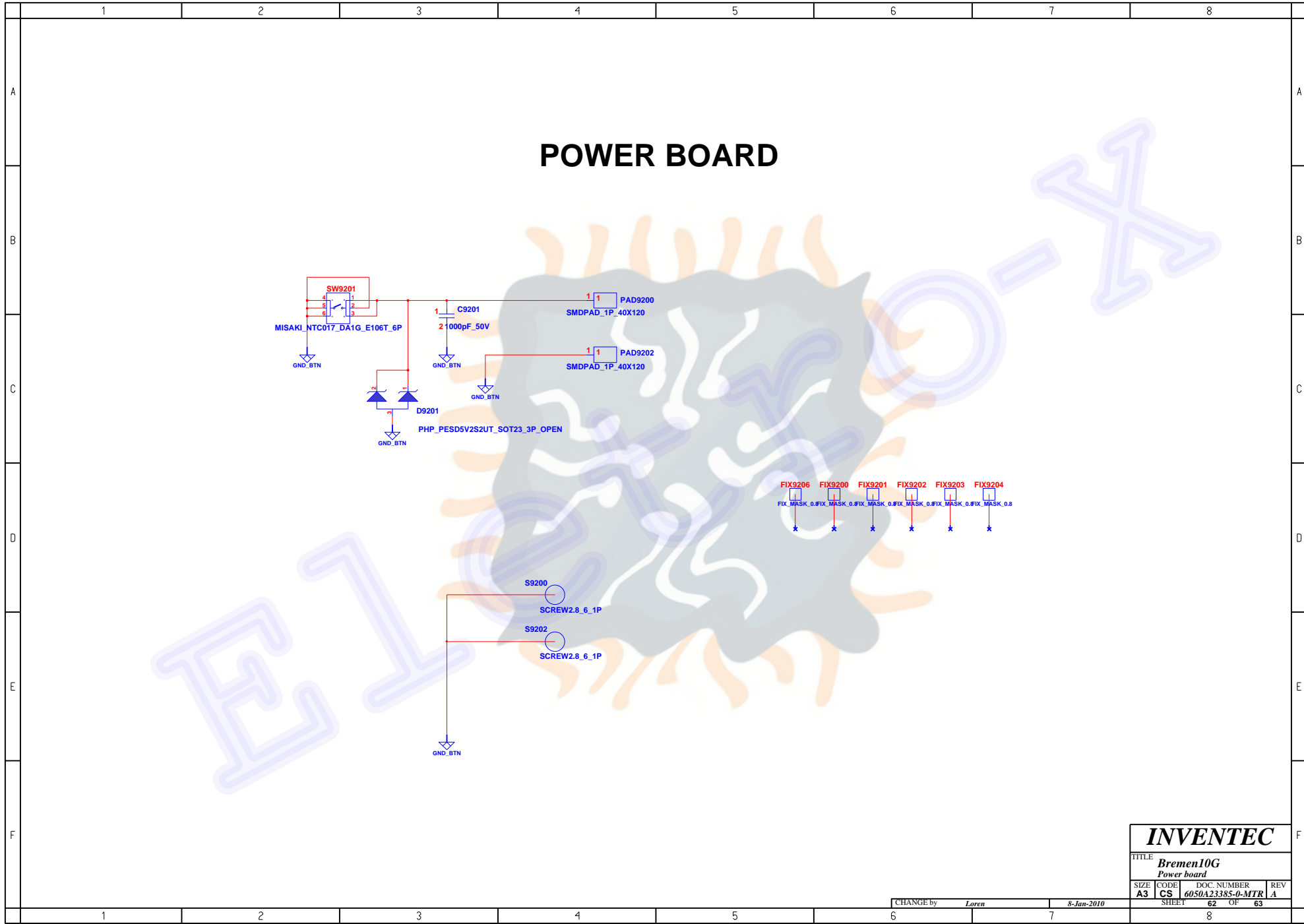
TITLE
Bremen10G
Touch board

SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A

SHEET	OF	63
61	OF	63

CHANGE by *Loren* 8-Jan-2010

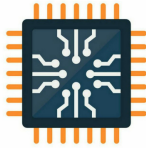


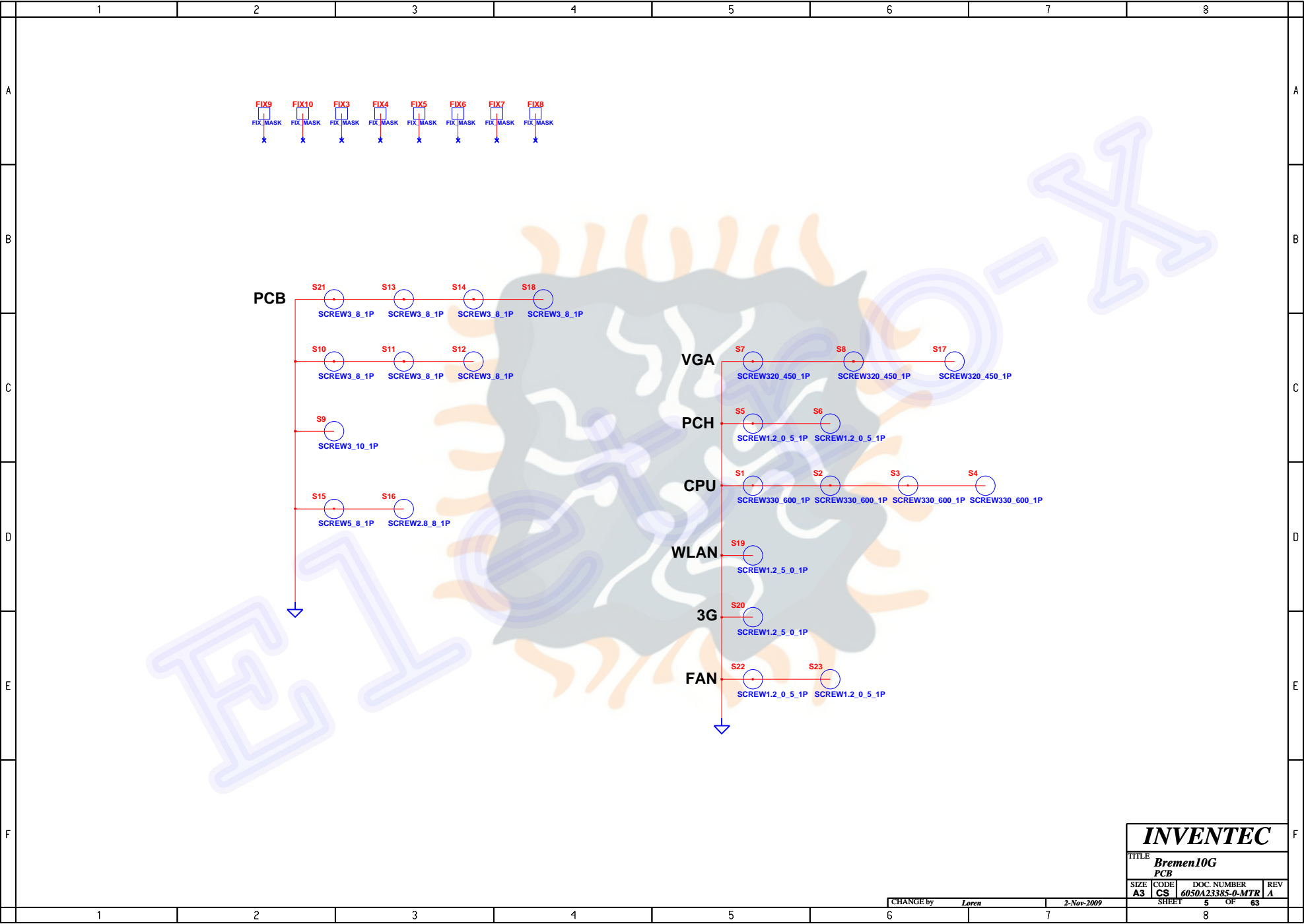


INVENTEC

TITLE			
Bremen10G			
Power board			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
SHEET		62	OF 63

CHANGE by	Loren	8-Jan-2010
6	7	8





INVENTEC

TITLE			
Bremen10G			
PCB			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23385-0-MTR	A
SHEET		5 OF	63

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