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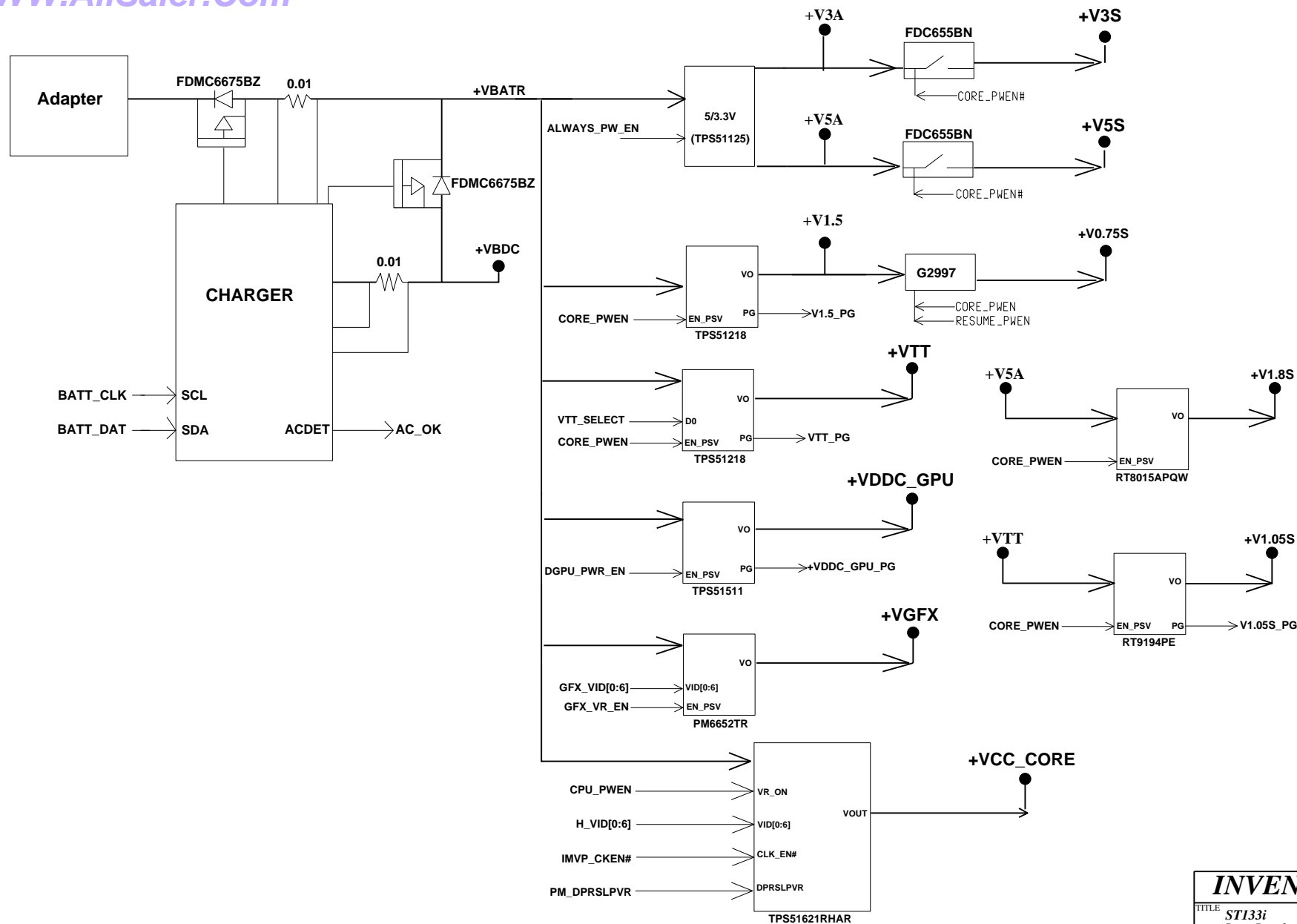
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INVENTEC

TITLE			
ST133i			
Index			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01
SHEET		2	OF 56

CHANGE by ST133ID 18-Aug-2009



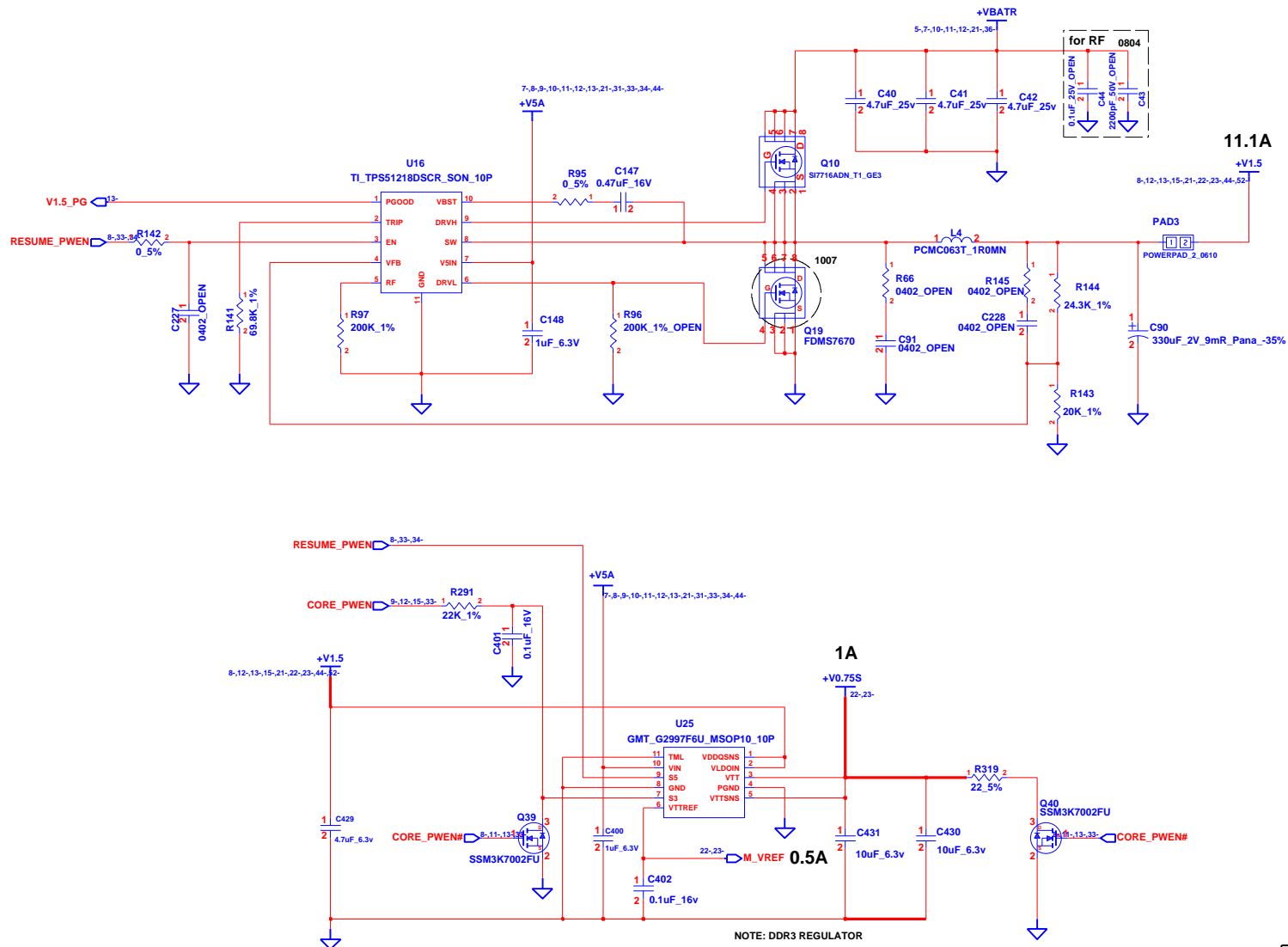


INVENTEC

TITLE			
ST133i			
Power Procedure			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01
SHEET		4	OF 56

CHANGE by ST133ID 18-Aug-2009





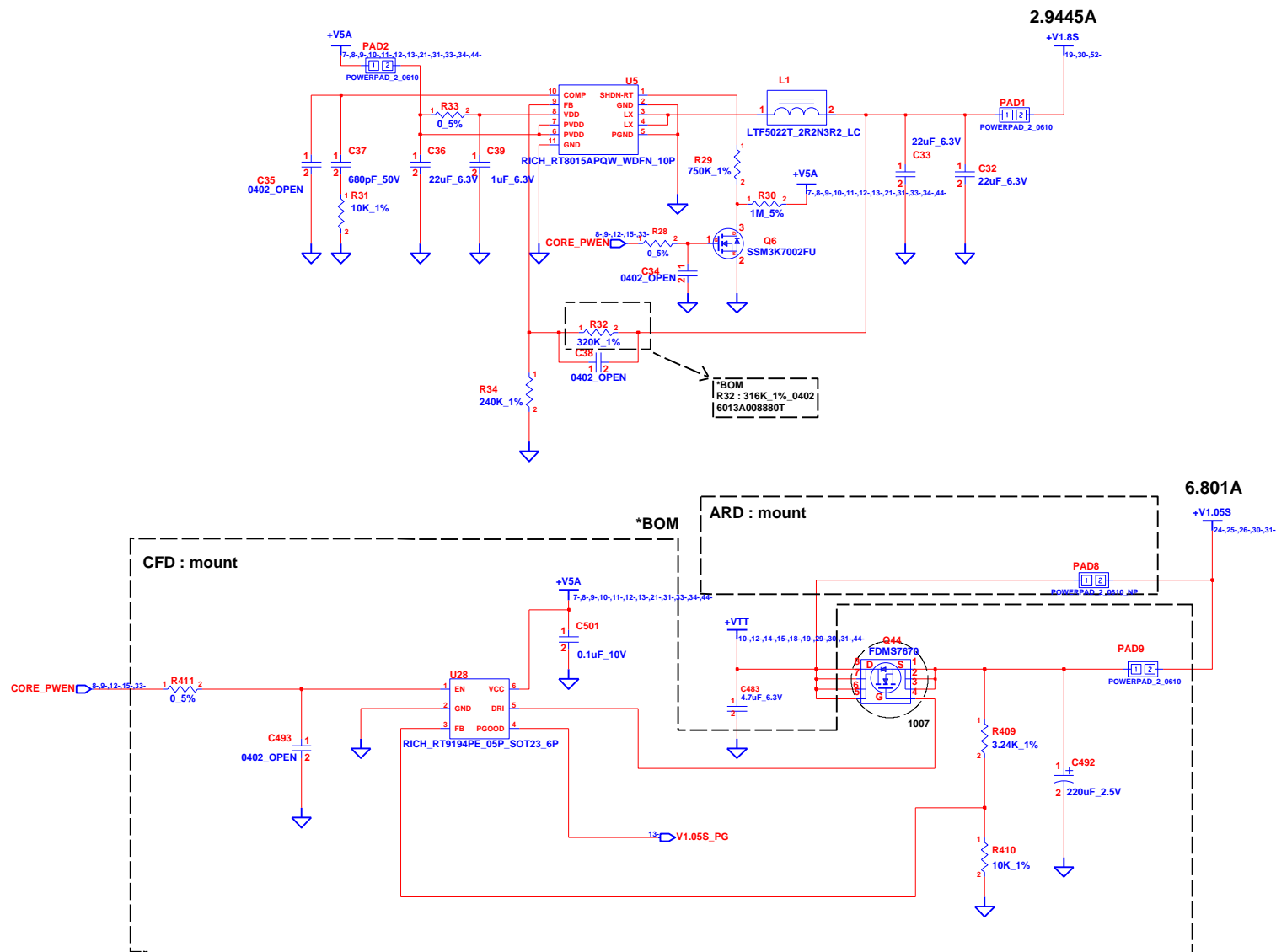
INVENTEC

TITLE: **ST133i**
+V1.5 & +V0.75

SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01

CHANGE by: **ST133ID** 14-Sep-2009

SHEET 8 OF 56

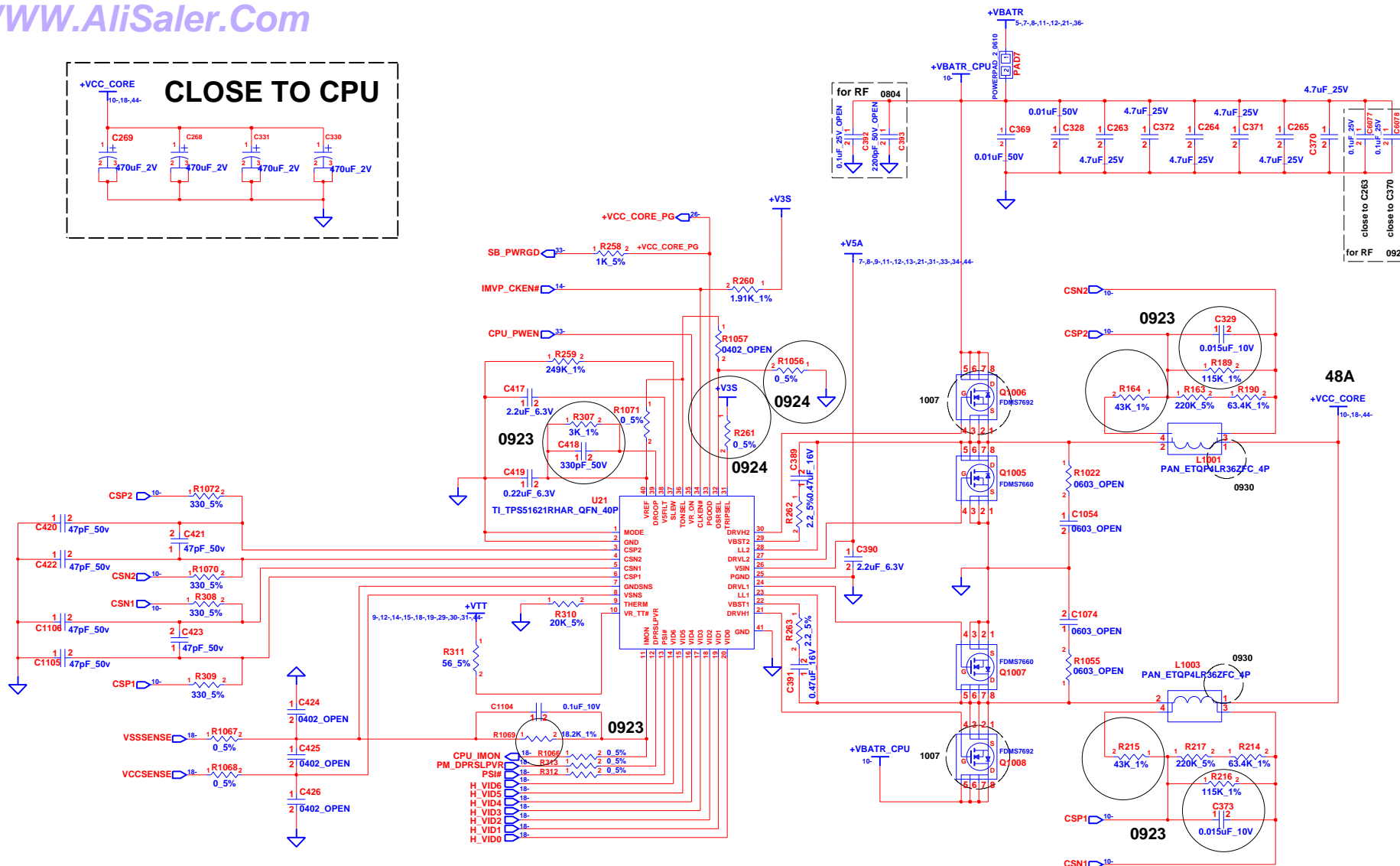
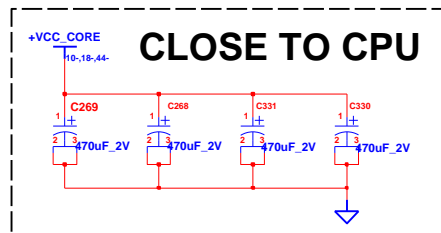


INVENTEC

TITLE			
ST133i			
+V1.8S & +V1.05S			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01

CHANGE by ST133ID 18-Aug-2009

SHEET 9 OF 56



INVENTEC

TITLE			
ST133i			
+VCC_CORE			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01
SHEET		10	OF 56

CHANGE by ST133ID 18-Aug-2009

15A

+VGFX_CORE

19-

003T

BA0

0.5% 2 F

69

CED:

CFD :
mount

Amount _____

1

1

1

!

1

1

1

1

1

1

1

1

APPENDIX

VVENT

T133i

VGFX_CORE	
CODE	DOC. NUMBER

CS 6050A2314301
SHEET 11 OF

8

VENTEC

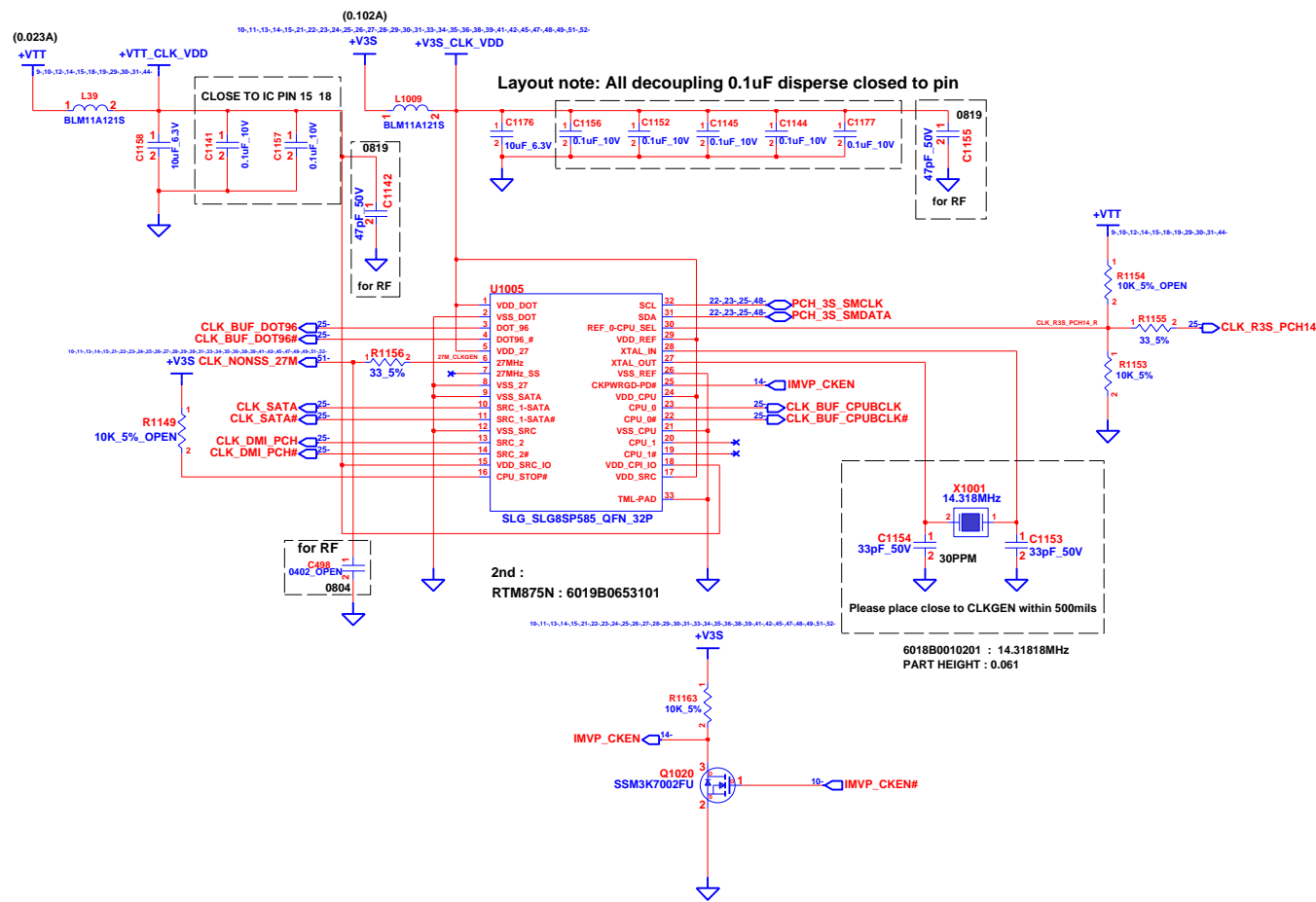
TITLE	<i>ST133i</i> <i>+VGFX_CORE</i>
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SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01

	SHEET	11	OF	56
	8			

CHANGE by	<i>ST133ID</i>	<i>18-Aug-2009</i>
-----------	----------------	--------------------

A horizontal number line is shown. A vertical line is drawn at the midpoint between 6 and 7, labeled 6.5. A tick mark is present at 7.

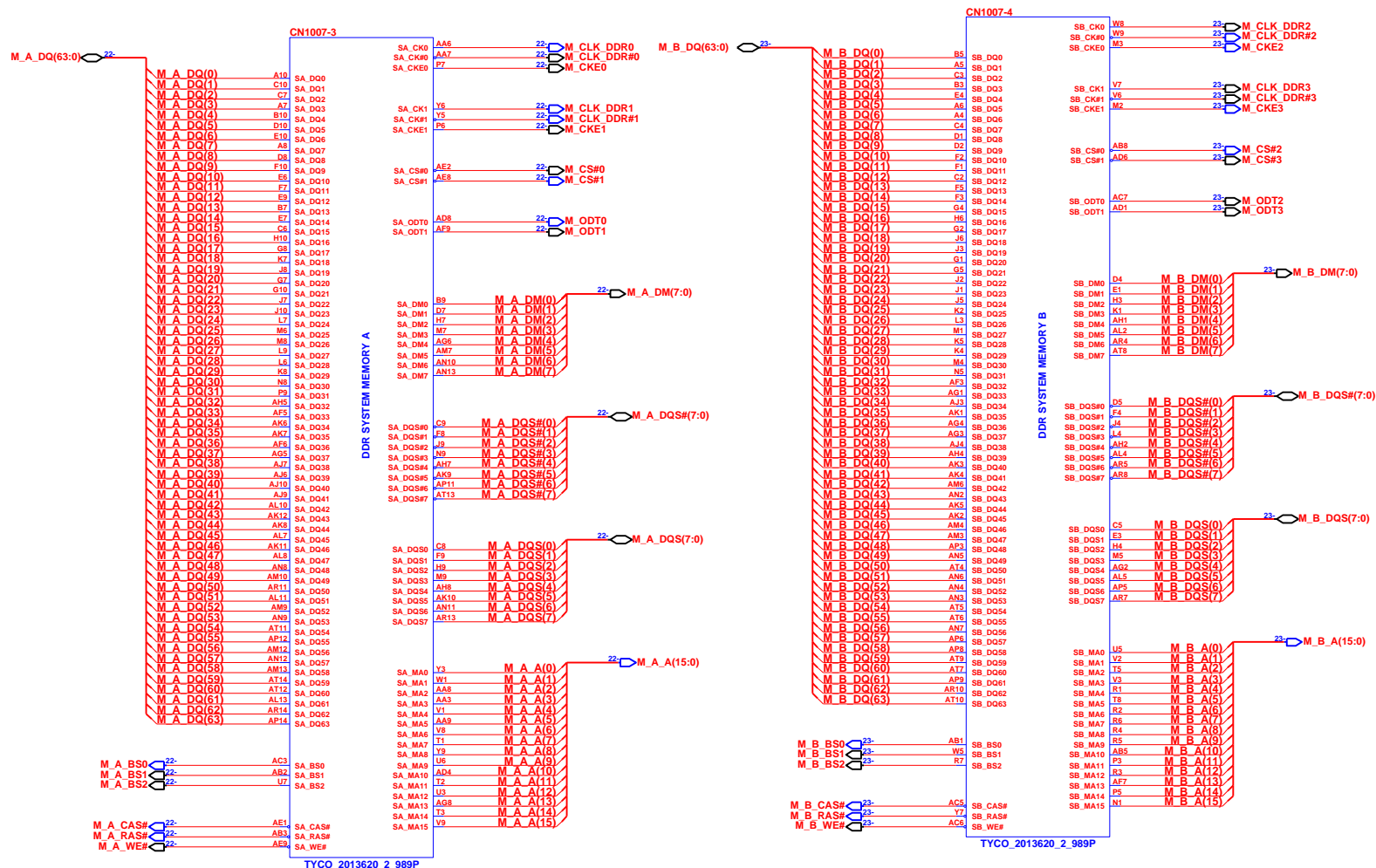


INVENTEC

TITLE ST133i CLK GEN			
SIZE A3	CODE CS	DOC. NUMBER 6050A2314301	REV X01

CHANGE by ST133D 18-Aug-2009

SHEET 14 OF 56



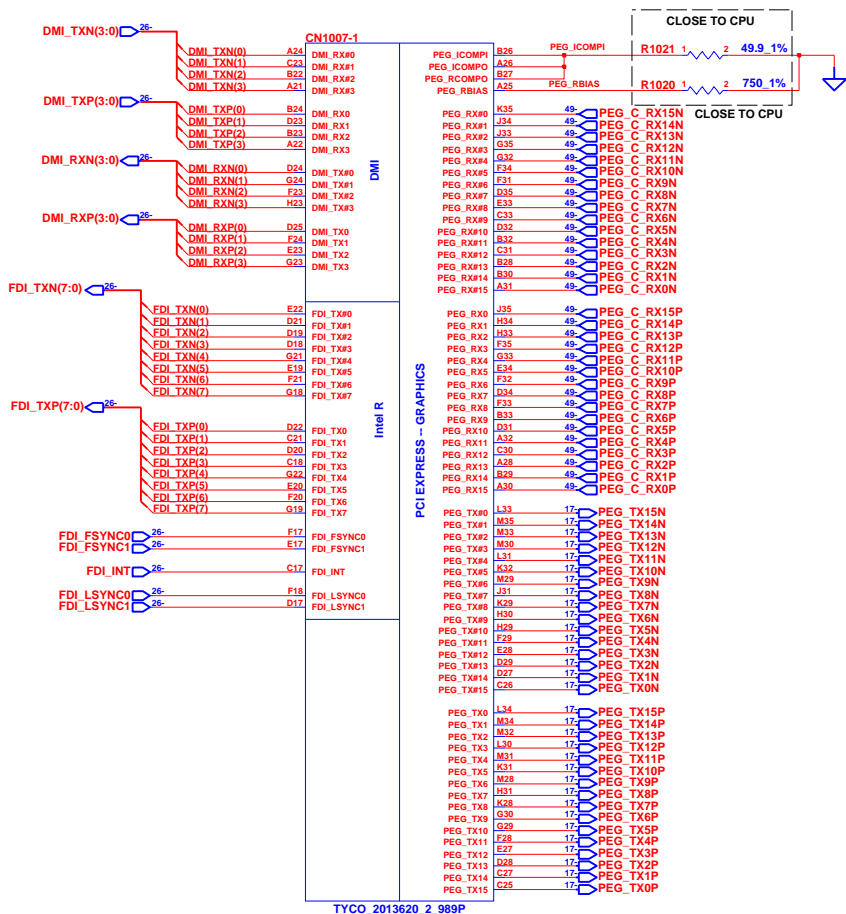
INVENTEC

TITLE
ST133i
CPU-2

SIZE CODE DOC. NUMBER REV
A3 CS 6050A2314301 X01

CHANGE by ST133ID 18-Aug-2009

SHEET 16 OF 56



CLOSE to CPU

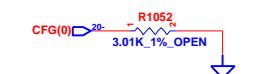
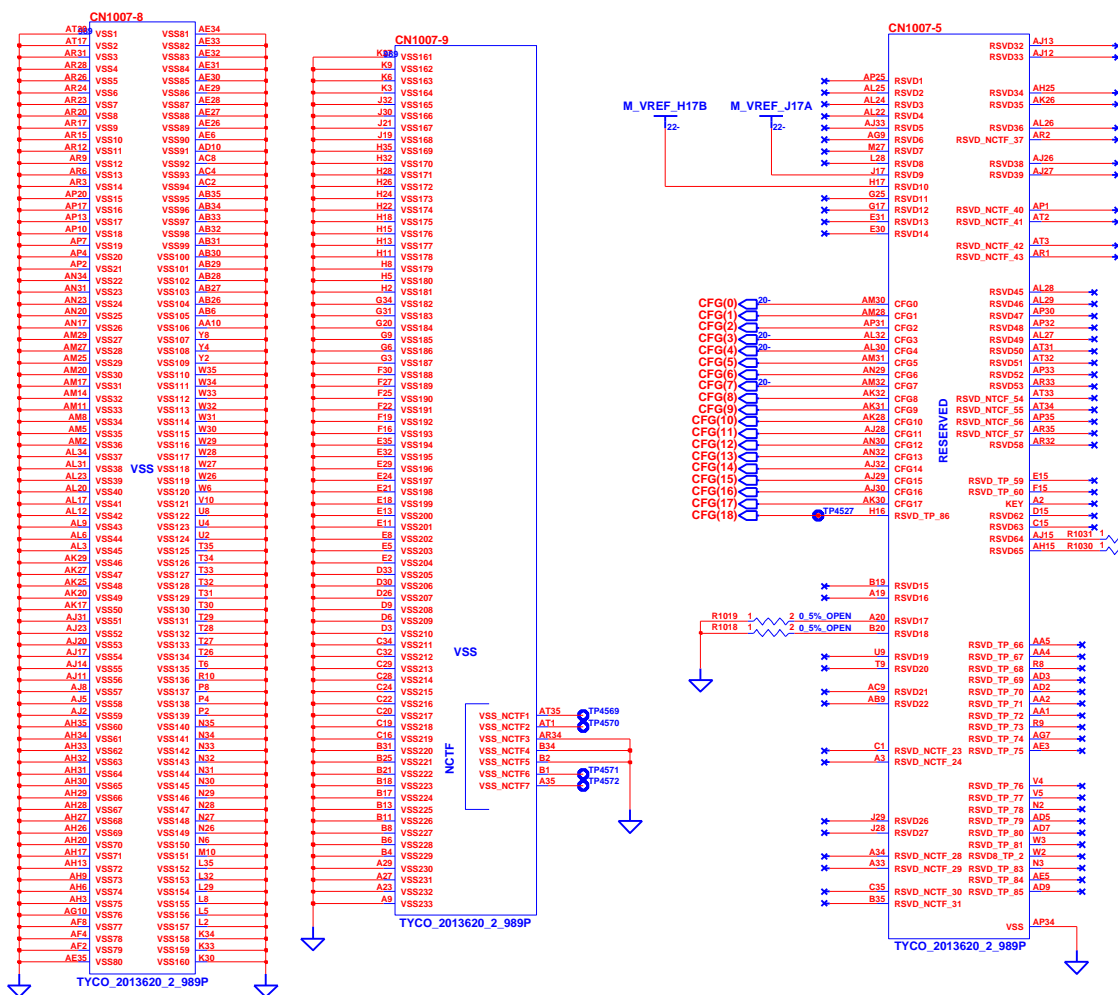
PEG_TX0N	17	C140	1	2	0.1uF_10V	49	PEG_C_TX0N
PEG_TX1N	17	C141	1	2	0.1uF_10V	49	PEG_C_TX1N
PEG_TX2N	17	C131	1	2	0.1uF_10V	49	PEG_C_TX2N
PEG_TX3N	17	C135	1	2	0.1uF_10V	49	PEG_C_TX3N
PEG_TX4N	17	C1034	1	2	0.1uF_10V	49	PEG_C_TX4N
PEG_TX5N	17	C1039	1	2	0.1uF_10V	49	PEG_C_TX5N
PEG_TX6N	17	C1037	1	2	0.1uF_10V	49	PEG_C_TX6N
PEG_TX7N	17	C210	1	2	0.1uF_10V	49	PEG_C_TX7N
PEG_TX8N	17	C207	1	2	0.1uF_10V	49	PEG_C_TX8N
PEG_TX9N	17	C266	1	2	0.1uF_10V	49	PEG_C_TX9N
PEG_TX10N	17	C206	1	2	0.1uF_10V	49	PEG_C_TX10N
PEG_TX11N	17	C202	1	2	0.1uF_10V	49	PEG_C_TX11N
PEG_TX12N	17	C212	1	2	0.1uF_10V	49	PEG_C_TX12N
PEG_TX13N	17	C211	1	2	0.1uF_10V	49	PEG_C_TX13N
PEG_TX14N	17	C213	1	2	0.1uF_10V	49	PEG_C_TX14N
PEG_TX15N	17	C204	1	2	0.1uF_10V	49	PEG_C_TX15N

PEG_TX0P	17	C136	1	2	0.1uF_10V	49	PEG_C_TX0P
PEG_TX1P	17	C139	1	2	0.1uF_10V	49	PEG_C_TX1P
PEG_TX2P	17	C129	1	2	0.1uF_10V	49	PEG_C_TX2P
PEG_TX3P	17	C137	1	2	0.1uF_10V	49	PEG_C_TX3P
PEG_TX4P	17	C1035	1	2	0.1uF_10V	49	PEG_C_TX4P
PEG_TX5P	17	C1036	1	2	0.1uF_10V	49	PEG_C_TX5P
PEG_TX6P	17	C1038	1	2	0.1uF_10V	49	PEG_C_TX6P
PEG_TX7P	17	C216	1	2	0.1uF_10V	49	PEG_C_TX7P
PEG_TX8P	17	C208	1	2	0.1uF_10V	49	PEG_C_TX8P
PEG_TX9P	17	C267	1	2	0.1uF_10V	49	PEG_C_TX9P
PEG_TX10P	17	C209	1	2	0.1uF_10V	49	PEG_C_TX10P
PEG_TX11P	17	C203	1	2	0.1uF_10V	49	PEG_C_TX11P
PEG_TX12P	17	C138	1	2	0.1uF_10V	49	PEG_C_TX12P
PEG_TX13P	17	C215	1	2	0.1uF_10V	49	PEG_C_TX13P
PEG_TX14P	17	C214	1	2	0.1uF_10V	49	PEG_C_TX14P
PEG_TX15P	17	C205	1	2	0.1uF_10V	49	PEG_C_TX15P

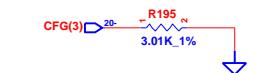
INVENTEC

TITLE			
ST133i			
CPU-3			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01
SHEET		17	OF 56

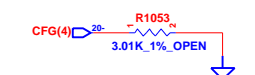
CHANGE by ST133ID 18-Aug-2009



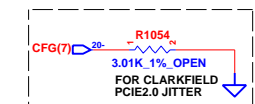
PCI-Express Configuration Select	
CFG0	1:Single PEG 0:Bifurcation enabled



CFG3 - PCI-Express Static Lane Reversal	
CFG3	1:Normal Operation 0:Lane Numbers Reversed 15 -> 0, 14 -> 1, ...



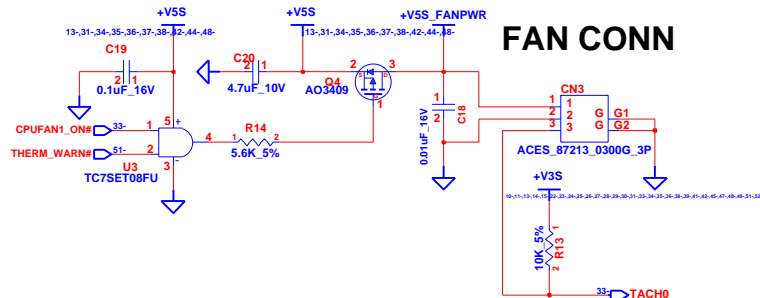
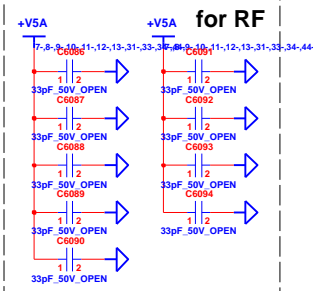
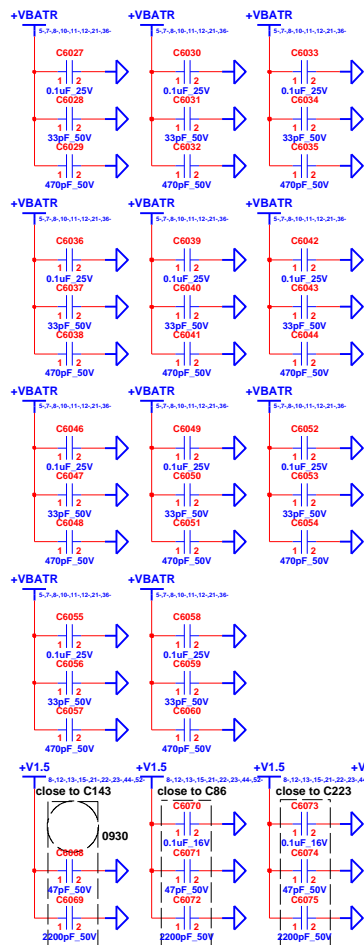
CFG4 - Display Port Presence	
CFG4	1:Disabled; No Physical Display Port attached to Embedded Display Port 0: Enabled; An external Display Port device is connected to the Embedded Display Port



CFG7 - Reserved : Temporarily used for early Clarkfield samples
Clarkfield (Only for early samples pre-ES1)
Connect to GND with 3.01K Ohm 5% Resistor

<i>INVENTEC</i>			
TITLE <i>ST133i</i> <i>CPU-6</i>			
SIZE A3	CODE CS	DOC. NUMBER 6050A2314301	REV X
SHEET		20	OF 56

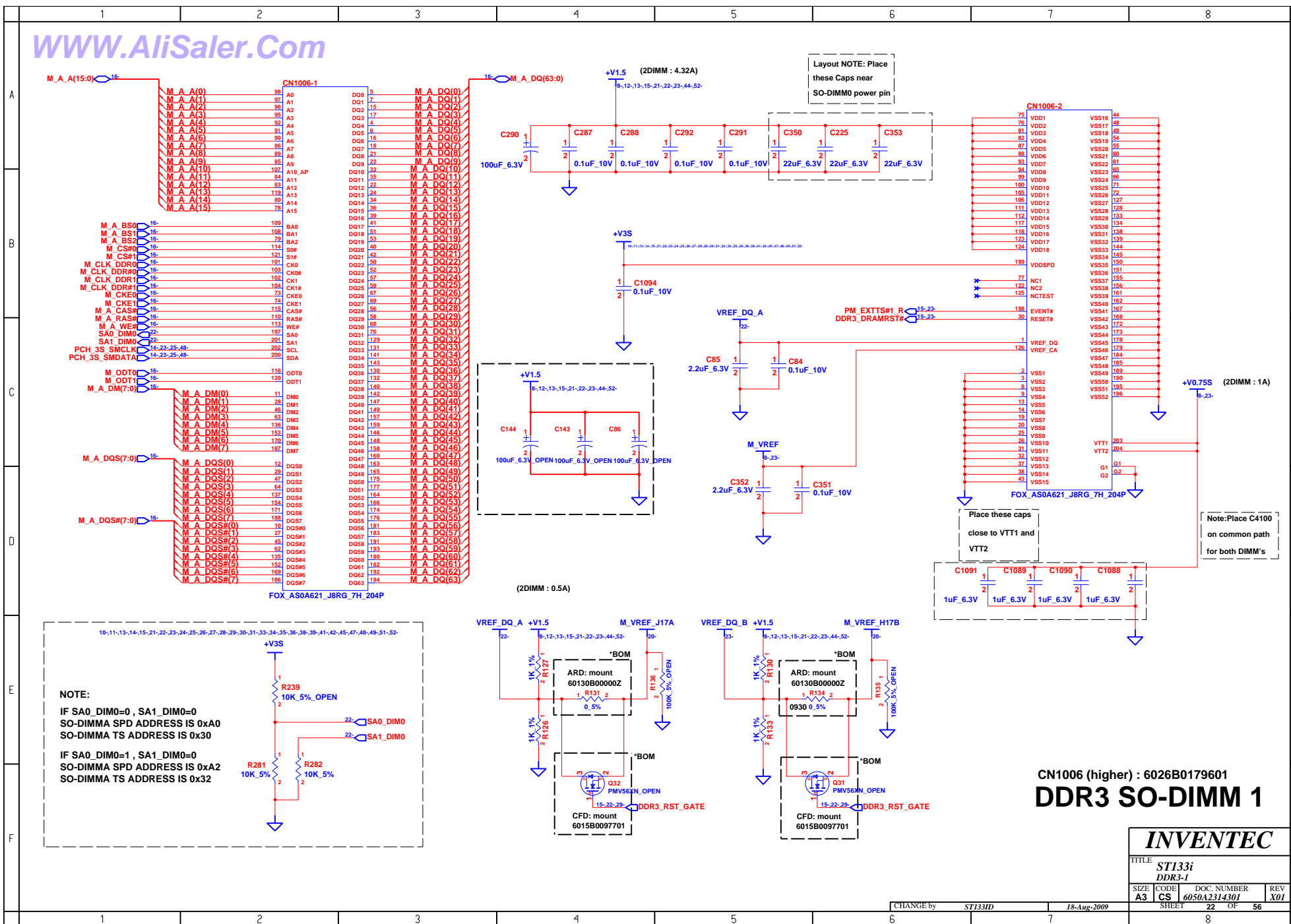
for RF

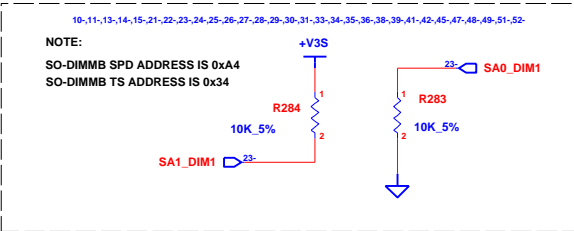
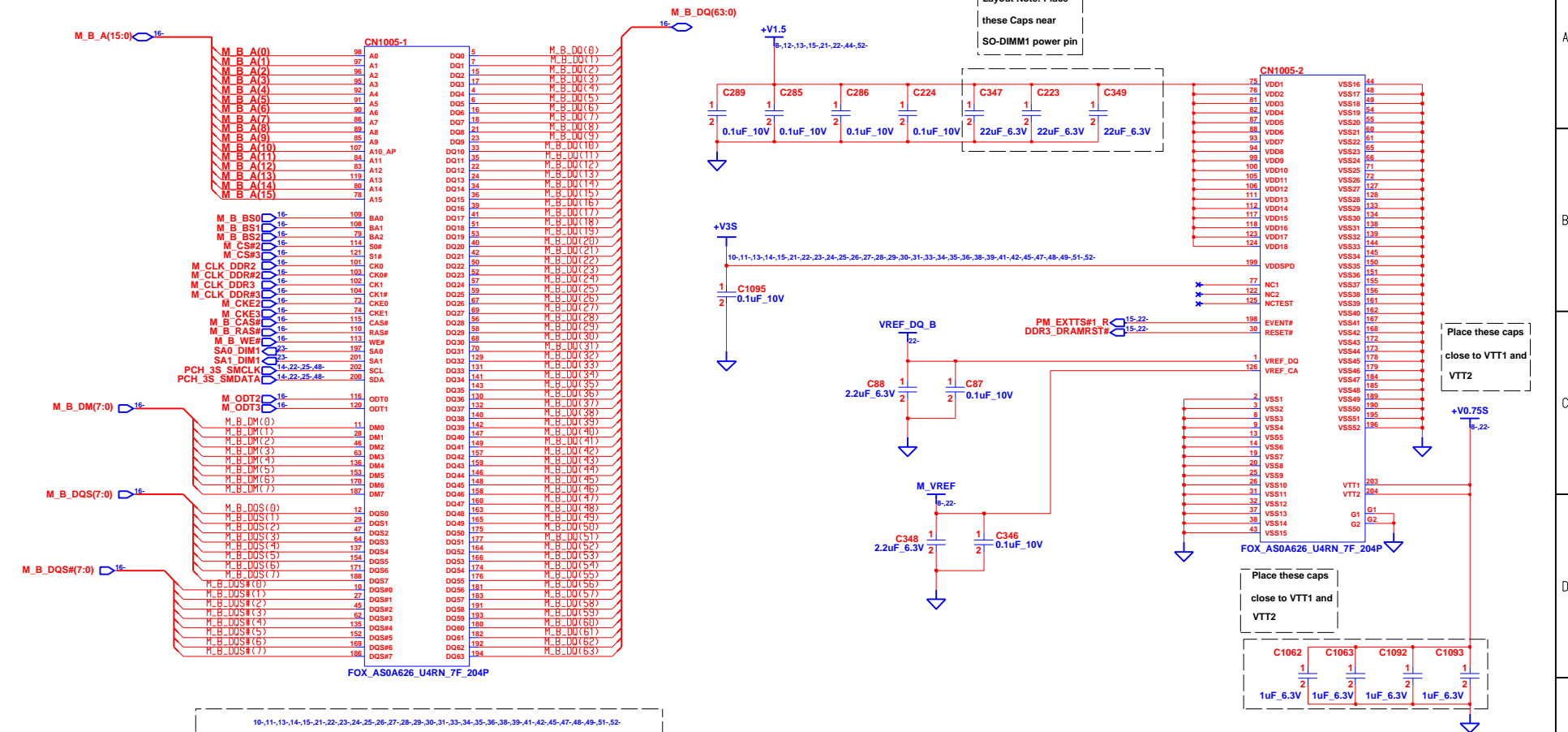


INVENTEC

TITLE
ST133i
Thermal, Fan & XDP
SIZE
A3
CODE
CS
DOC. NUMBER
6050A2314301
SHEET
21
OF
56
REV
X01

CHANGE by ST133D 18-Aug-2009





DDR3 SO-DIMM 2

CN1005 (lower) : 6026B0121102
*BOM

INVENTEC

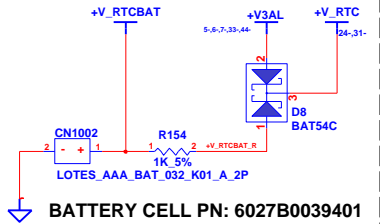
TITLE	ST133i
DDR3-2	
SIZE	A3
CODE	CS
DOC. NUMBER	6050A2314301
REV	X01
SHEET	23
OF	56

CHANGE by ST133ID 18-Aug-2009

*BOM (for HP)
PCH(HM55) : 6019B0713401

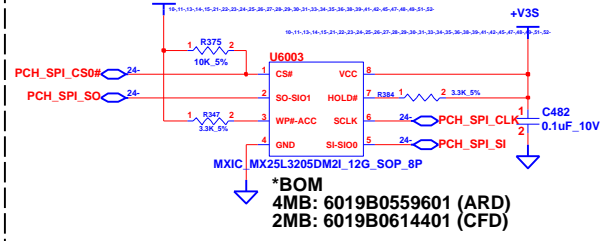
INTVRMEN :
Integrated SUS 1.1V VRM Enable
High - Enable Internal VRs

RTC BATTERY

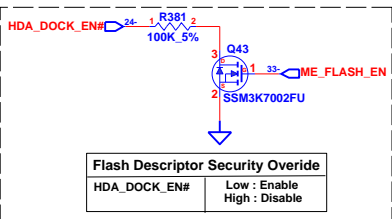


SPI_MISO:
No series resistor if 1.5"-6.5"
with 1 SPI device
Use a 33ohm series resistor
close to PCH if using 2 SPI device

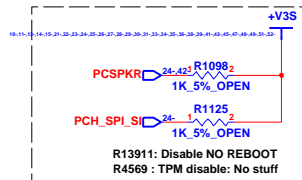
Close TO PCH



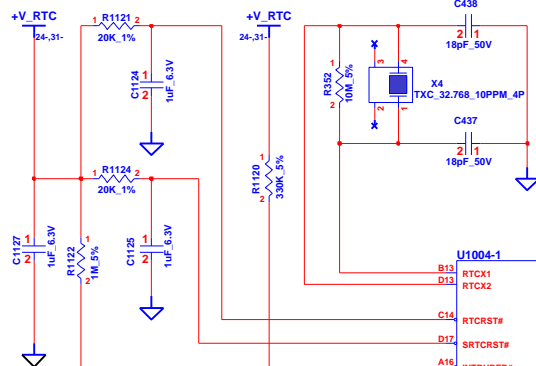
*BOM
4MB: 6019B0559601 (ARD)
2MB: 6019B0614401 (CFD)

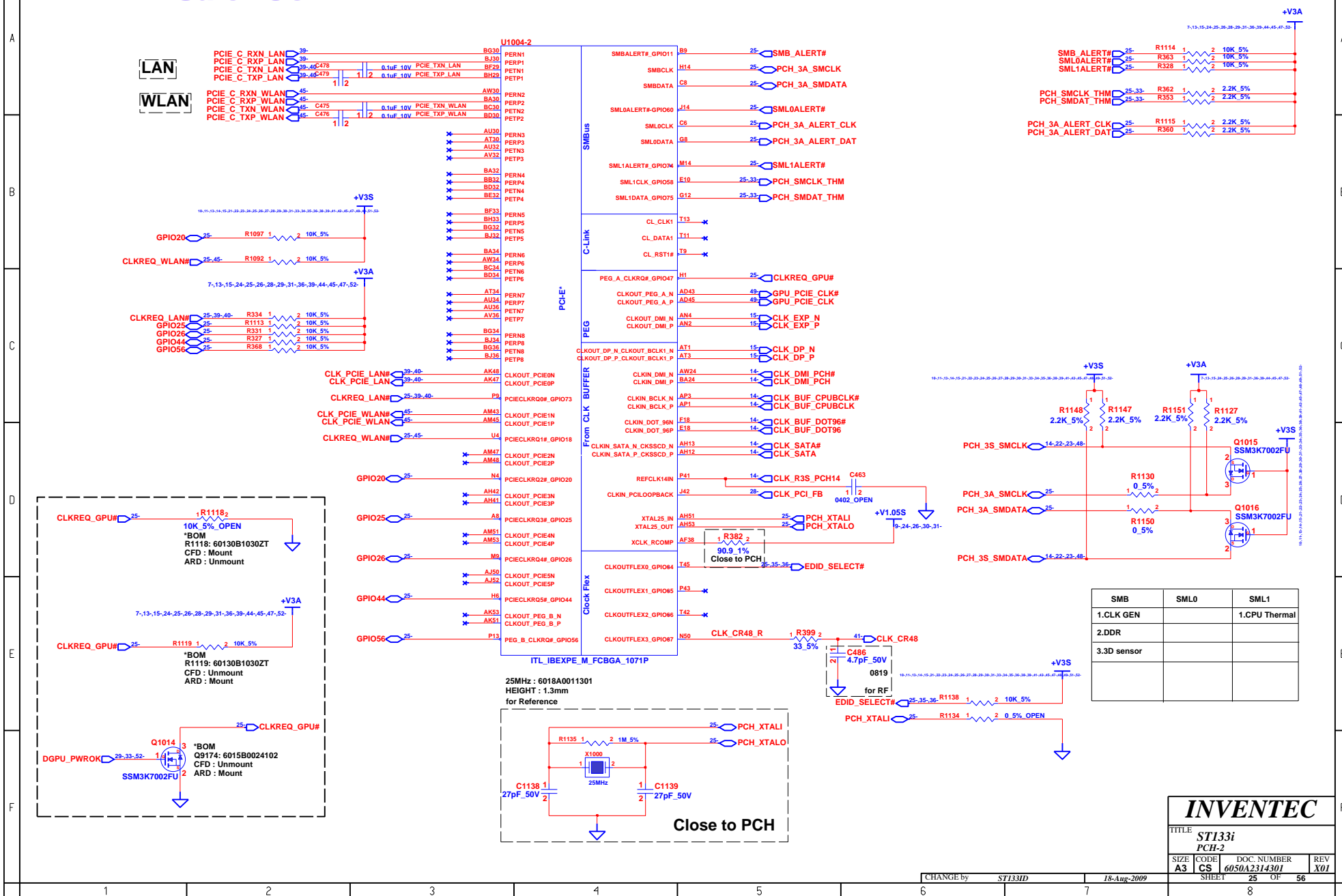


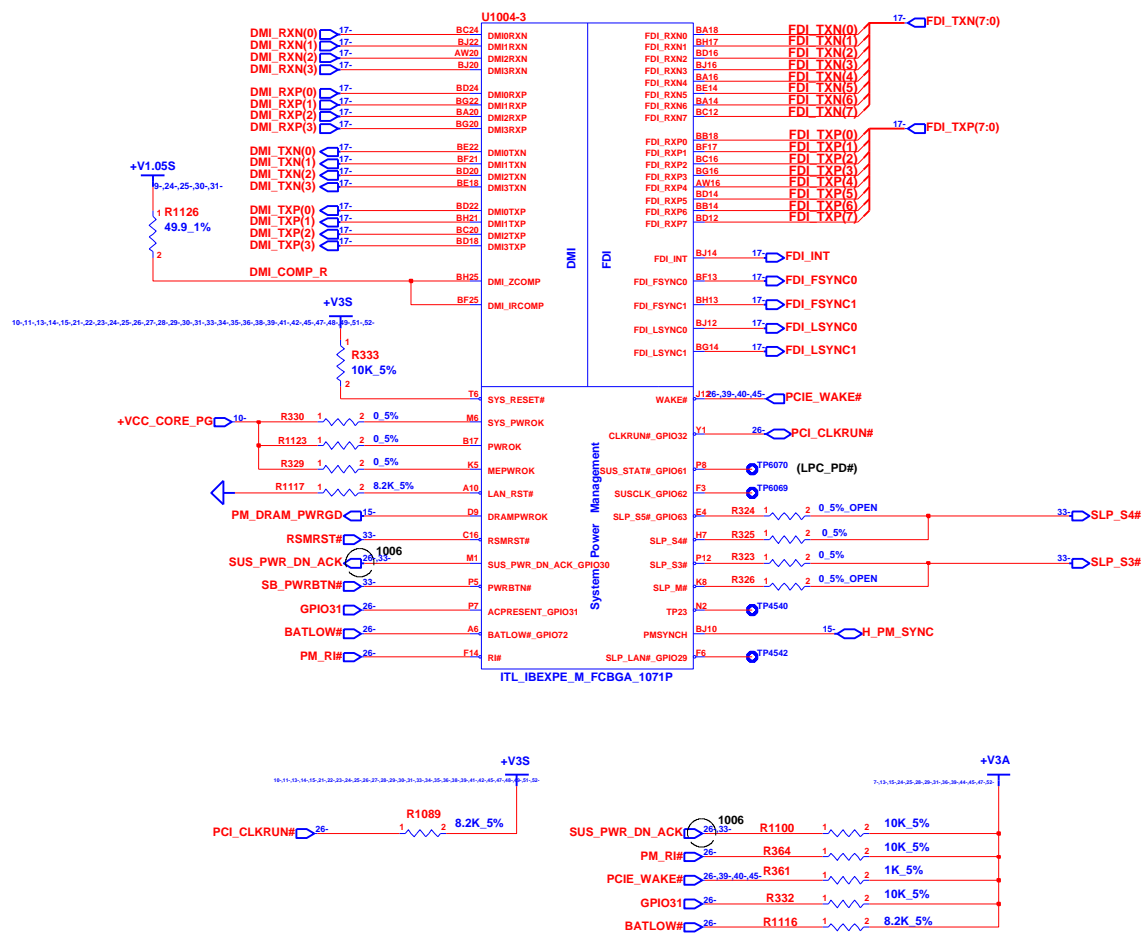
Flash Descriptor Security Override
HDA_DOCK_EN#
Low : Enable
High : Disable



R13911: Disable NO REBOOT
R4569 : TPM disable: No stuff







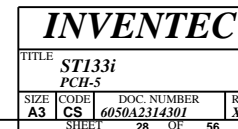
INVENTEC

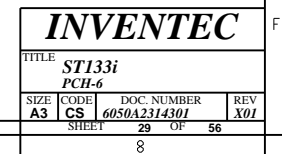
TITLE
ST133i
PCH-3

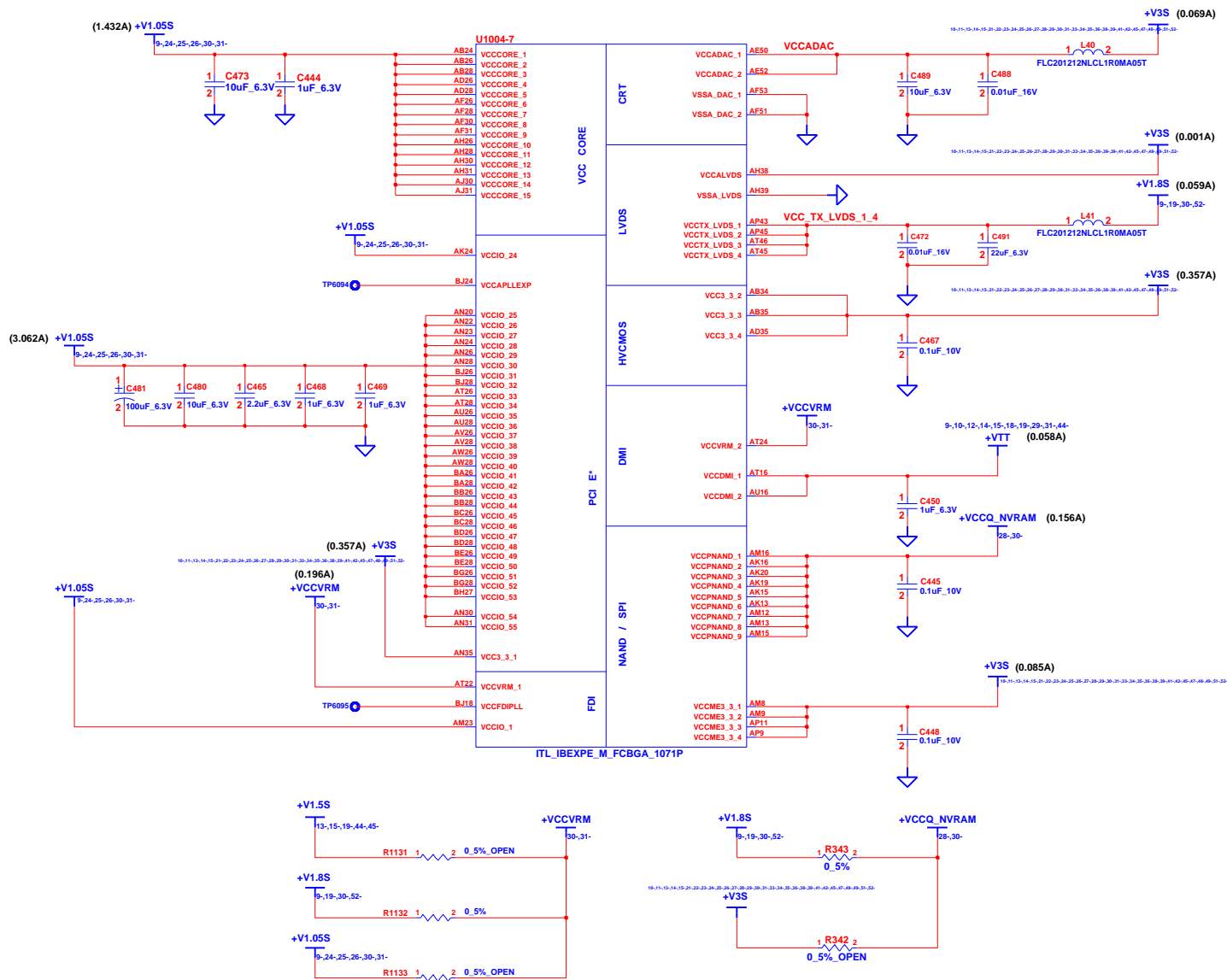
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01

CHANGE by ST133ID 18-Aug-2009

SHEET 26 OF 56



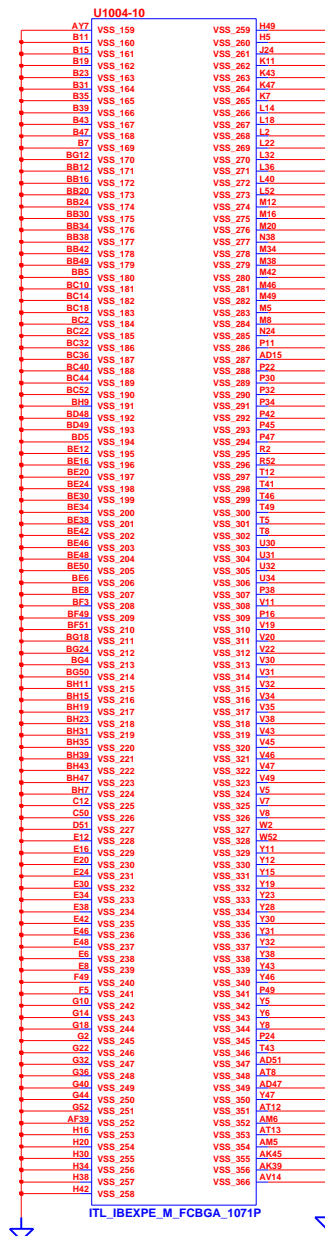
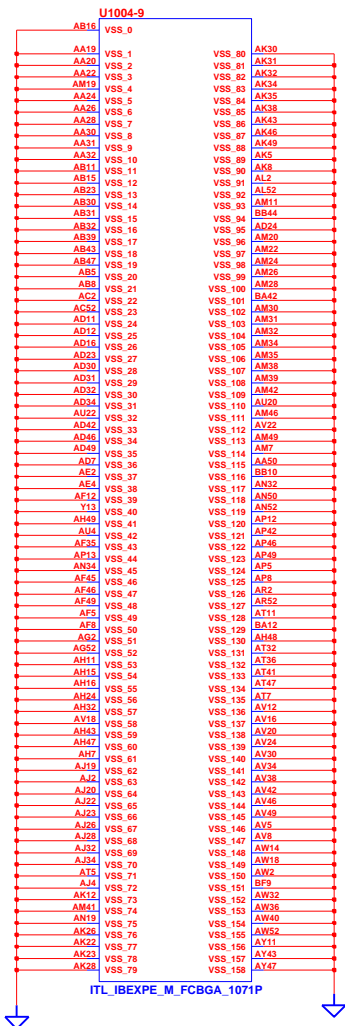




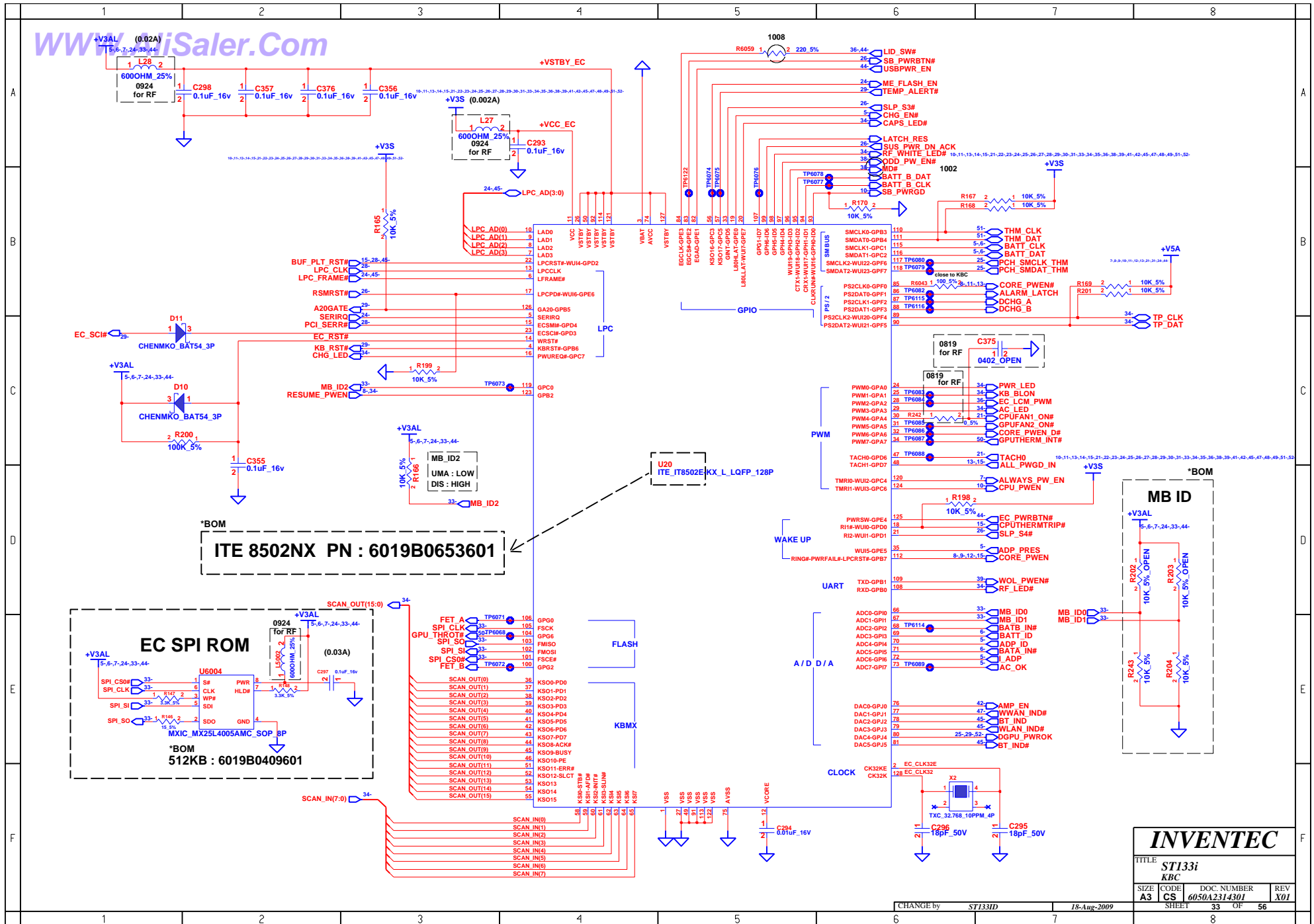
INVENTEC

TITLE ST133i PCH-7			
SIZE A3	CODE CS	DOC. NUMBER 6050A2314301	REV X01
SHEET 30		OF 56	

CHANGE by ST133ID 18-Aug-2009



INVENTEC			
TITLE			
ST133i			
PCH-9			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01
CHANGE by		ST133D	18-Aug-2009
SHEET		32	OF 56



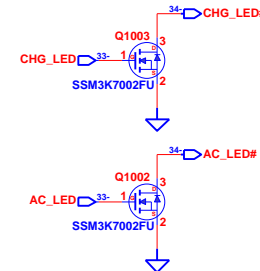
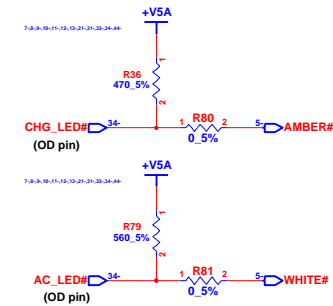
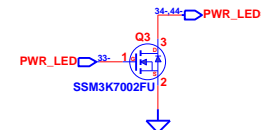
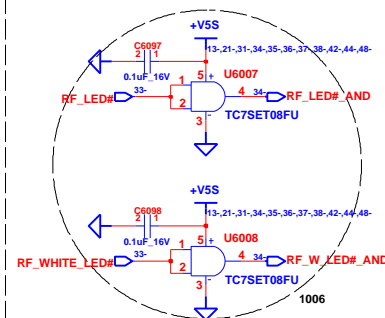
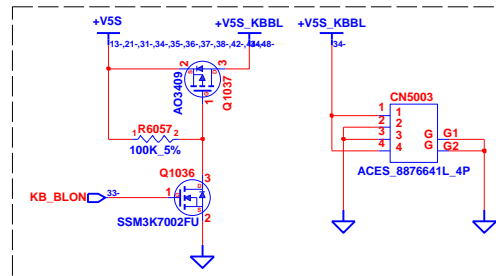
[illegible]

Diagram illustrating the pinout and connections for the ACES 50523 03001_001_30P connector. The connector has 30 pins, numbered 1 through 30. The connections are as follows:

- Pin 1: SCAN_OUT(15)
- Pin 2: SCAN_OUT(10)
- Pin 3: SCAN_OUT(11)
- Pin 4: SCAN_OUT(14)
- Pin 5: SCAN_OUT(13)
- Pin 6: SCAN_OUT(12)
- Pin 7: SCAN_OUT(3)
- Pin 8: SCAN_OUT(6)
- Pin 9: SCAN_OUT(8)
- Pin 10: SCAN_OUT(7)
- Pin 11: SCAN_OUT(4)
- Pin 12: SCAN_OUT(2)
- Pin 13: SCAN_IN(0)
- Pin 14: SCAN_OUT(1)
- Pin 15: SCAN_OUT(5)
- Pin 16: SCAN_IN(3)
- Pin 17: SCAN_IN(2)
- Pin 18: SCAN_OUT(0)
- Pin 19: SCAN_IN(5)
- Pin 20: SCAN_IN(4)
- Pin 21: SCAN_OUT(9)
- Pin 22: SCAN_IN(6)
- Pin 23: SCAN_IN(7)
- Pin 24: CAPS_LED
- Pin 25: MUTE_LED
- Pin 26: RF_LED, AND
- Pin 27: RF_W_LED, AND
- Pin 28: R285 1
- Pin 29: R285 2
- Pin 30: R287 1

Additional components and connections shown:

- A V3S signal source is connected to Pin 1.
- Pin 2 is connected to Pin 1 via a 100 5% resistor (R286).
- Pin 26 is connected to Pin 25 via a 150 5% resistor (R287).
- Pin 27 is connected to Pin 26 via a 150 5% resistor (R288).
- Pin 28 is connected to Pin 27 via a 150 5% resistor (R289).
- Pin 29 is connected to Pin 28 via a 150 5% resistor (R290).
- Pin 30 is connected to Pin 29 via a 150 5% resistor (R291).
- A ground connection (G2) is shown at Pin 30.
- A circular component labeled 0921 is shown below the connector.



POWER LED

3.6V-6.6V PWR_LED (OD pin)

12_21_T3D_CP1Q2B12Y_2C

NC

5V

1 2

1 R412 2

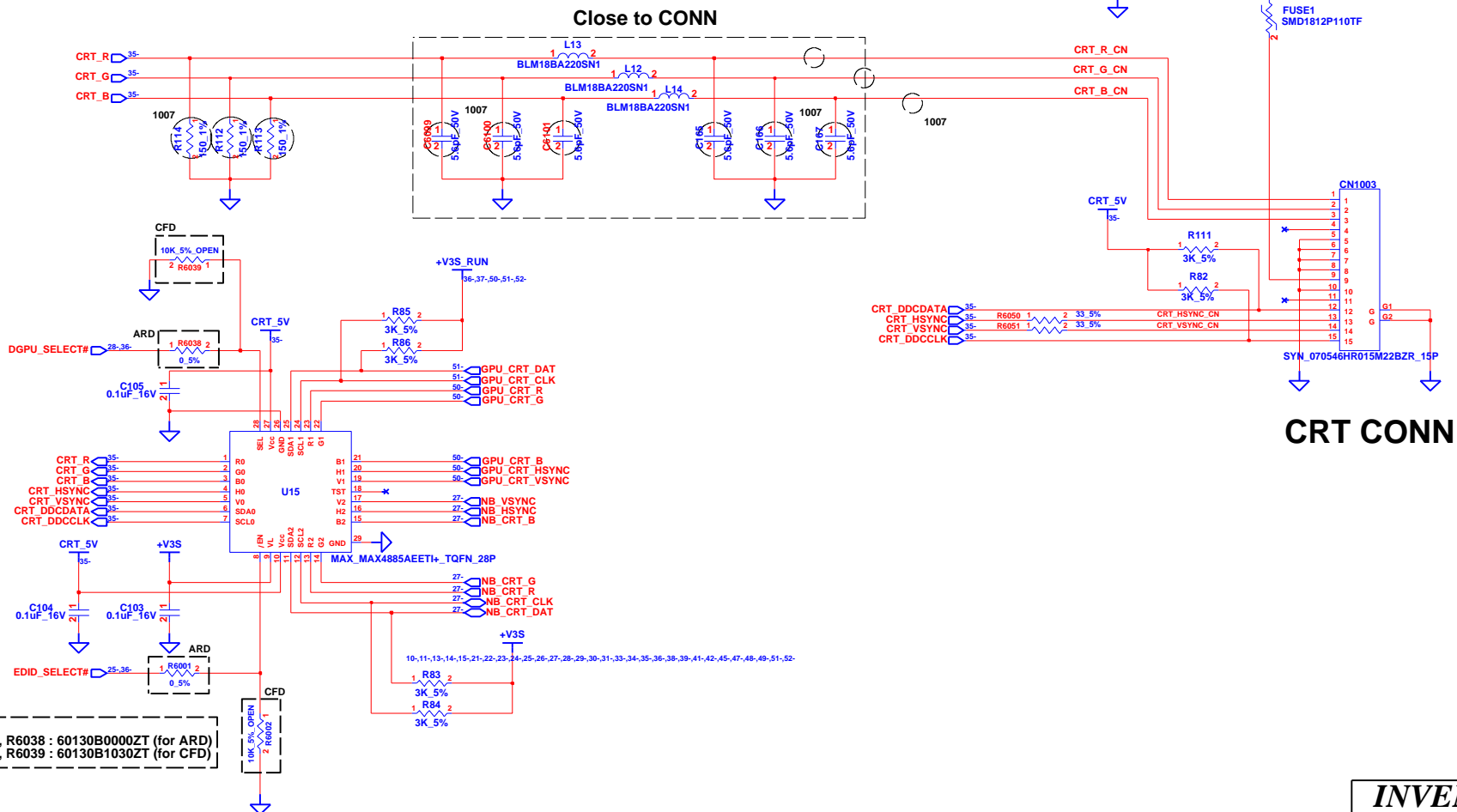
470_5%

+V5A

TITLE			
<i>ST133i</i> <i>Keyboard & TouchPad</i>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01
SHEET		34	OF 56

Discrete mode ONLY

DGPU_SELECT#	S1	S2
L	ON	OFF
H	OFF	ON

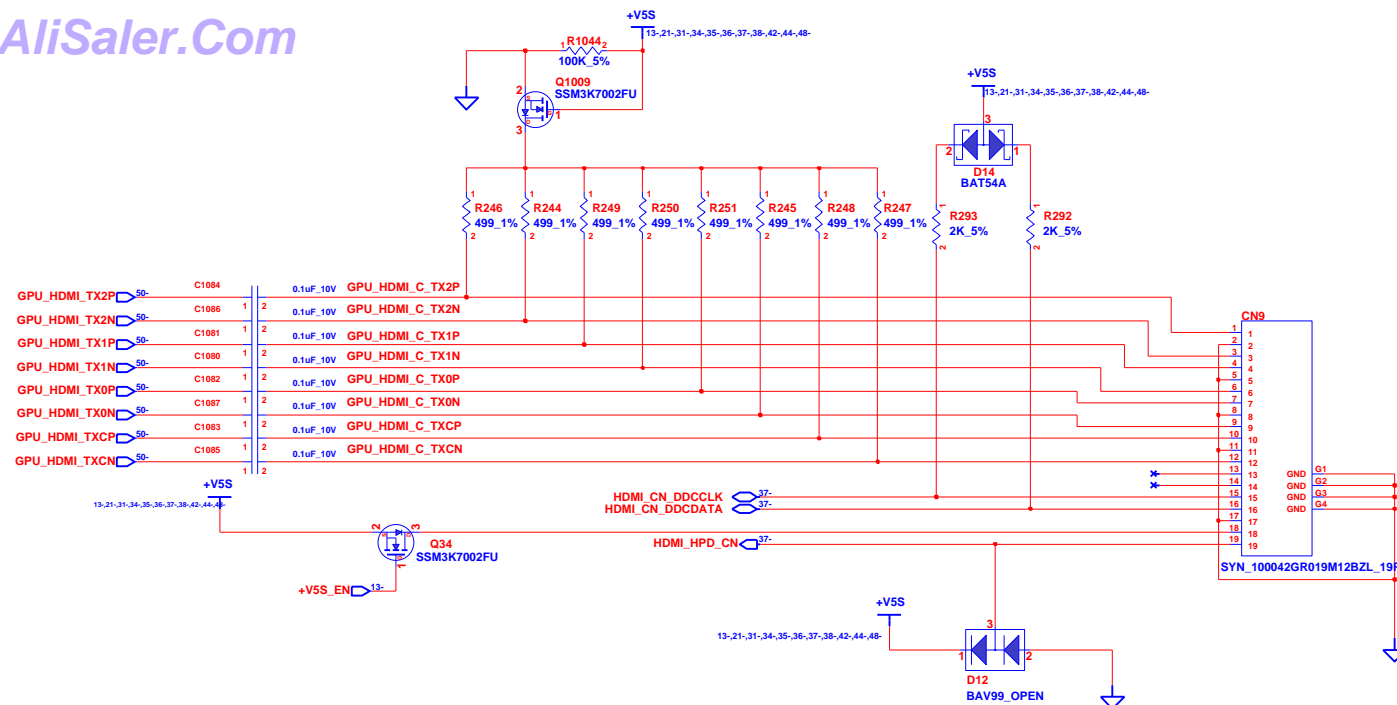


INVENTEC

TITLE ST133i CRT			
SIZE A3	CODE CS	DOC. NUMBER 6050A2314301	REV X01
SHEET 35		OF 56	

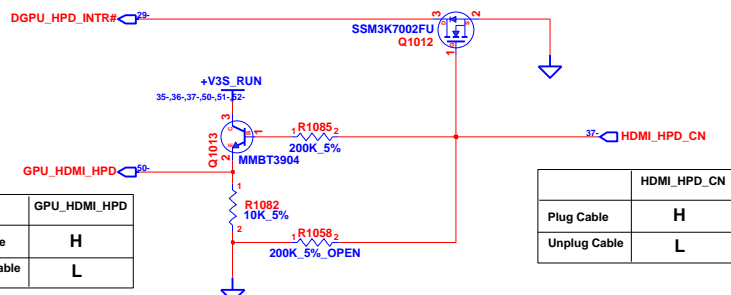
CHANGE by ST133ID 18-Aug-2009





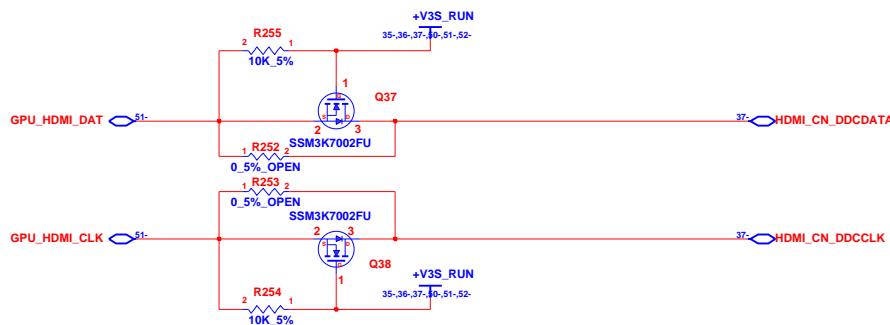
HDMI CONN

	DGPU_HPD_INTR#
Plug Cable	L
Unplug Cable	H



	GPU_HDMI_HPD
Plug Cable	H
Unplug Cable	L

	HDMI_HPDCN
Plug Cable	H
Unplug Cable	L



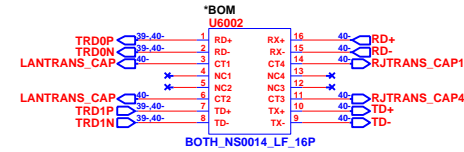
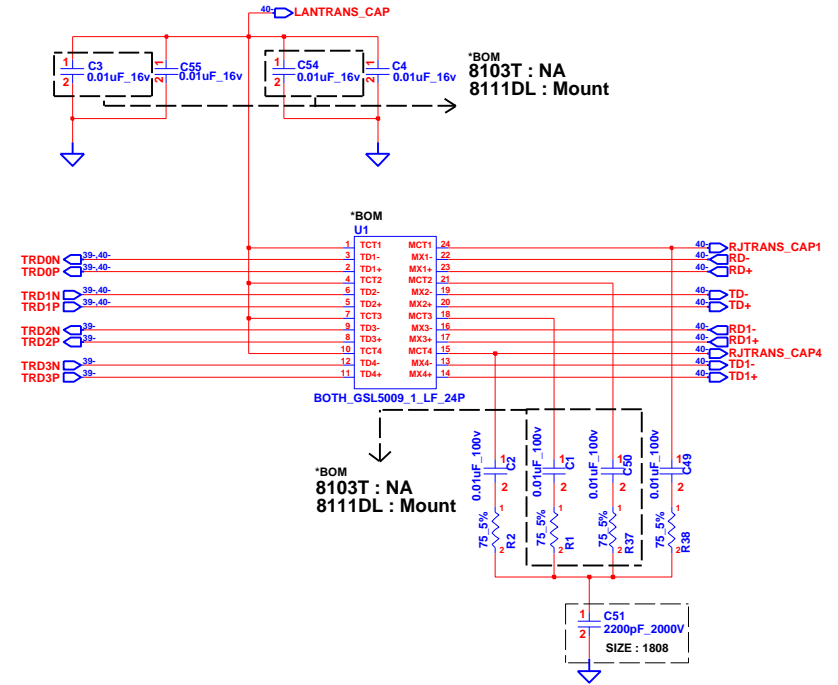
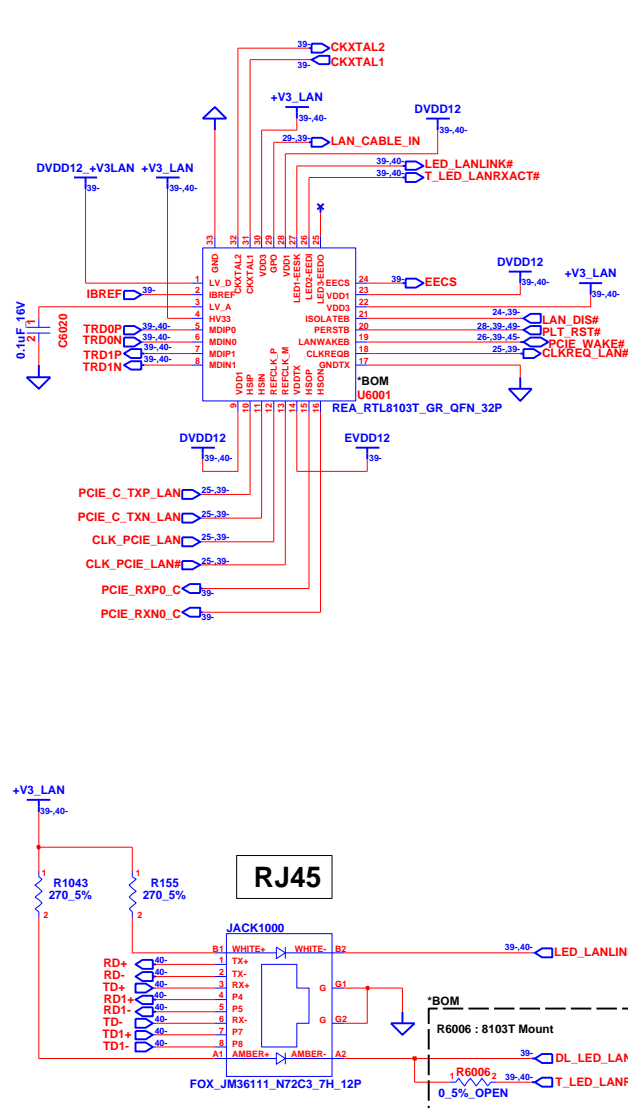
INVENTEC

TITLE			
ST133i			
HDMI Level-Shift			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01

CHANGE by ST133ID 18-Aug-2009

SHEET 37 OF 56

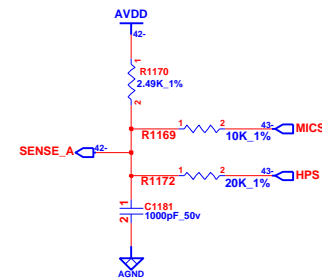
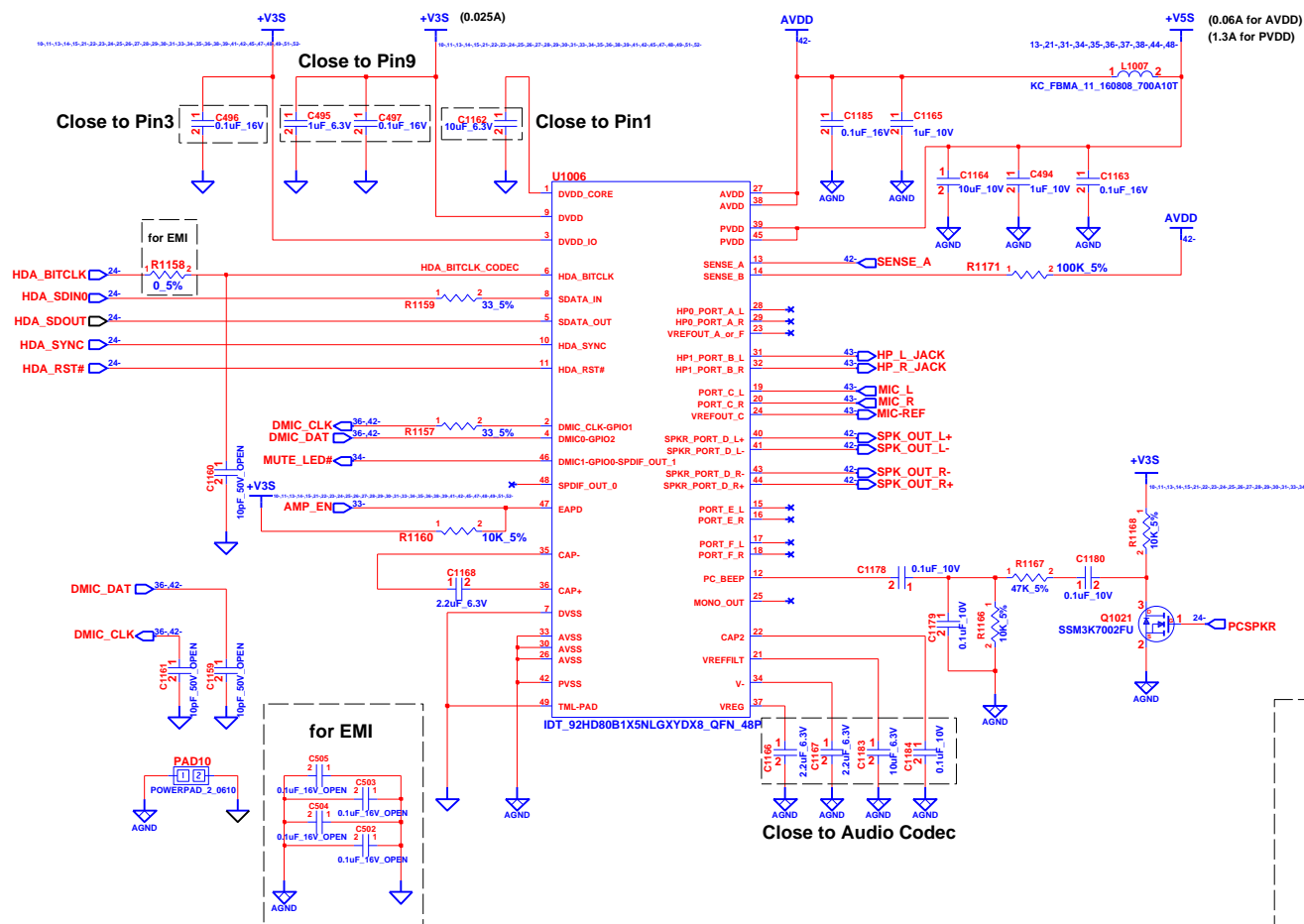
LAYOUT NOTE : Place termination resistors and caps as close to LAN controller as possible



INVENTEC				
TITLE				
ST133i				
RJ-45				
SIZE	CODE	DOC. NUMBER	REV	
A3	CS	6050A2314301	X01	
CHANGE by		ST133ID	26-Aug-2009	
SHEET		40	OF	56

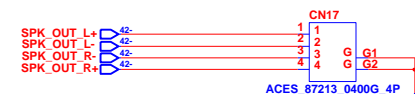
[illegible]

CHANGE by	ST133ID	18-Aug-2009
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PORT	Discription	Sense
A	NO USE	
B	Headphone	HPS
C	Microphone	MICS
D	SPKR	
E	NO USE	
F	NO USE	

INT-SPEAKER CONN

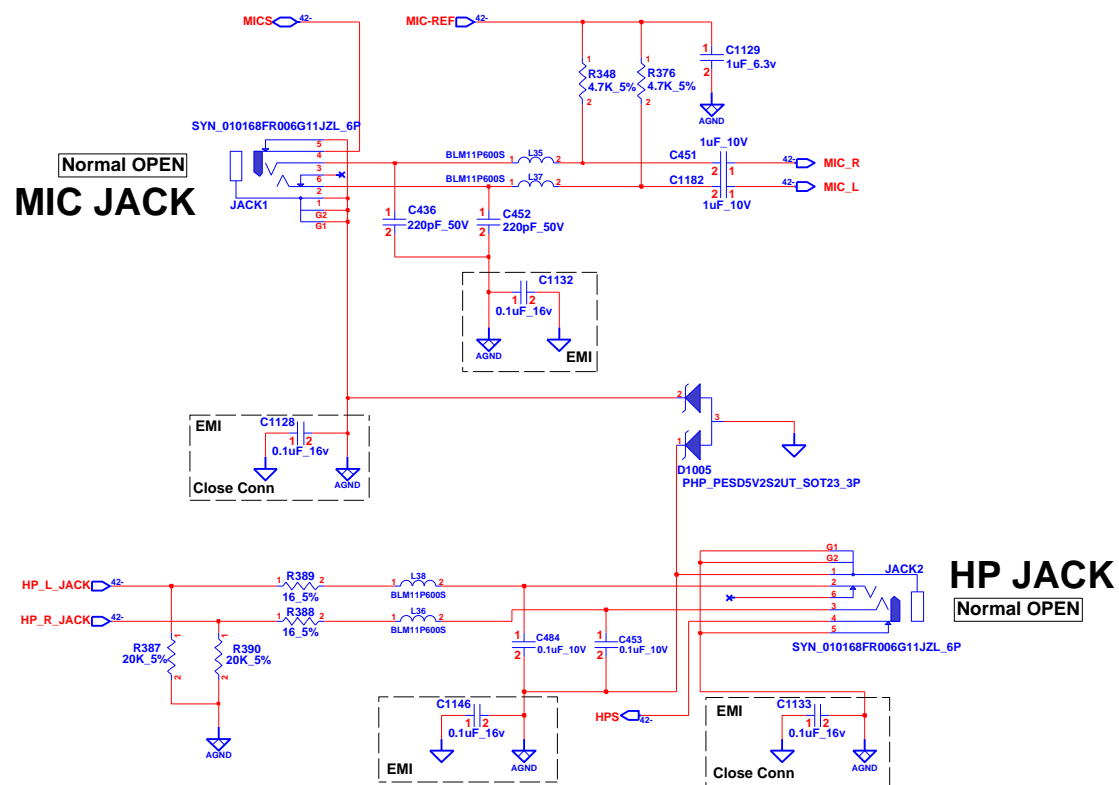


INVENTEC

TITLE			
ST133i			
Audio Codec			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01

CHANGE by ST133ID 18-Aug-2009

SHEET 42 OF 56



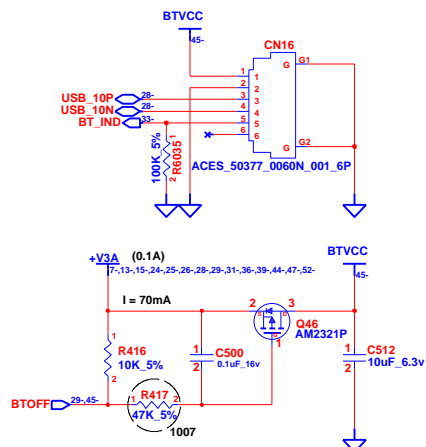
INVENTEC

TITLE			
ST133i			
HP JACK & MIC JACK			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01

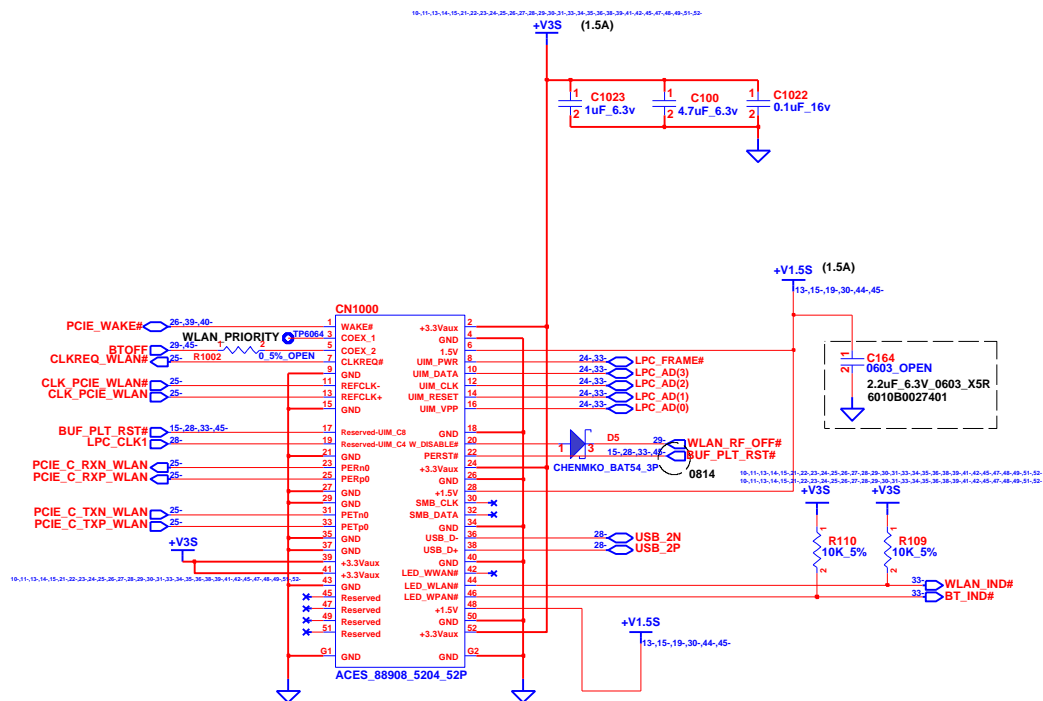
CHANGE by ST133D 18-Aug-2009

SHEET 43 OF 56

BLUETOOTH CONN



WLAN CONN (MINICARD)



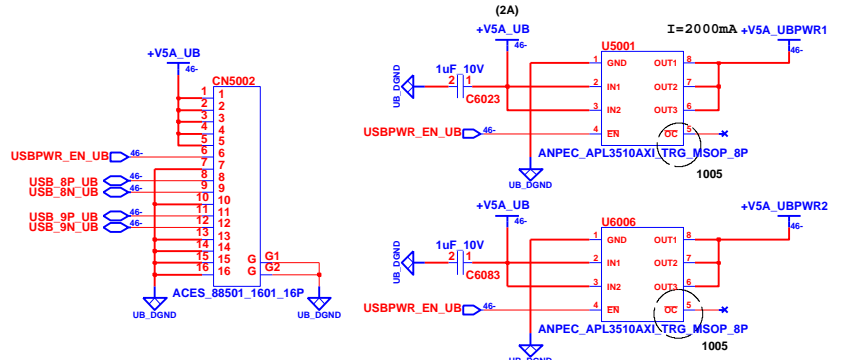
***BOM**
CN1000 : 6026B0184301

INVENTEC

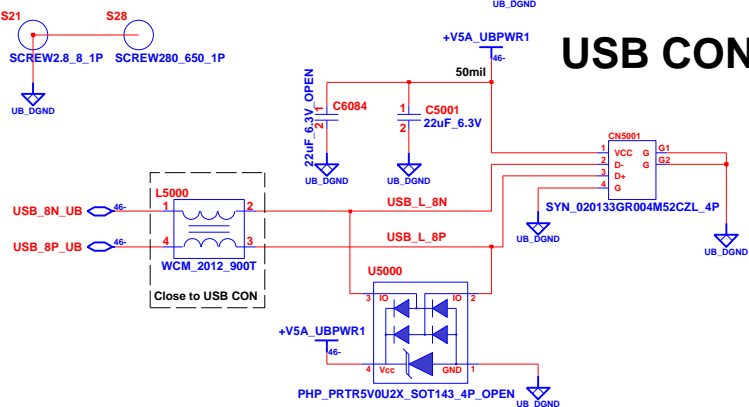
TITLE: **ST133i**
WLAN, BT & WebCAM
SIZE: **A3** CODE: **CS** DOC. NUMBER: **6050A2314301** REV: **X01**
SHEET: **45** OF: **56**

CHANGE by: **ST133D** 18-Aug-2009

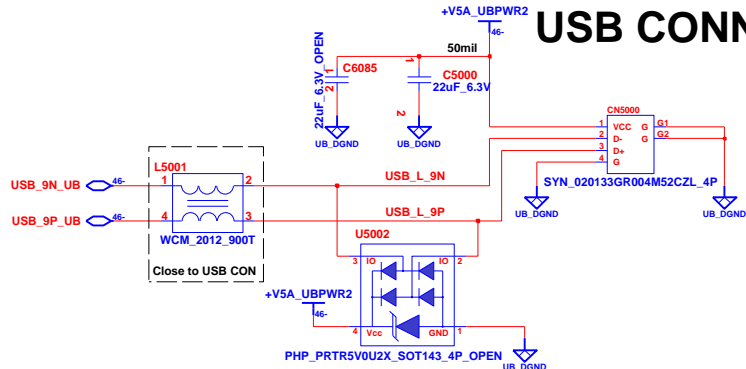
USB BOARD Cable ON UB



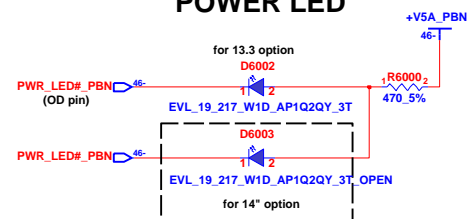
USB CONN01



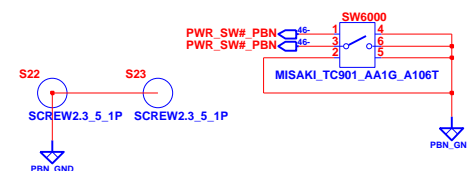
USB CONN02



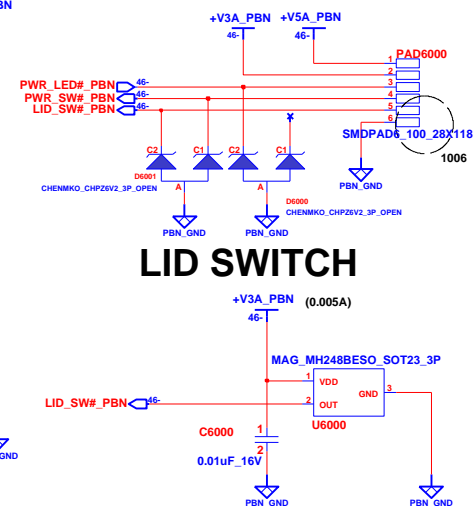
POWER LED



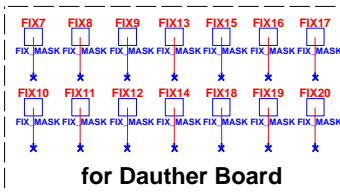
POWER BUTTON



PBN Cable CN on PBN



LID SWITCH

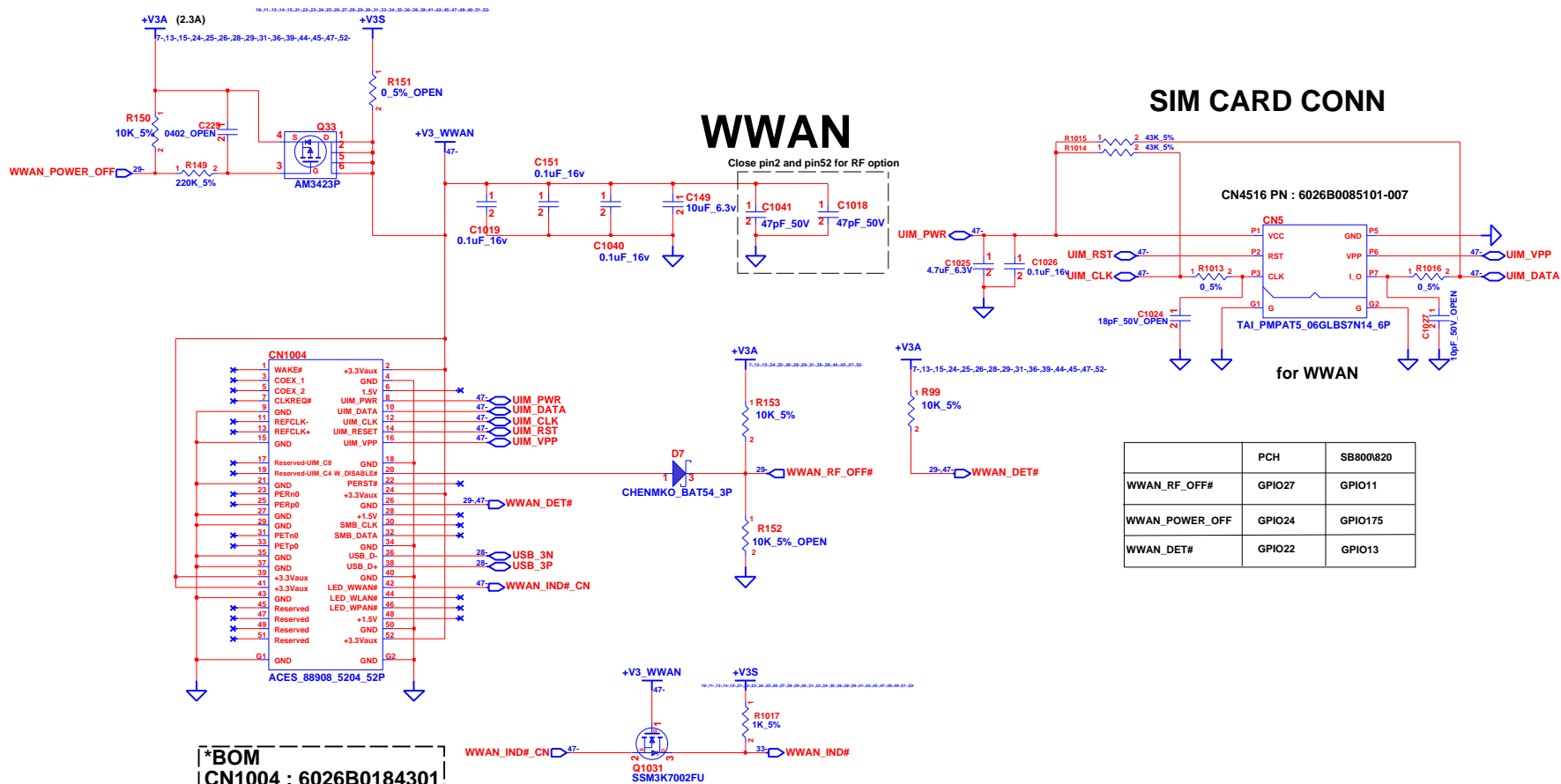


for Dauther Board

INVENTEC

TITLE			
ST133i USB, PowerButton (DB)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01

OPTION PART



INVENTEC

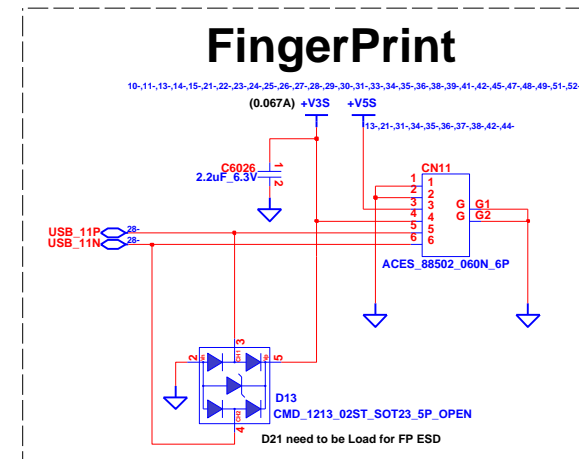
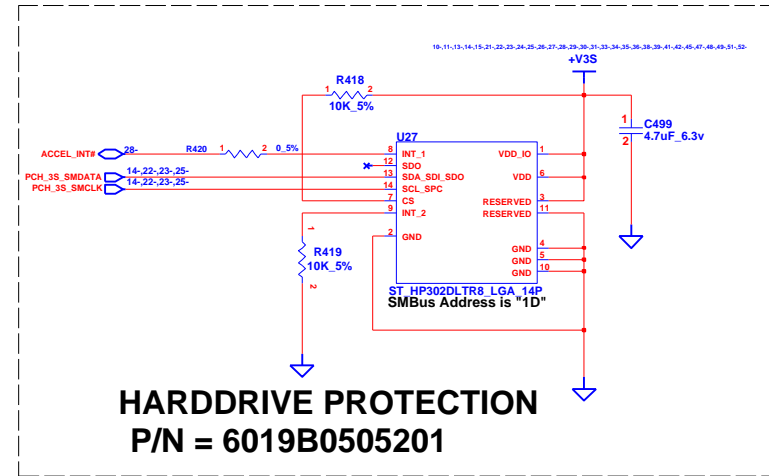
TITLE
ST133i
WWAN(Optional)

SIZE CODE CS DOC NUMBER REV
A3 CS 6050A2314301 X01

CHANGE by ST133ID 18-Aug-2009

SHEET 47 OF 56

OPTION PART



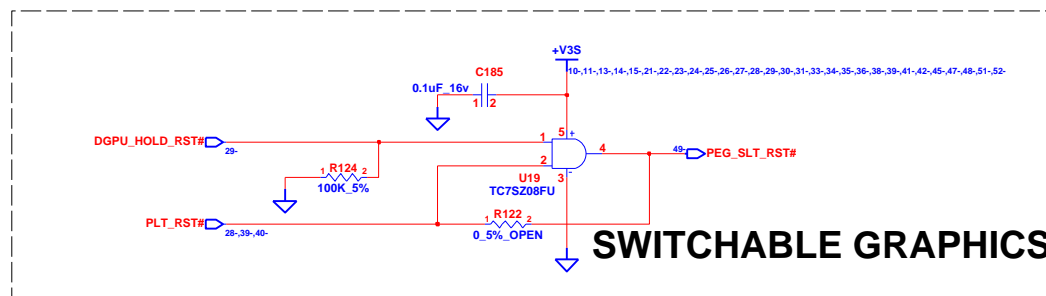
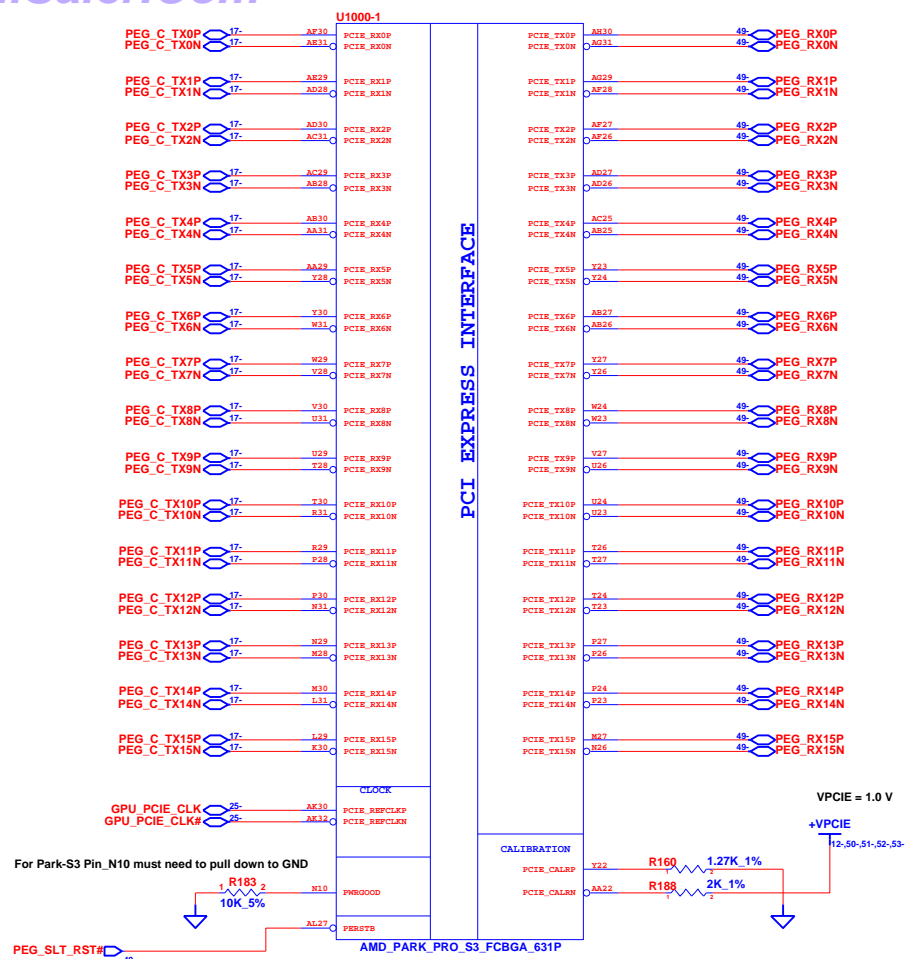
INVENTEC

TITLE			
ST133i			
Touchscreen, FP & HD LOCK(Option)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01
SHEET		48	OF 56

CHANGE by ST133ID 18-Aug-2009

Device	Pin	Signal	Pin	Signal
PEG_RX0N	49	C117	1	2 0.1uF_16v
PEG_RX1N	49	C121	1	2 0.1uF_16v
PEG_RX2N	49	C130	1	2 0.1uF_16v
PEG_RX3N	49	C124	1	2 0.1uF_16v
PEG_RX4N	49	C132	1	2 0.1uF_16v
PEG_RX5N	49	C199	1	2 0.1uF_16v
PEG_RX6N	49	C125	1	2 0.1uF_16v
PEG_RX7N	49	C201	1	2 0.1uF_16v
PEG_RX8N	49	C122	1	2 0.1uF_16v
PEG_RX9N	49	C115	1	2 0.1uF_16v
PEG_RX10N	49	C196	1	2 0.1uF_16v
PEG_RX11N	49	C190	1	2 0.1uF_16v
PEG_RX12N	49	C195	1	2 0.1uF_16v
PEG_RX13N	49	C191	1	2 0.1uF_16v
PEG_RX14N	49	C198	1	2 0.1uF_16v
PEG_RX15N	49	C189	1	2 0.1uF_16v

Device	Pin	Signal	Power	Ground
PEG_RX0P	49	C116	0.1uF_16v	17
PEG_RX1P	49	C123	0.1uF_16v	17
PEG_RX2P	49	C133	0.1uF_16v	17
PEG_RX3P	49	C126	0.1uF_16v	17
PEG_RX4P	49	C134	0.1uF_16v	17
PEG_RX5P	49	C127	0.1uF_16v	17
PEG_RX6P	49	C128	0.1uF_16v	17
PEG_RX7P	49	C200	0.1uF_16v	17
PEG_RX8P	49	C120	0.1uF_16v	17
PEG_RX9P	49	C187	0.1uF_16v	17
PEG_RX10P	49	C194	0.1uF_16v	17
PEG_RX11P	49	C186	0.1uF_16v	17
PEG_RX12P	49	C197	0.1uF_16v	17
PEG_RX13P	49	C188	0.1uF_16v	17
PEG_RX14P	49	C193	0.1uF_16v	17
PEG_RX15P	49	C192	0.1uF_16v	17



<i>INVENTEC</i>			
TITLE <i>ST133i</i>			
SIZE A3	CODE CS	DOC. NUMBER 6050A2314301	REV X01
SHEET 49		OF 56	

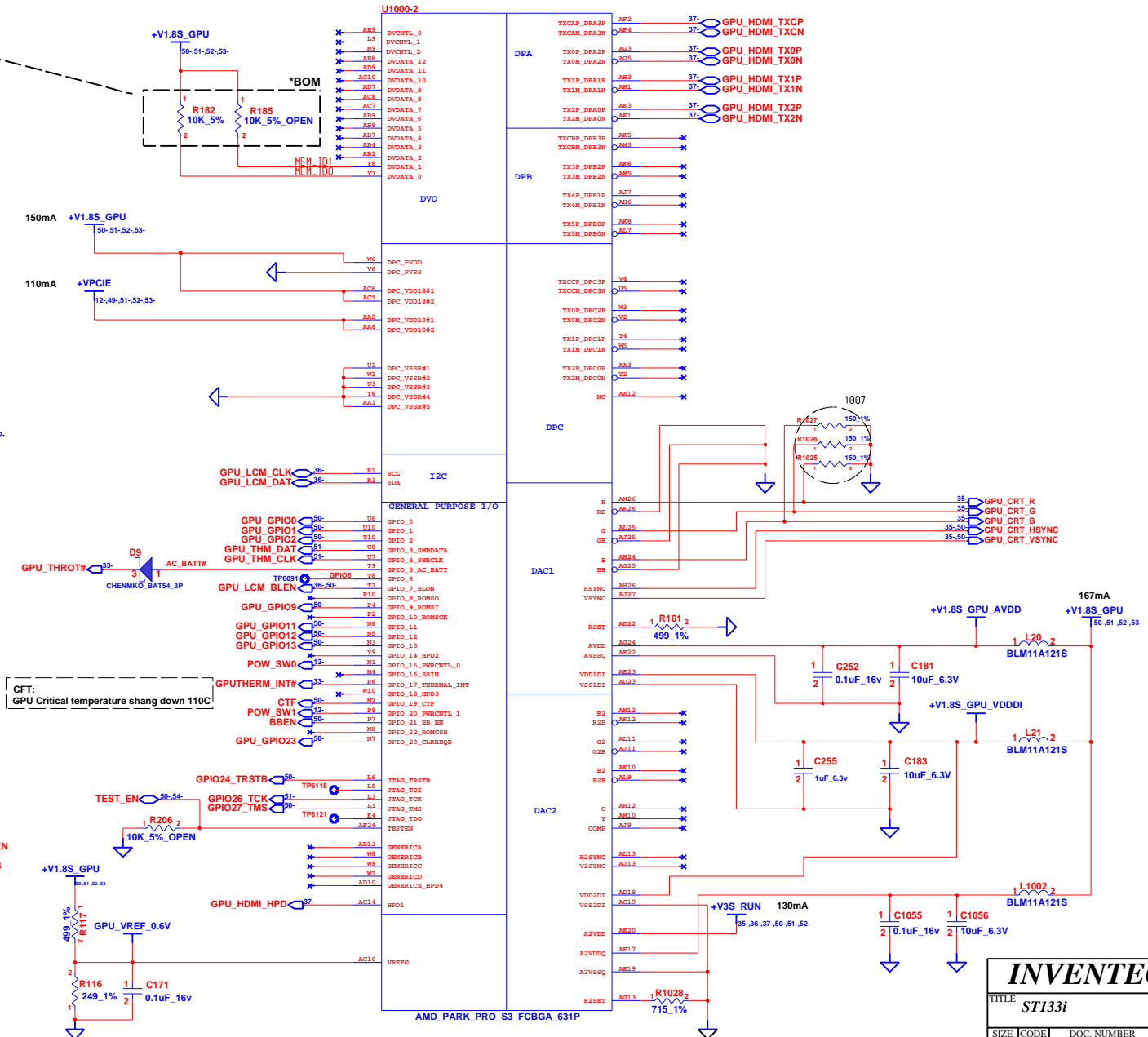
MEM_ID3	MEM_ID2	MEM_ID1	MEM_ID0	vendor
0	0	1	1	hynix (512MB)
0	0	1	0	Qimonda(512MB)
0	0	0	1	Samsung(512MB)

(Default)

STRAPS	PIN	Description of default settings
TX_PWRS_ENB	GPIO0	PCIe full TX output swing.
TX_DEEMPH_EN	GPIO1	PCIe transmitter de-emphasis enabled.
BIF_GEN2_EN_A	GPIO2	PCIe GEN2 enabled
BIF_DEBUG_ACCESS	GPIO4	Debug signals muxed out.
	GPIO7_BLON	Control Backlight On / Off
BIF_VGA_DIS	GPIO9	VGA ENABLED
ROMIDCFG(2:0)	GPIO[13:11]	Memory aperture size select.

If GPIO_22_EN = 0, then GPIO[13:11] defines the primary memory aperture size.

GPIO_13	GPIO_12	GPIO_11	Memory aperture size
0	0	1	512MB / 256MB (Default)
1	1	0	reserved



POW_SW1	POW_SW0	+VDDC_GPU
0	0	1V
0	1	0.95V
1	0	0.9V

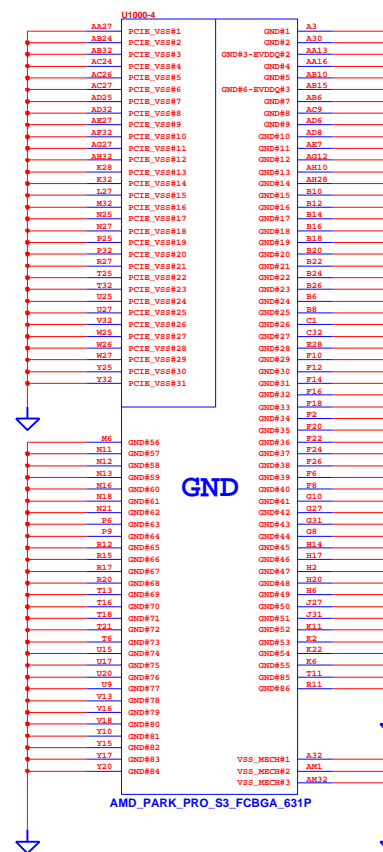
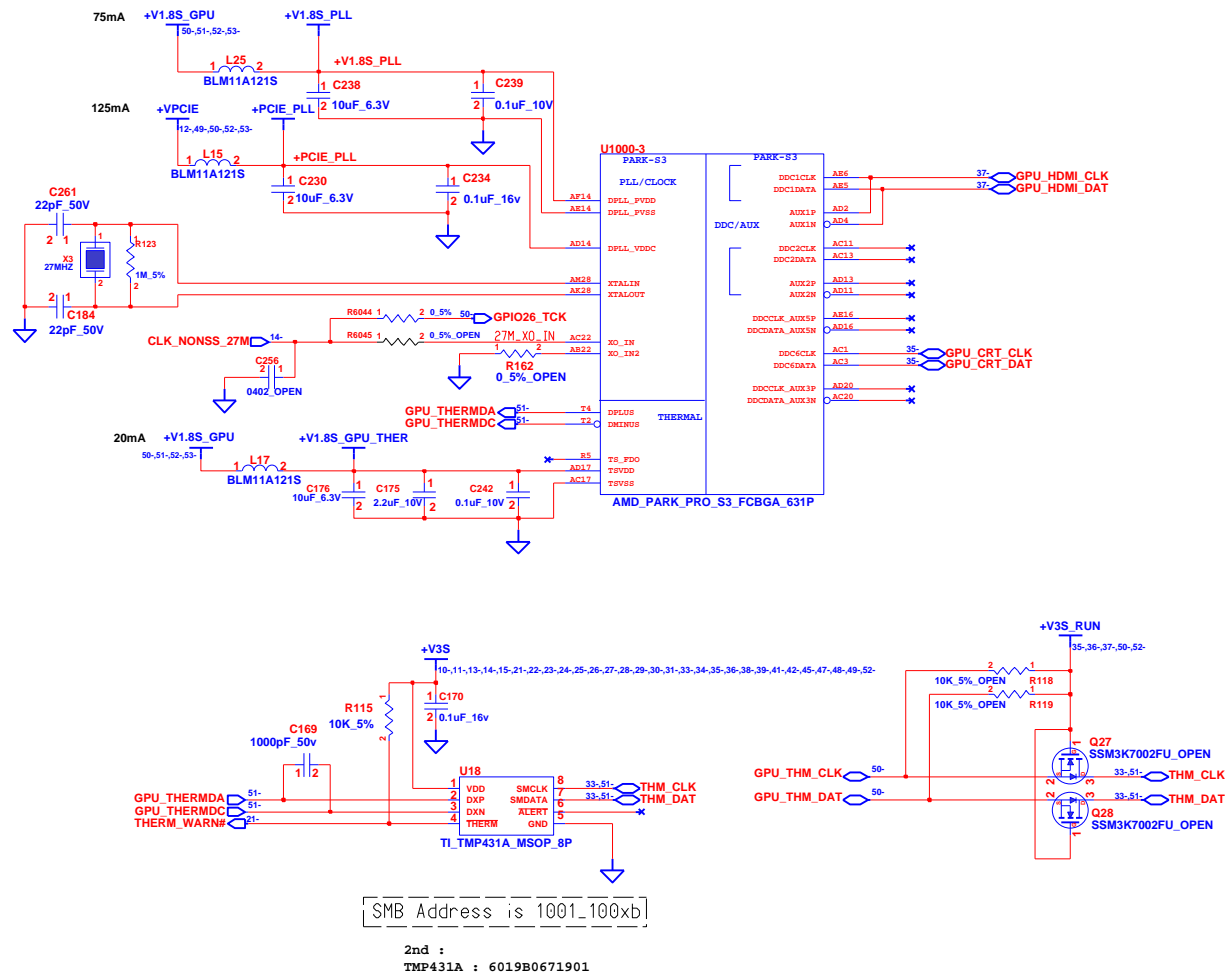
INVENTEC

TITLE
ST133i

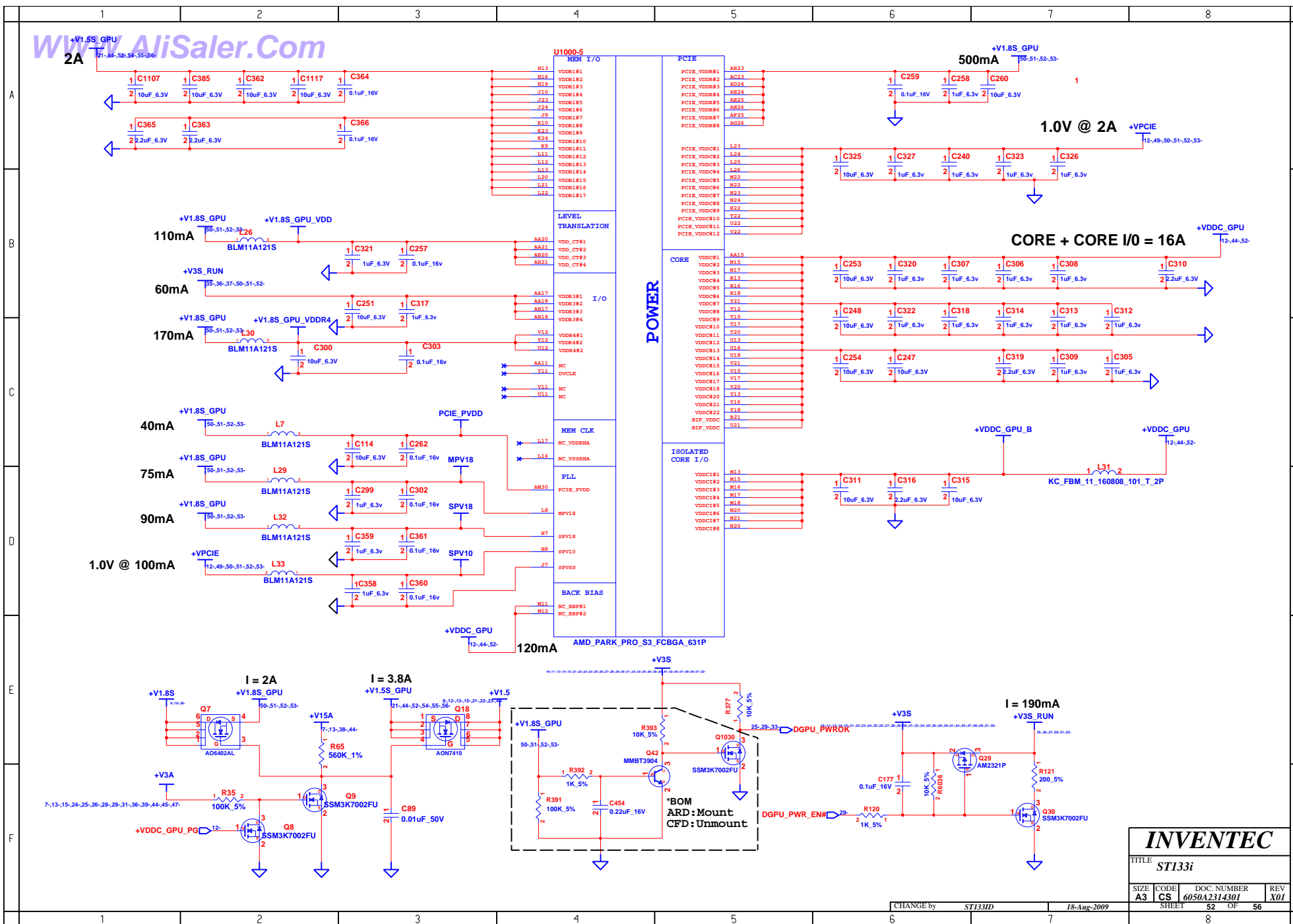
SIZE CODE DOC. NUMBER REV
A3 CS 6050A2314301 X01

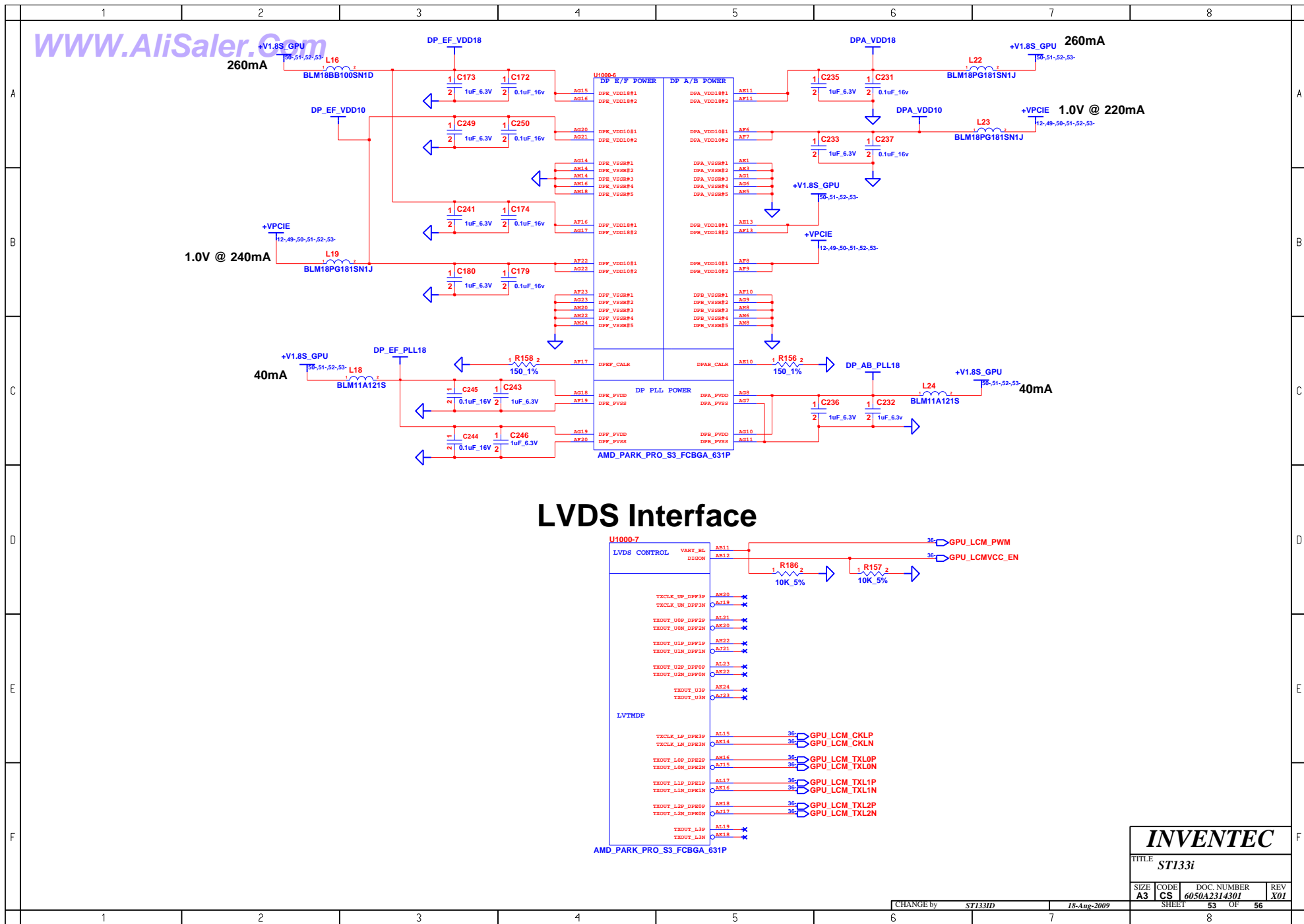
CHANGE by ST133ID 18-Aug-2009

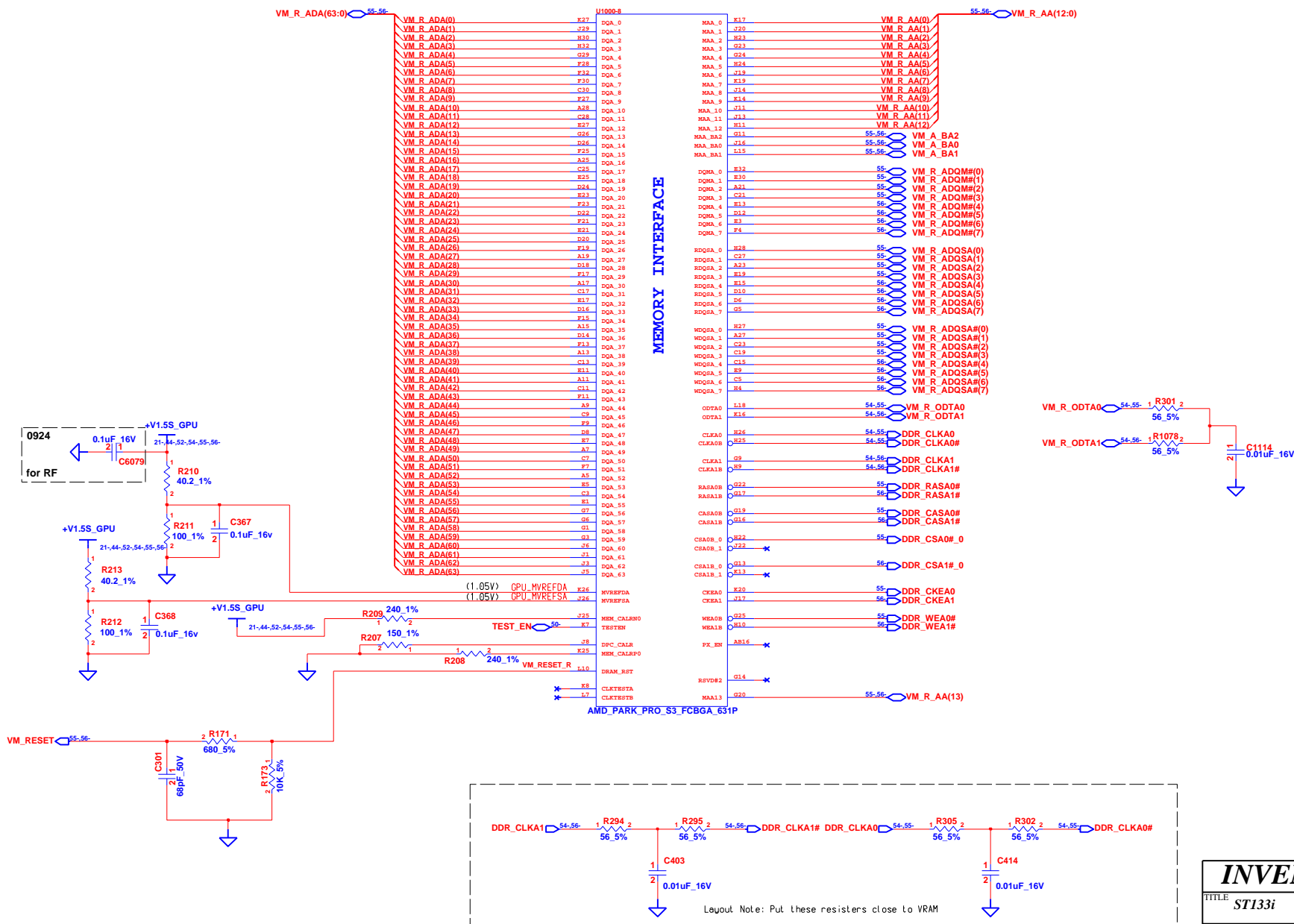
SHEET 50 OF 56



INVENTEC			
TITLE ST133i			
SIZE A3	CODE CS	DOC. NUMBER 6050A2314301	REV X01
CHANGE by ST133ID		18-Aug-2009	
SHEET 51		OF 56	







INVENTEC

TITLE
ST133i

SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2314301	X01

CHANGE by ST133ID 18-Aug-2009

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