Bitland Electronics Co.,LTD

Board name: Mother Board Schematic
Project name: BM5999
Version: REV:1.3
initial Date: 2010-04-21
New update:

Hardware drawing by:		Hardware check by:		EMI Check by:	
Power drawing by:		Power check by:			
		Manager Sign by:			

Bitland Information Technology Co.,Ltd		
Page Name	Title	
Size A3	Project Name BM5999	Rev 1.3
Date:	Sheet 1 of 42	

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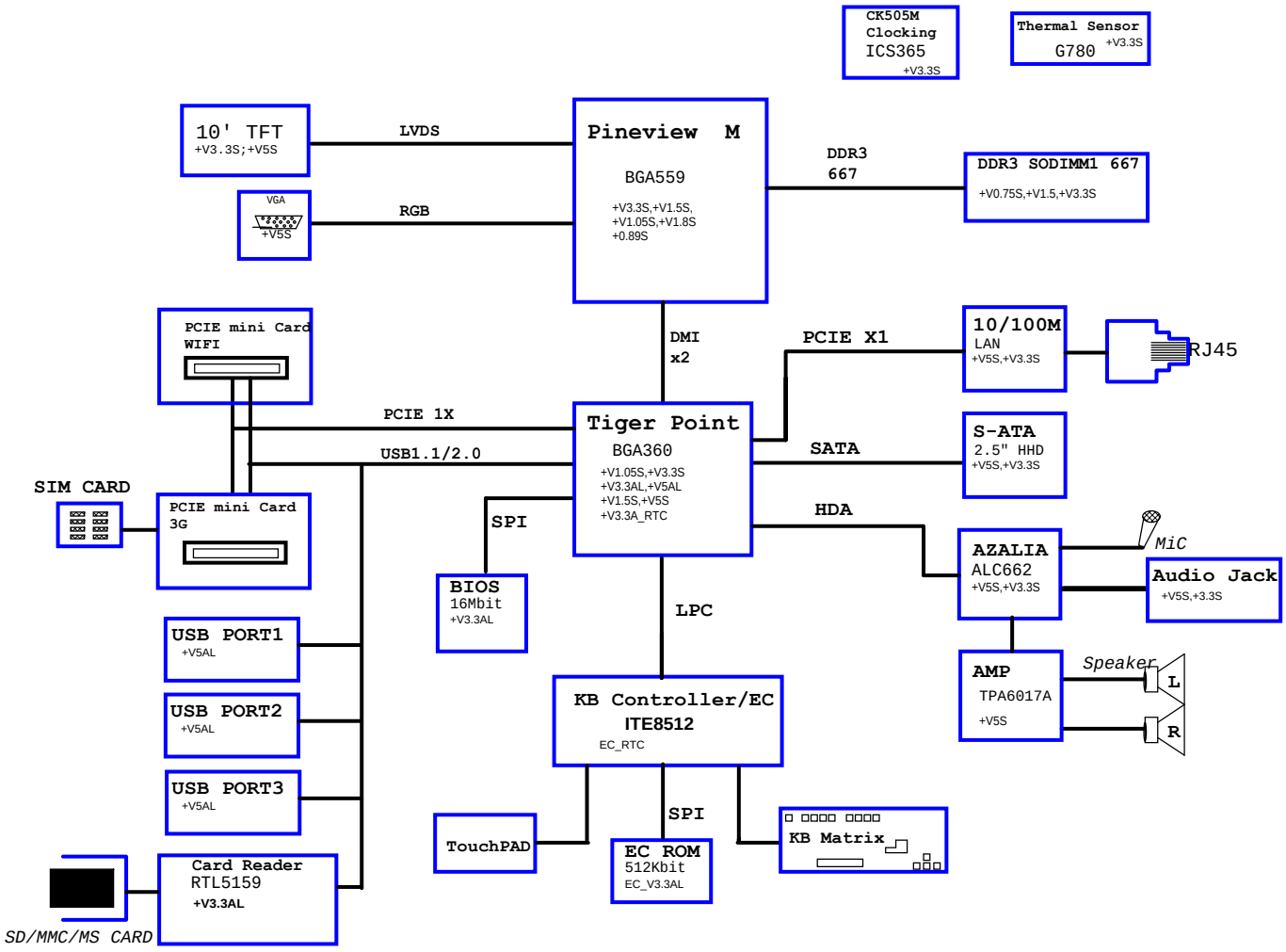
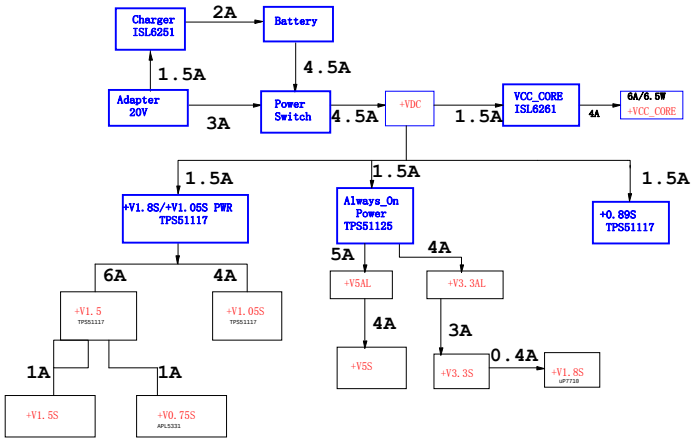
SYSTEM BLOCK Ver:C

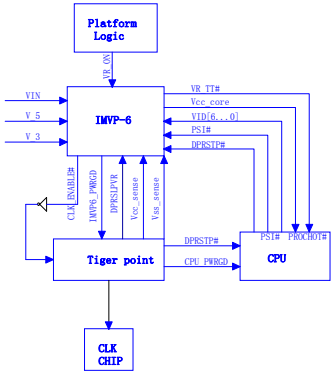
CONTENT



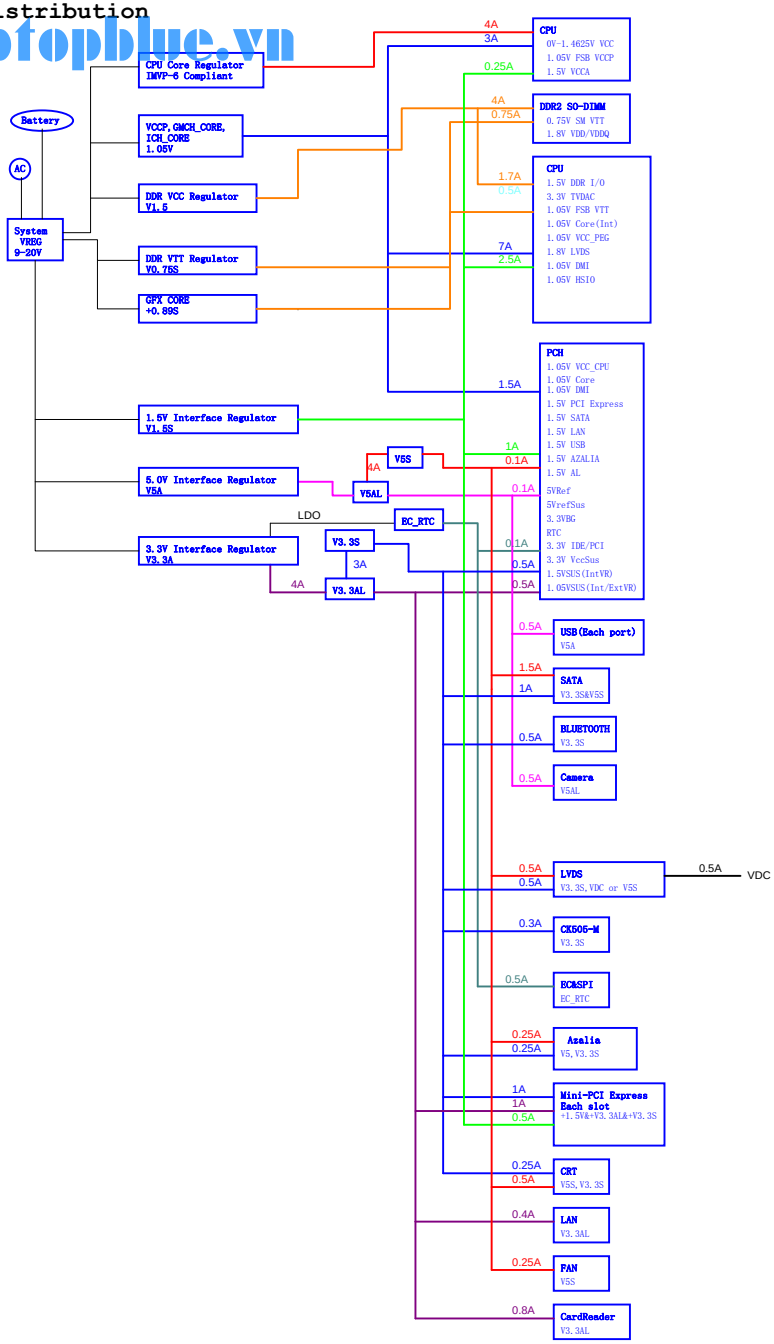
Bitland Information Technology Co.,Ltd		
Page Name	SYS BLOCK & SCH PAGE	
Size A3	Project Name BM5999	Rev 1.3
Date:	Sheet 2 of 42	

S18 POWER BLOCK Ver:A





POWER Distribution



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Page Name: PWR Block & description

Size: D | Project Name: BM5909 | Rev: 1.3

Date: | Sheet 3 of 42

Voltage Rails

+VDC	Primary DC system power supply (9V-20V)
+VBATTERY	Battery Power supply (9-20V)
+VCC_CORE	Core Voltage for CPU
+V1.05S	1.05V for Pineview & Tiger point core / FSB VTT
+V1.5	1.5V power rail for DDR3
+V0.75S	0.75V DDR3 Termination voltage
+V3.3AL	3.3V always on power rail
+V5AL	5V for ICH7-M's VCC5 Refsus
+V3.3S	3.3V main power rail
+V5S	5V main power rail
+V0.89S	0.89V for GFX

Board stack up description

PCB Layers	
Top(Signal1)	Trace Impedence:55ohm +/-15%
Power	
Ground	
Bottom(Signal4)	

USB Table

USB Port#	Function Description
0	
1	
2	
3	
4	
5	
6	
7	

I2C SMB Address

Device	Address	Hex	Master
Clock Generator	1101 001x	D2	ICH7-M
SO-DIMM0	1010 000x	A0	ICH7-M
CPU Thermal Sensor	1001 100x	98	KBC
Smart Battery	0001 011x	16	KBC
PCIE Slot	TBD	TBD	ICH7-M

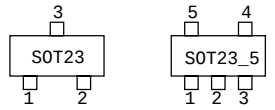
Power States

Signal	SLP_S3#	SLP_S4#	SLP_S5#	+V*ALW	+V*	+V*S	Clock
S0(Full On)	HIGH	HIGH	HIGH	ON	ON	ON	ON
S3(STM)	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4(STD)	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5(SoftOff)	LOW	LOW	LOW	ON	OFF	OFF	OFF

Wake up Events

LID switch from EC
Power switch from EC

PCB Footprints



ns: Component marked "ns" is not stuff

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Page Name: Notes & Anotation

Size: A3 | Project Name: BM5999 | Rev: 1.3

Date: | Sheet 4 of 42

Schematic modify Item and history:

Bitland Information Technology Co.,Ltd		
Page Name: Sch Modify and history		
Size: A3	Project Name: BM5999	Rev: 1.3
Date:	Sheet 5 of 42	

7,8,9,10,11,12,13,14,15,17,18,19,20,21,22,23,25,28,29,30,36 +V3.3S

+V3.3S

+V3.3S FB38 FB0603 100ohm@100MHz,3A

C3091 4.7UF/10V,Y5V C0805

C3093 4.7UF/10V,Y5V C0805

C3094 0.1uF/10V,X7R C0402

C3092 0.1uF/10V,X7R C0402

C3095 0.1uF/10V,X7R C0402

C3096 0.1uF/10V,X7R C0402

C3097 0.1uF/10V,X7R C0402

C3100 0.1UF/25V,Y5V C0402

+V3.3S_CK_VDD

+V3.3S +V1.05S

FB39 NC_100ohm@100MHz,3A FB0603

FB40 100ohm@100MHz,3A FB0603

+VDDIO_CLK

C3101 10UF/6.3V,X5R C0805

C3098 10UF/6.3V,X5R C0805

C3099 0.1uF/10V,X7R C0402

C3102 10UF/6.3V,X5R C0805

C3103 0.1uF/10V,X7R C0402

C3104 10UF/6.3V,X5R C0805

C3105 0.1uF/10V,X7R C0402

C3106 0.1uF/10V,X7R C0402

C3107 0.1uF/10V,X7R C0402

C3108 0.1uF/10V,X7R C0402

U509
ICS365
TSSOP64-0_5-17X8_1X1_2MM

Remove serial resistor
swap pins for layout

SMBUS ADD:1101 001X

VDD_PCI, VDD_48, VDD_PLL3, VDD_REF, VDD_SRC, VDD_CPU, VDD_IO, VDD_PLL3_IO, VDD_SRC_IO_1, VDD_SRC_IO_2, VDD_SRC_IO_3, VDD_CPU_IO

IO_VOUT

SMB_DATA SMB_CLK → SMB_DATA_S 11,13 / SMB_CLK_S 11,13

SRC5/PCI_STOP# → PM_STPPCI# 11

SRC5#/CPU_STOP# → PM_STPCPU# 11

CPU0 → CLK_CPU_BCLK 8

CPU0# → CLK_CPU_BCLK# 8

CPU1 → CLK_MCH_BCLK 7

CPU1# → CLK_MCH_BCLK# 7

SRC8/CPU2_ITP → CLK_MCH_3GPLL 7

SRC8#/CPU2#_ITP → CLK_MCH_3GPLL# 7

SRC10 → CLK_PCIE_LAN 19

SRC10# → CLK_PCIE_LAN# 19

SRC11/OE#_10 SRC11#/OE#_9

SRC9 SRC9#

SRC7/OE#_8 SRC7#/OE#_6

SRC6 → CLK_DMI_ICH 10

SRC6# → CLK_DMI_ICH# 10

SRC4 SRC4#

SRC3/OE#_0/2_B → CLK_PCIE_EXPCARD 22

SRC3#/OE#_1/4_B → CLK_PCIE_EXPCARD# 22

SRC2/SATA → CLK_SATA_ICH 10

SRC2#/SATA# → CLK_SATA_ICH# 10

SRC1/SE1 → DPL_REFSSCLKIN_DP 7

SRC1#/SE2 → DPL_REFSSCLKIN_DN 7

SRC0/DOT96 → CK_96M_DREF_DP 7

SRC0#/DOT96# → CK_96M_DREF_DN 7

CK_PWRGD/PWRDWN# → VR_PWRGD_CLK_EN 11

PCI0/OE#_0/2_A

PCI1/OE#_1/4_A

PCI2/TME

PCI3/FSD

PCI4/SRC5_SEL

PCIF5/ITP_EN

XTAL_IN

XTAL_OUT

USB_48/FSA

FSB/TEST_MODE

REF0/FSC/TEST_SEL

TME

25 PCI_CLK_EC R3761 22 R0402

22 PCI_CLK_DEBUG R3762 22 R0402

10 PCI_CLK_ICH R3763 22 R0402

27M_SEL

PCIF_ITP_EN

R3764 10K R0402

CLK_XTAL_IN

CLK_XTAL_OUT

No more than 500 mil

17 CLK_USB48_CR R3765 33.5% R0402

10 CLK_USB48_ICH R3766 33.5% R0402

CLK_BSEL0 R3767 2.2K R0402

CLK_BSEL1 R3768 1K 5% R0402

CLK_BSEL2 R3769 10K R0402

11 CLK_ICH14 R3770 33 R0402

0610 add 1k resistor

VSS_PCI, VSS_48, VSS_IO, VSS_PLL3, VSS_CPU, VSS_SRC_1, VSS_SRC_2, VSS_REF, VSS_SRC3

+V3.3S +V1.05S 8,9,10,11,12,29,34

BUS FREQUENCE SELECT

+V1.05S

R3776 NC_1K,5% R0402

R3777 NC_1K R0402

R3778 NC_1K R0402

C3110 0.1UF/25V,Y5V C0402

8 CPU_BSEL0 R3781 0 R0402 CLK_BSEL0

8 CPU_BSEL1 R3783 0.5% R0402 CLK_BSEL1

8 CPU_BSEL2 R3785 0 R0402 CLK_BSEL2

R3787 NC_1K R0402 ns

R3788 NC_1K R0402 ns

R3789 NC_1K R0402 ns

+V3.3S

R3775 NC_10K R0402 ns

27M_SEL

R3779 10K R0402

+V3.3S

TME R3780 10K R0402

0:Normal mode
1:No Overclocking

CLK_ICH14 C3109 NC_10PF/50V,NPO ns C0402

CLK_USB48_ICH C3111 NC_10PF/50V,NPO ns C0402

PCI_CLK_EC C3112 NC_10PF/50V,NPO ns C0402

PCI_CLK_ICH C3113 NC_10PF/50V,NPO ns C0402

C3114 27pF/50V,NPO C0402

Y8 14.318180MHz Y_5938

C3115 27pF/50V,NPO C0402

CLK_XTAL_IN

CLK_XTAL_OUT

+V3.3S

R3790 10K R0402

VR_PWRGD_CLK_EN 11

R3791 1K R0402

36 CK505_CLK_EN#

Q32 2N7002 SOT23

C3116 0.1uF/10V,X7R C0402

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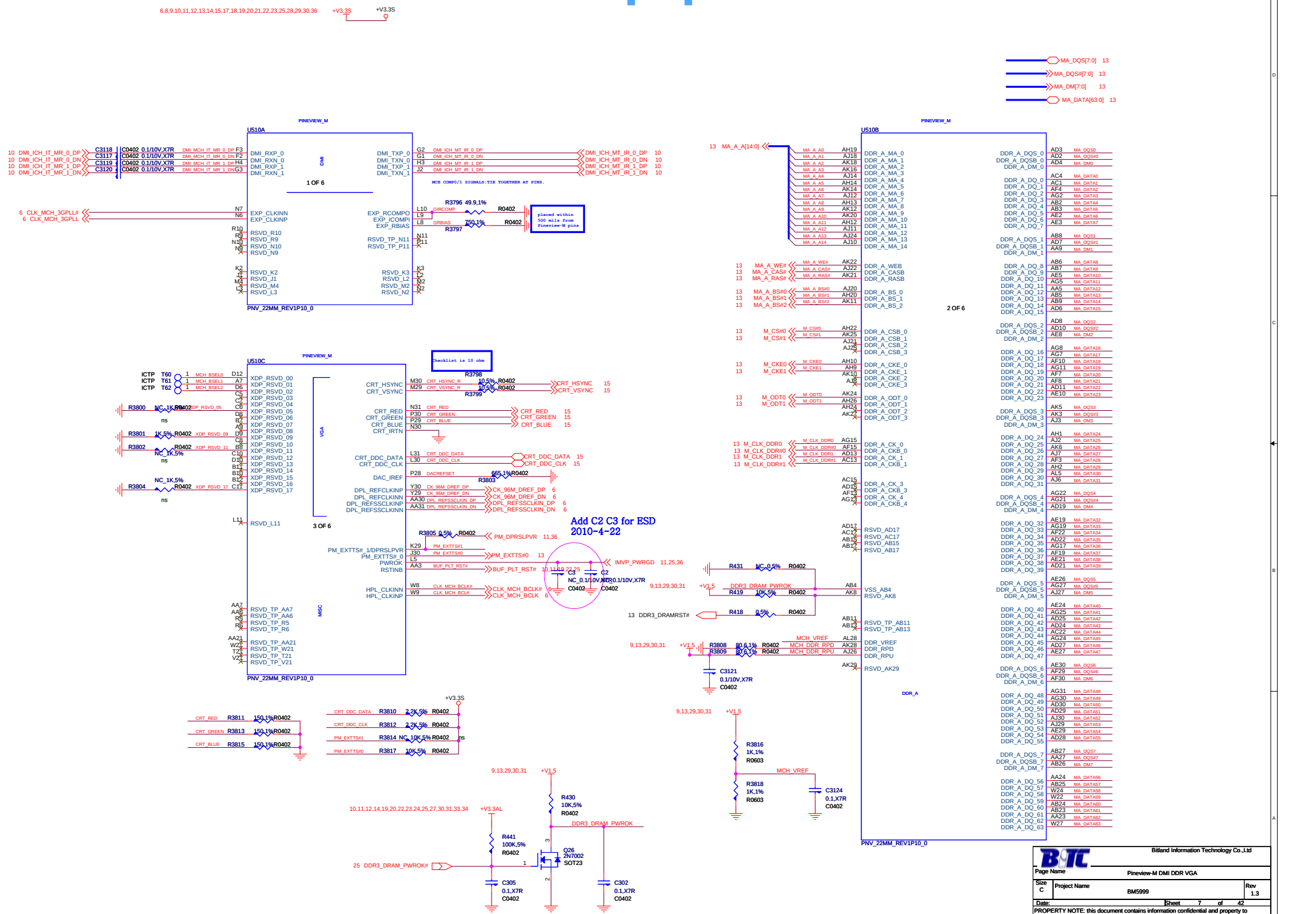
Page Name	CK505M	
Size A3	Project Name BM5999	Rev 1.3
Date:	Sheet 6 of 42	



Bitland Information Technology Co.,Ltd	
Page Name	Pineview-M DMI DDR VGA
Size C	Project Name BM5999
Rev	1.3
Date:	Sheet 7 of 42

+V3.3S 6,7,9,10,11,12,13,14,15,17,18,19,20,21,22,23,25,28,29,30,36

+V1.05S 6,9,10,11,12,29,34

6,7,9,10,11,12,13,14,15,17,18,19,20,21,22,23,25,28,29,30,36 +V3.3S +V3.3S

U510D PINEVIEW_M

14 MCH_LVDS_CLKAN MCH_LVDS_CLKAN U25 LVD_A_CLKM
14 MCH_LVDS_CLKAP MCH_LVDS_CLKAP U26 LVD_A_CLKP
14 MCH_LVDS_YAN0 MCH_LVDS_YAN0 R23 LVD_A_DATAM_0
14 MCH_LVDS_YAP0 MCH_LVDS_YAP0 R24 LVD_A_DATAP_0
14 MCH_LVDS_YAN1 MCH_LVDS_YAN1 N26 LVD_A_DATAM_1
14 MCH_LVDS_YAP1 MCH_LVDS_YAP1 N27 LVD_A_DATAP_1
14 MCH_LVDS_YAN2 MCH_LVDS_YAN2 R26 LVD_A_DATAM_2
14 MCH_LVDS_YAP2 MCH_LVDS_YAP2 R27 LVD_A_DATAP_2

ICH

LVDS

R0402 R3819 2.37K,1% LVD_IBG R22 LVD_IBG
J28 LVD_VBG
N22 LVD_VREFH
N23 LVD_VREFL
14 LVDS_BKLTEN LVDS_BKLTEN L27 LBKLT_EN
L26 LBKLT_CTL
L23 LCTLA_CLK
K25 LCTLB_CLK
14 L_DDC_CLK L_DDC_CLK K23 LDDC_CLK
14 L_DDC_DATA L_DDC_DATA K24 LDDC_DATA
14 LVDS_VDDEN LVDS_VDDEN H26 LVDD_EN

4 OF 6

+V3.3S
R3820 2.2K,5% R0402
R3821 2.2K,5% R0402
L_DDC_CLK
L_DDC_DATA

SMI_B E7 H_SMI# H_SMI# 10
A20M_B H7 H_A20M# H_A20M# 10
FERR_B H6 H_FERR# H_FERR# 10
LINT00 F10 H_INTR H_INTR 10
LINT10 F11 H_NMI H_NMI 10
IGNNE_B E5 H_IGNNE# H_IGNNE# 10
STPCLK_B F8 H_STPCLK# H_STPCLK# 10

DPRSTP_B G6 H_DPRSTP# H_DPRSTP# 11,36
DPSLP_B G10 H_DPSLP# H_DPSLP# 11
INIT_B G8 H_INIT# H_INIT# 10
PRDY_B E11
PREQ_B F15

THERMTRIP_B E13 PM_THRMTRIP# PM_THRMTRIP# 10

H_DPRSTP#
This Daisy-Chain CMOS topology should be routed from Tiger Point to Intel MYP-6, then to Pineview-M processor (in this order exactly).

PROCHOT_B C18 VR_PROCHOT#
CPUPWRGOOD W1 H_PWRGD H_PWRGD 11

GTLREF A13 CPU_GTLREF
VSS_H27 H27

R3830 1K,1% R0603 +V1.05S
C3126 1UF/10V,X7R C0603
R3831 2K,1% R0402
C3127 0.1,X7R C0402

Voltage divider should be placed within 0.5" of processor pin.

RSVD_L6 L6
RSVD_E17 E17

BCLKN H10 CLK_CPU_BCLK CLK_CPU_BCLK# 6
BCLKP J10 CLK_CPU_BCLK CLK_CPU_BCLK 6

BSEL_0 K5 CPU_BSEL0 CPU_BSEL0 6
BSEL_1 H5 CPU_BSEL1 CPU_BSEL1 6
BSEL_2 K6 CPU_BSEL2 CPU_BSEL2 6

VID_0 H30 CPU_VID0 CPU_VID0 36
VID_1 H29 CPU_VID1 CPU_VID1 36
VID_2 H28 CPU_VID2 CPU_VID2 36
VID_3 G30 CPU_VID3 CPU_VID3 36
VID_4 G29 CPU_VID4 CPU_VID4 36
VID_5 F29 CPU_VID5 CPU_VID5 36
VID_6 E29 CPU_VID6 CPU_VID6 36

RSVD_L7 L7
RSVD_D20 D20
RSVD_H13 H13
RSVD_D18 D18
RSVD_TP_K9 K9
RSVD_TP_D19 D19
EXTBGREF K7 EXTBGREF

+V1.05S
R3848 976,1% R0402
C3128 0.1,X7R C0402
C3129 1UF/10V,X7R C0603
R3849 3.32K,1% R0402

Voltage divider should be placed within 0.5" of processor pin.

G11 BPM_1B_0
E15 BPM_1B_1
G13 BPM_1B_2
F13 BPM_1B_3

B18 BPM_2_0#/RSVD
B20 BPM_2_1#/RSVD
C20 BPM_2_2#/RSVD
B21 BPM_2_3#/RSVD

CPU

+V1.05S
R3843 62.5% R0402 CPU_RSVD_0 G5 RSVD_G5
R3844 51.5% R0402 H_TDI D14 TDI
R3845 51.5% R0402 D13 TDO
R3846 51.5% R0402 H_TMS C14 TMS
R3847 51.5% R0402 H_TRST_N C16 TRST_B

H_THERMDA D30 THRMDA_1
H_THERMDC E30 THRMDC_1

C30 RSVD_C30
D31 RSVD_D31

PNV_22MM_REV1P10_0

+V3.3S
R3851 10K,5% R0402
EC_PROCHOT# 25
+V1.05S
R3854 1K,5% R0402
Q33 MMBT3904-F SOT23
R3855 1K,5% R0402
Q34 MMBT3904-F SOT23
R3856 1K R0402
+V1.05S +V1.05S
VR_PROCHOT#

R3850 220 R0402 +V3.3S
C3130 0.1uF/10V,X7R C0402
0622 change to TI,TMP411

EC SMBUS ADD:1001 100X

H_THERMDA
H_THERMDC
C3131 2200pF/50V,X7R C0402
U511 TMP411,TI
VDD SCL
D+ SDA
D- ALERT#
THERM# GND
I2C_CLK 25
I2C_DATA 25
C3132 27pF/50V,NPO C0402
C3133 27pF/50V,NPO C0402
R3858 10K R0402 +V3.3S
R3853 10K R0402 +V3.3S

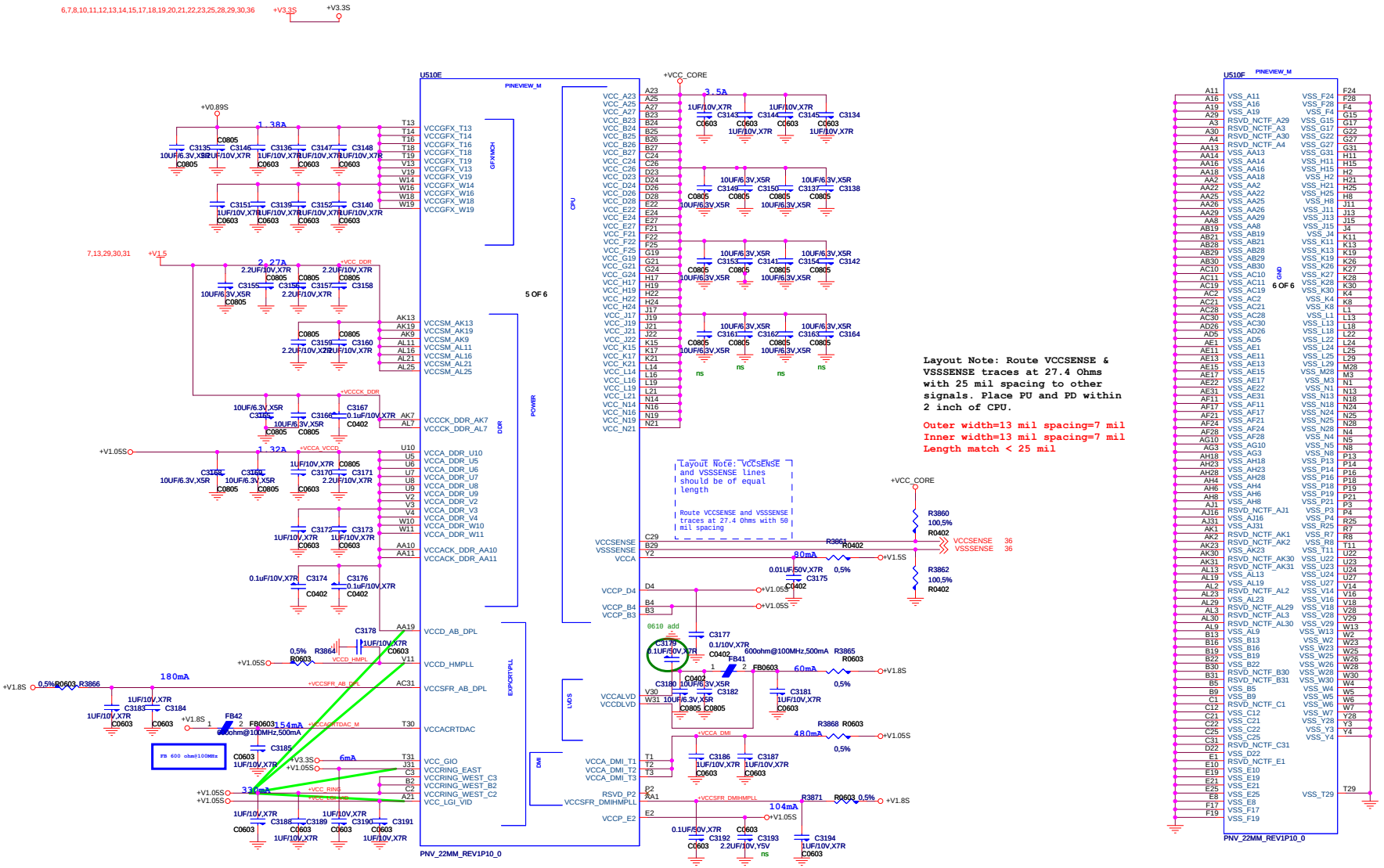
NOTE

1.H_THERMDA/C线宽10 MILS,并配对走线,
然后再包地处理.

2.H_THERMDA/C走线远离19V及VGA或高速线走线

Bitland Information Technology Co.,Ltd		
Page Name	Pineview-M HOST LVDS	
Size C	Project Name BM5999	Rev 1.3
Date:	Sheet 8 of 42	

+V3.3S 6,7,8,10,11,12,13,14,15,17,18,19,20,21,22,23,25,28,29,30,36
+VCC_CORE 36
+V1.05S 6,8,10,11,12,29,34
+V1.5S 12,22,29,30
+V0.89S 29,32
+V1.8S 34



Bitland Information Technology Co.,Ltd
Page Name: Pineview-M POWER GND
Size: C
Project Name: BM5999
Rev: 1.3
Date:
Sheet 9 of 42

+V3.3AL 7,11,12,14,19,20,22,23,24,25,27,30,31,33,34
+V3.3S 6,7,8,9,11,12,13,14,15,17,18,19,20,21,22,23,25,28,29,30,36
+V1.5S_PCIE_ICH 12
+V1.05S 6,8,9,11,12,29,34

6,7,8,9,11,12,13,14,15,17,18,19,20,21,22,23,25,28,29,30,36 +V3.3S +V3.3S

U512A TGP

PCI_CLK_ICH 6 → ICTP T67 → PCICLK
PCI_DEVSEL# PCI_CLK_ICH PCI_IRDY# PCI_SERR# PCI_STOP# PCI_LOCK# PCI_TRDY# PCI_PERR# PCI_FRAME#
GNT2# PCI_REQ#0 PCI_REQ#1
STRAP1# STRAP2# TP1_GPIO22_PU_C15 ICH_GPIO1
INT_PIRQA# INT_PIRQB# INT_PIRQC# INT_PIRQD# INT_PIRQE# INT_PIRQF# INT_PIRQG# INT_PIRQH#
STRAP0# TPT_K9_RSVD_PU TPT_M13_RSVD_PU

PAR DEVSEL# PCICLK PCIRST# IRDY# PME# SERR# STOP# PLOCK# TRDY# PERR# FRAME#
GNT1# GNT2#
REQ1# REQ2#
GPIO48/ STRAP1# GPIO17/ STRAP2# GPIO22 GPIO1
PIRQA# PIRQB# PIRQC# PIRQD# PIRQE#/GPIO2 PIRQF#/GPIO3 PIRQG#/GPIO4 PIRQH#/GPIO5
STRAP0# RSVD01 RSVD02
AD0 AD1 AD2 AD3 AD4 AD5 AD6 AD7 AD8 AD9 AD10 AD11 AD12 AD13 AD14 AD15 AD16 AD17 AD18 AD19 AD20 AD21 AD22 AD23 AD24 AD25 AD26 AD27 AD28 AD29 AD30 AD31
C/BE0# C/BE1# C/BE2# C/BE3#

TGP_0

+V3.3S → R3874 8.2K,5% R0402 → R3875 0,5% R0402 → 11,25 EC_RUNTIME_SCI
R3877 10K,5% R0402 R3878 8.2K,5% R0402 +V3.3S

NC_1K,5% R3880 R0402 STRAP0# ns

STRAP0#:This signal has a weak internal pull-up
If the signal is sampled low, this indicates that the system is strapped to the "top-block swap" mode (Tiger Point inverts A16 for all cycles targeting FWH BIOS space)

ICTP T68 1 STRAP1# → R3881 1K,5% R0402 STRAP2#

STRAP2/GPIO[17] is MSB, STRAP1#/GPIO[48] is LSB
01-SPI
10-PCI
11-LPC

ICTP T69 1 GNT2#

GNT2#:This signal has a weak internal pull-up
This signal should not be pulled low.

+V3.3S
RN34 RN8-0402-5938: PCI_DEVSEL# PCI_FRAME# PCI_STOP# PCI_REQ#1 8.2K,5%
RN35 RN8-0402-5938: INT_PIRQA# INT_PIRQC# INT_PIRQF# INT_PIRQH# 8.2K,5%
RN36 RN8-0402-5938: INT_PIRQD# PCI_TRDY# PCI_PERR# PCI_SERR# 8.2K,5%
RN37 RN8-0402-5938: INT_PIRQB# PCI_IRDY# INT_PIRQG# INT_PIRQE# 8.2K,5%
PCI_LOCK# R3883 8.2K,5% R0402
PCI_REQ#0 R3882 8.2K,5% R0402

U512B TGP

7 DMI_ICH_MT_IR_0_DN 7 DMI_ICH_MT_IR_0_DP 7 DMI_ICH_IT_MR_0_DN 7 DMI_ICH_IT_MR_0_DP 7 DMI_ICH_MT_IR_1_DN 7 DMI_ICH_MT_IR_1_DP 7 DMI_ICH_IT_MR_1_DN 7 DMI_ICH_IT_MR_1_DP
19 PCIE_RXN0_LAN 19 PCIE_RXP0_LAN 19 PCIE_TXN0_LAN 19 PCIE_TXP0_LAN 22 PCIE_RXN1_SLOT 22 PCIE_RXP1_SLOT 22 PCIE_TXN1_SLOT 22 PCIE_TXP1_SLOT
C3195 C0402 0.1,X7R C3196 C0402 0.1,X7R C3197 C0402 0.1,X7R C3198 C0402 0.1,X7R

DMI0RXN DMI0RXP DMI0TXN DMI0TXP DMI1RXN DMI1RXP DMI1TXN DMI1TXP DMI2RXN DMI2RXP DMI2TXN DMI2TXP DMI3RXN DMI3RXP DMI3TXN DMI3TXP
PERN1 PERP1 PETN1 PETP1 PERN2 PERP2 PETN2 PETP2 PERN3 PERP3 PETN3 PETP3 PERN4 PERP4 PETN4 PETP4
USBP0N USBP0P USBP1N USBP1P USBP2N USBP2P USBP3N USBP3P USBP4N USBP4P USBP5N USBP5P USBP6N USBP6P USBP7N USBP7P
OC0# OC1# OC2# OC3# OC4# OC5#/GPIO29 OC6#/GPIO30 OC7#/GPIO31
USBRBIAS USBRBIAS#
CLK48
DMI_ZCOMP DMI_IRCOMP
DMI_CLKN DMI_CLKP

USB_PORT_PN0 20 USB_PORT_PP0 20 USB_PORT_PN1 20 USB_PORT_PP1 20
MINICARD_USB_PN2 23 MINICARD_USB_PP2 23 MINICARD_USB_PN3 22 MINICARD_USB_PP3 22
USB_CR_PN4 17 USB_CR_PP4 17
USB_PORT_PN5 24 USB_PORT_PP5 24
USB_BT_PN6 21 USB_BT_PP6 21
USB_CAM_PN7 14 USB_CAM_PP7 14
USB_OC13# 20 USB_OC7# 24
R3873 10K,5% +V3.3AL
R0402
USB_RBIAS_PN R3876 22.6,1% R0402
CLK_USB48_ICH R3962 R0402 NC_3.3,1% C3272 NC_22P,X7R C0402 → CLK_USB48_ICH 6

+V3.3AL
R1 10K,5% R0402
R2 10K,5% R0402

MINI PCIE2 SLOT USB PORT
USB PORT1
BLUE TOOTH
USB PORT2
CARD READER
MINI PCIE1 SLOT USB PORT
CAMERA
USB PORT3

+V1.5S_PCIE_ICH R3879 R0402 24.9,1% DMI_IRCOMP_R
6 CLK_DMI_ICH# 6 CLK_DMI_ICH
CLK_DMI_ICH# CLK_DMI_ICH
C3199 0.1U,X7R C0402

U512C TGP

RSVD03 RSVD04 RSVD05 RSVD06 RSVD07 RSVD08 RSVD09 RSVD10 RSVD11 RSVD12 RSVD13 RSVD14 RSVD15 RSVD16 RSVD17 RSVD18
RSVD19 RSVD20 RSVD21 RSVD22 RSVD23 RSVD24 RSVD25 RSVD26 RSVD27 RSVD28 RSVD29 RSVD30 RSVD31
GPIO36

SATA0RXN SATA0RXP SATA0TXN SATA0TXP SATA1RXN SATA1RXP SATA1TXN SATA1TXP
SATA_RXN0 16 SATA_RXP0 16 SATA_TXN0 16 SATA_TXP0 16
C0402 C3200 0.01UF/25V_X7R C0402 C3201 0.01UF/25V_X7R
R3960 ns R0402 NC_1K,5% R3961 ns R0402 NC_1K,5%

within 500 mils of the ICH7-M
SATA_CLKN SATA_CLKP → CLK_SATA_ICH# 6 CLK_SATA_ICH 6
SATARBIAS# SATARBIAS SATALED# → HDD_LED# 20
R0402 SATARBIAS_ICH R3884 24.9,1%
R0402 R3885 10K,5% +V3.3S

SATALED#:This signal has a weak internal pull-up
This signal should not be pulled low.

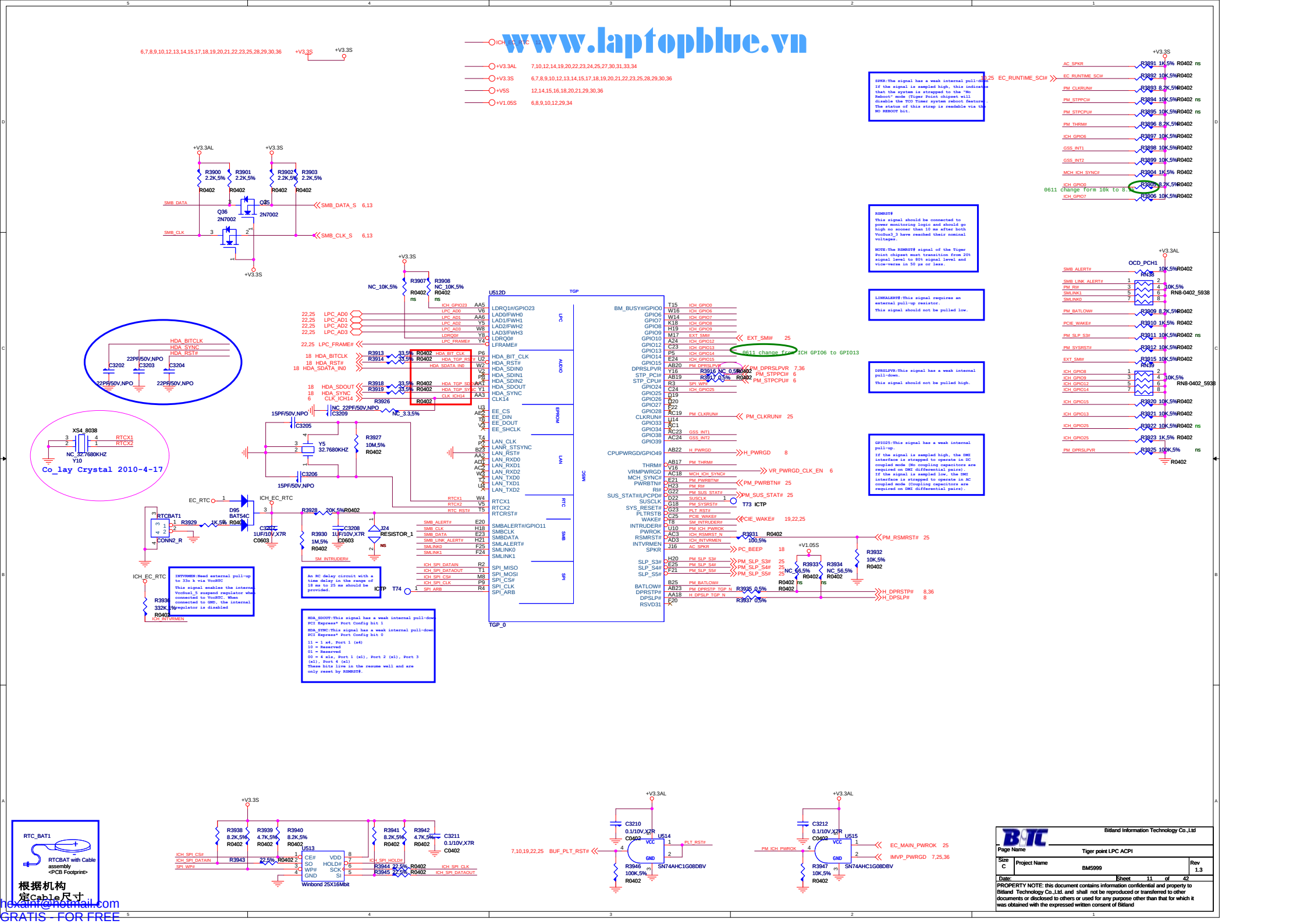
A20GATE A20M# CPUSLP# IGNNE# INIT3_3V# INIT# INTR FERR# NMI RCIN# SERIRQ SMI# STPCLK# THERMTRIP#
T71 ICTP
H_A20GATE 25 H_A20M# 8 H_CPUSLP_N 1 H_IGNNE 8 H_INIT# 8 H_INTR 8 H_FERR# 8 H_NMI 8 H_RCIN# 25 INT_SERIRQ 25 H_SMI# 8 H_STPCLK# 8 PM_THRMTRIP# 8

+V1.05S
R3886 56,5% R0402
+V3.3S
R3887 8.2K,5% R0402
R3889 0,5% R0402 atom 24.9%
R3890 56,5% R0402 +V1.05S

R3888 R0402 10K,5% +V3.3S DBGSTRP_SET_UP

+V1.05S
R3867 330ohm,5% R0402
THERMTRIP# → Q37 MMBT3904-F SOT23
Q24 2N7002 SOT23
R3869 0R,5% R0402 → EC_RST# 25
R3870 0R,5% R0402 → FORCE_OFF# 33
7,11,19,22,25 BUF_PLT_RST#

Bitland Information Technology Co.,Ltd	
Page Name	Tiger Piont PCI DMI USB HOST
Size C	Project Name BM5999
Rev	1.3
Date:	Sheet 10 of 42



ICH_EC_RTC 11
+V3.3AL 7,10,11,14,19,20,22,23,24,25,27,30,31,33,34
+V5AL 20,24,29,30,31,32,33,34
+V3.3S 6,7,8,9,10,11,13,14,15,17,18,19,20,21,22,23,25,28,29,30,36
+V5S 14,15,16,18,20,21,29,30,36
+V1.05S 6,8,9,10,11,29,34
+V1.5S 9,22,29,30
+V1.5S_PCIE_ICH 10

6,7,8,9,10,11,13,14,15,17,18,19,20,21,22,23,25,28,29,30,36 +V3.3S +V3.3S

D96 1N5819 SOD123 +V3.3S
VCC5REF R3948 R0603 100,5% +V5S
C3213 1UF/10V,X7R C0603
Layout note: 0.1uF needs be placed within 100mils of TigerPoint F12

D97 1N5819 SOD123 +V3.3AL
VCC5REF_SUS R3949 R0603 10,5% +V5AL
C3214 0.1,X7R C0402
Layout note: 0.1uF needs be placed within 100mils of pin F5 of TP

U512E TGP POWER TGP_0

VCC5REF	F12	VCC5REF	6mA
VCC5REF_SUS	F5	VCC5REF_SUS	10mA
VCCSATAPLL	Y6	VCCSATAPLL	45mA
VCCRTC	AE3		2mA
VCCDMIPLL	Y25	VCCDMIPLL	24mA
VCCUSBPLL	F6	VCCUSBPLL	10mA
V_CPU_IO	W18		14mA
VCC1_5_1	AA8		1.422A
VCC1_5_2	M9		
VCC1_5_3	M20		
VCC1_5_4	N22		
VCC1_05_1	J10		955mA
VCC1_05_2	K17		
VCC1_05_3	P15		
VCC1_05_4	V10		
VCC3_3_1	H25		216mA
VCC3_3_2	AD13		
VCC3_3_3	F10		
VCC3_3_4	G10		
VCC3_3_5	R10		
VCC3_3_6	T9		
VCCSUS3_3_1	F18		
VCCSUS3_3_2	N4		92mA
VCCSUS3_3_3	K7		
VCCSUS3_3_4	F1		

ICH_EC_RTC +V1.5S +V1.5S_PCIE_ICH

FB44 FBD603 60ohm,1A C3215 0.1,X7R C0402 C3216 10UF/6.3V,X5R C0805
FB45 FBD603 60ohm,1A C3219 0.01u,X7R C0402 C3220 4.7U/10V,X5R C0805
FB46 FBD603 60ohm,1.5A C3223 1UF/10V,X7R C0603 C3224 10UF/6.3V,X5R C0805
C3217 0.1,X7R C0402 C3218 0.1,X7R C0402
Layout note: needs be placed closed to pin AE3 of ICH7M
Layout note: PLACE NEAR PIN VCCAUPLL F6

OCD_PCHZ 0.1,X7R C0402 C3221 0.1,X7R C0402 C3222 1UF/10V,X7R C0603
C3225 1UF/10V,X7R C0603 C3226 1UF/10V,X7R C0603 C3227 10UF/6.3V,X5R C0805 +V1.05S
C3228 1UF/10V,X7R C0603 C3229 0.1,X7R C0402 C3230 1UF/10V,X7R C0603 C3231 0.1,X7R C0402 C3232 1UF/10V,X7R C0603 C3233 1UF/10V,X7R C0603 +V3.3S
Place near VCCPPC1,VCCPPC
C3234 0.1,X7R C0402 C3235 1UF/10V,X7R C0603 C3236 1UF/10V,X7R C0603 C3237 10UF/16V,Y5V C0805 +V3.3AL

U1LB U512F TGP TGP_0

VSS01	A1	VSS57	G24
VSS02	A25	VSS58	AE13
VSS03	B6	VSS59	F2
VSS04	B10		
VSS05	B16		
VSS06	B20		
VSS07	B24		
VSS08	E18		
VSS09	F16		
VSS10	G4		
VSS11	G8		
VSS12	H1		
VSS13	H4		
VSS14	H5		
VSS15	K4		
VSS16	K8		
VSS17	K11		
VSS18	K19		
VSS19	K20		
VSS20	L4		
VSS21	M7		
VSS22	M11		
VSS23	N3		
VSS24	N12		
VSS25	N13		
VSS26	N14		
VSS27	N23		
VSS28	P11		
VSS29	P13		
VSS30	P19		
VSS31	R14		
VSS32	R22		
VSS33	T2		
VSS34	T22		
VSS35	V1		
VSS36	V7		
VSS37	V8		
VSS38	V19		
VSS39	V22		
VSS40	V25		
VSS41	W12		
VSS42	W22		
VSS43	Y2		
VSS44	Y24		
VSS45	AB4		
VSS46	AB6		
VSS47	AB7		
VSS48	AB8		
VSS49	AC8		
VSS50	AD2		
VSS51	AD10		
VSS52	AD20		
VSS53	AD24		
VSS54	AE1		
VSS55	AE10		
VSS56	AE25		
RSVD32	AE16		

Bitland Information Technology Co.,Ltd
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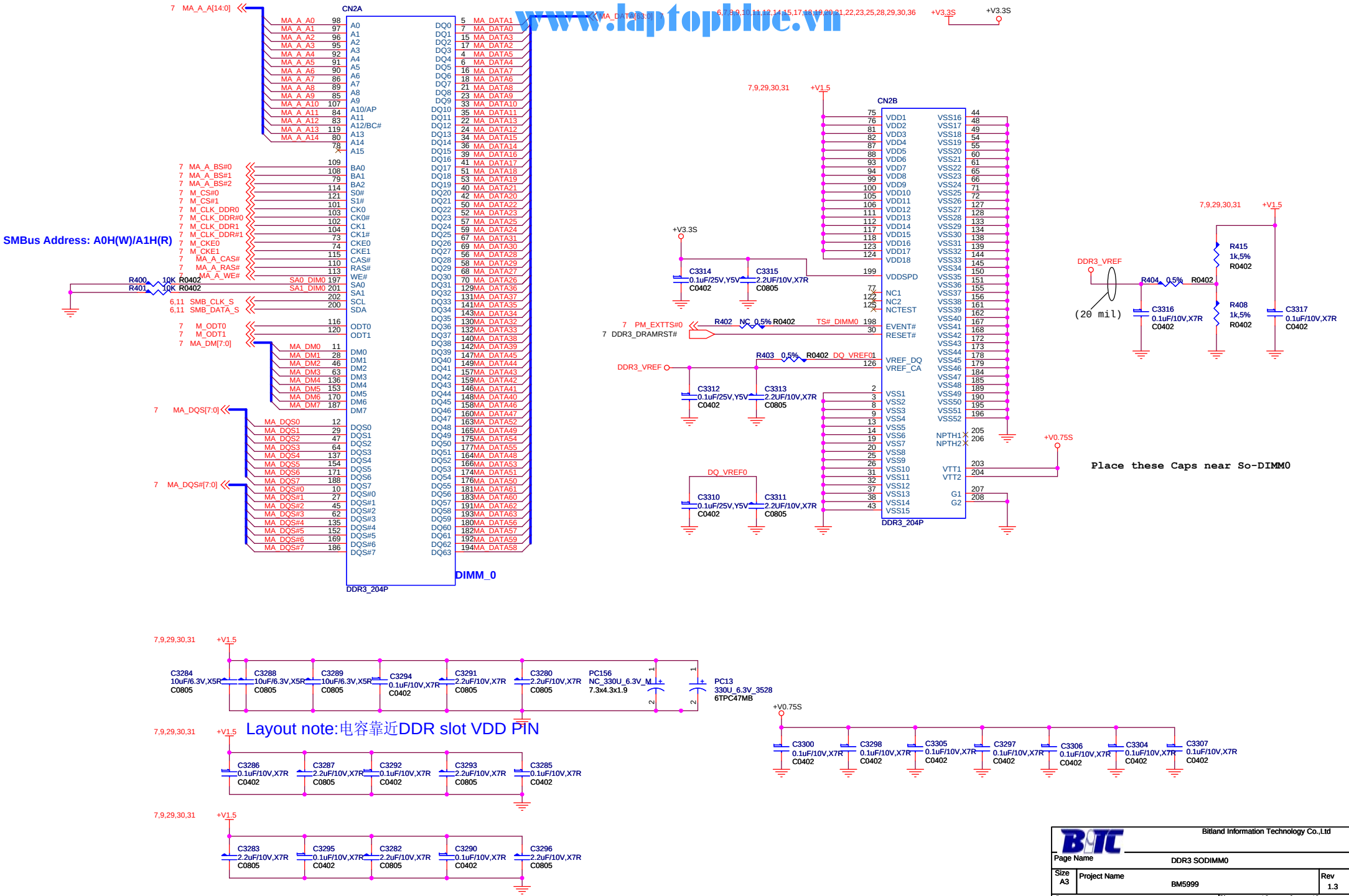
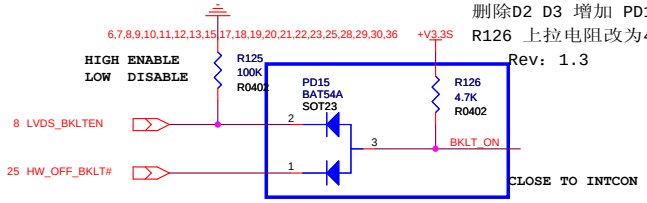
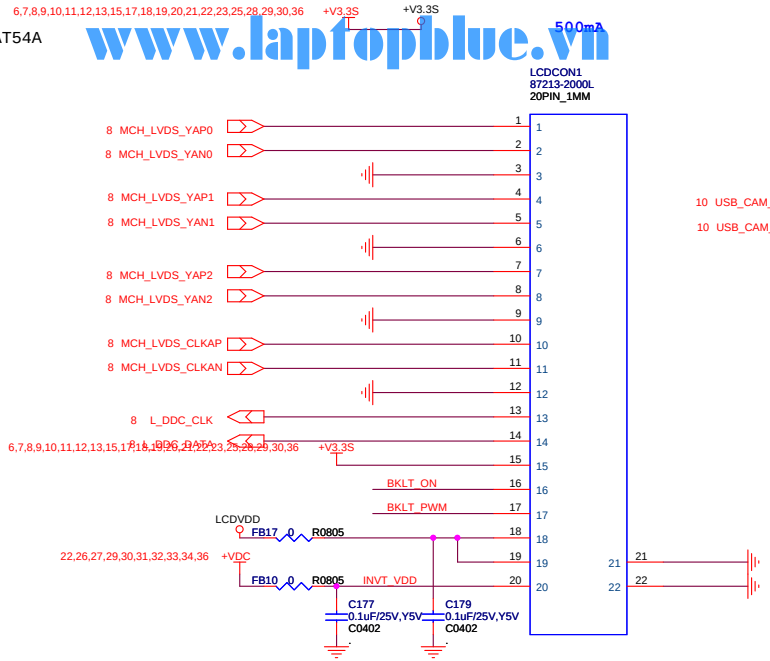
Size: C | Project Name: BM5999 | Rev: 1.3
Date: Sheet 12 of 42

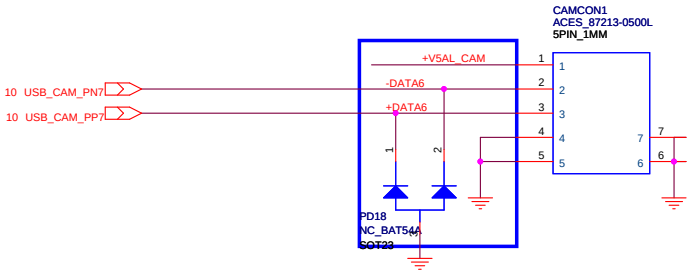


Bitland Information Technology Co.,Ltd	
Page Name	DDR3 SODIMM0
Size A3	Project Name BM5999
Rev	1.3
Date:	Sheet 13 of 42

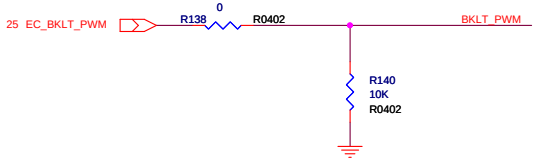
删除D2 D3 增加 PD15 BAT54A
R126 上拉电阻改为4.7k
Rev: 1.3



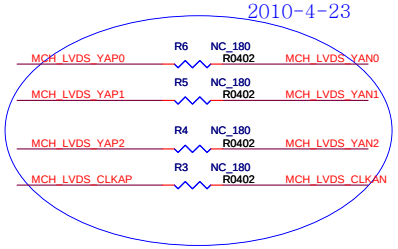


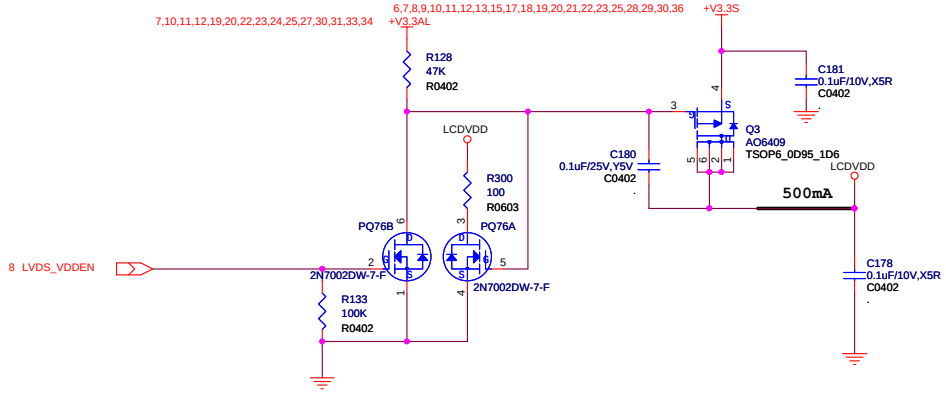


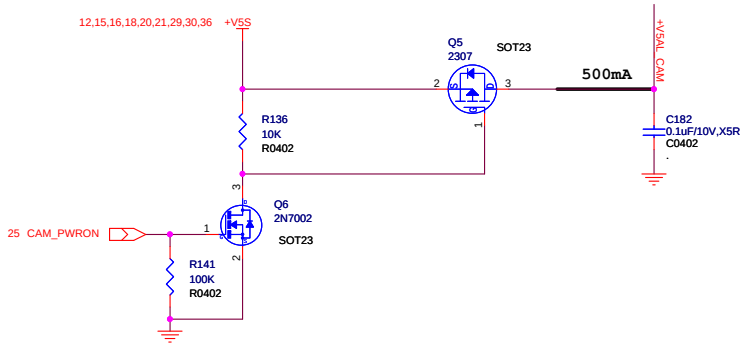
增加 ESD保护



Add for LVDS EMI
2010-4-23







SPWG Require LCDVDD rising time is 0.5-10ms,
1-10ms is better.

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PAGE DETAIL	<Doc>		

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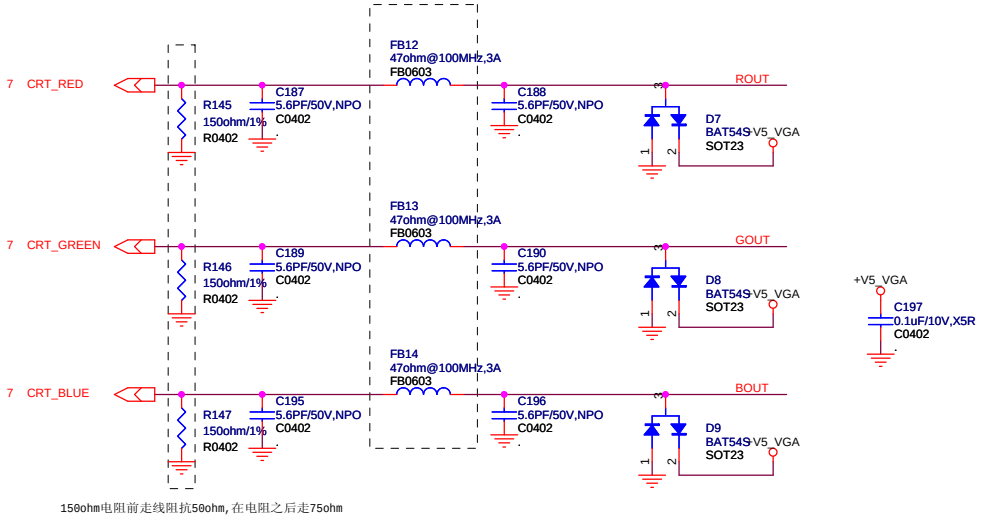
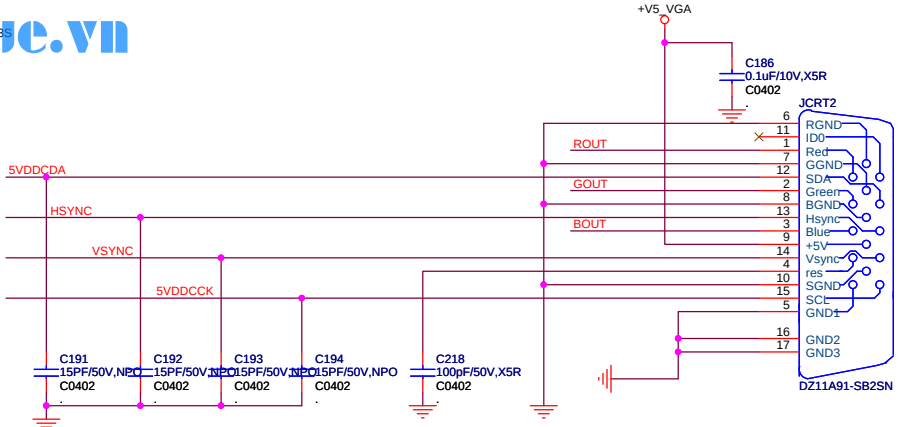
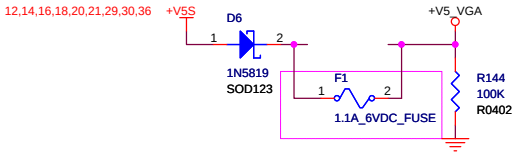
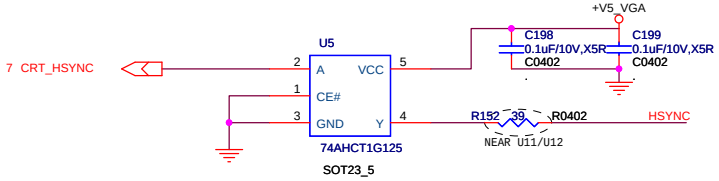
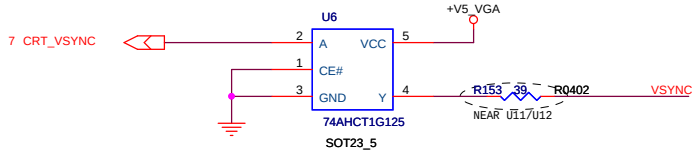
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen			
BITC_PN	BM5999	Rev	1.3
ID	LVDS	Size	Custom
Date		Sheet	14 of 42

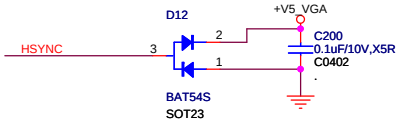


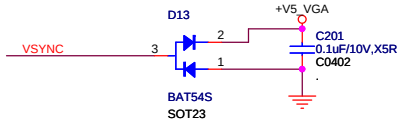


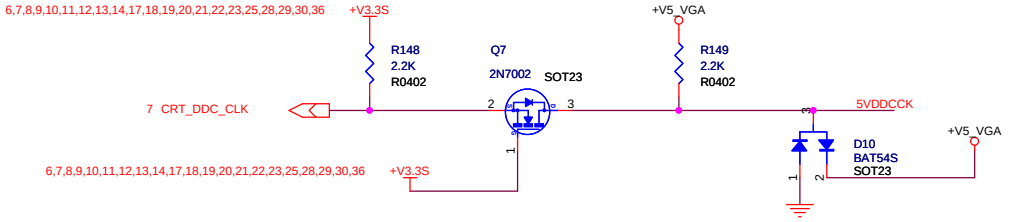


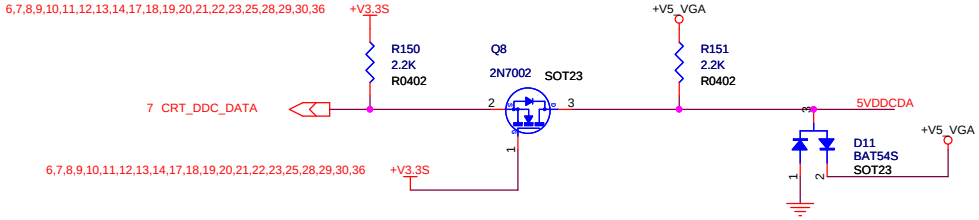












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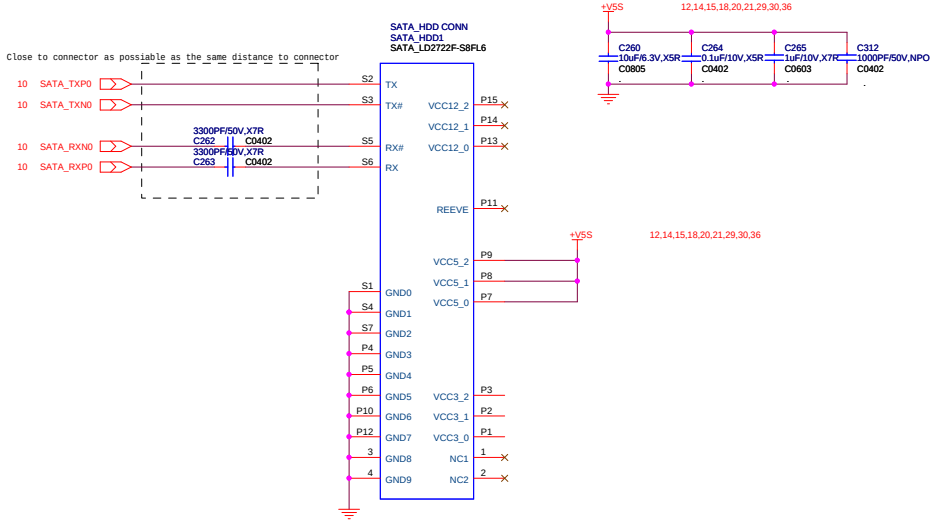
		Sheet	15 of 42



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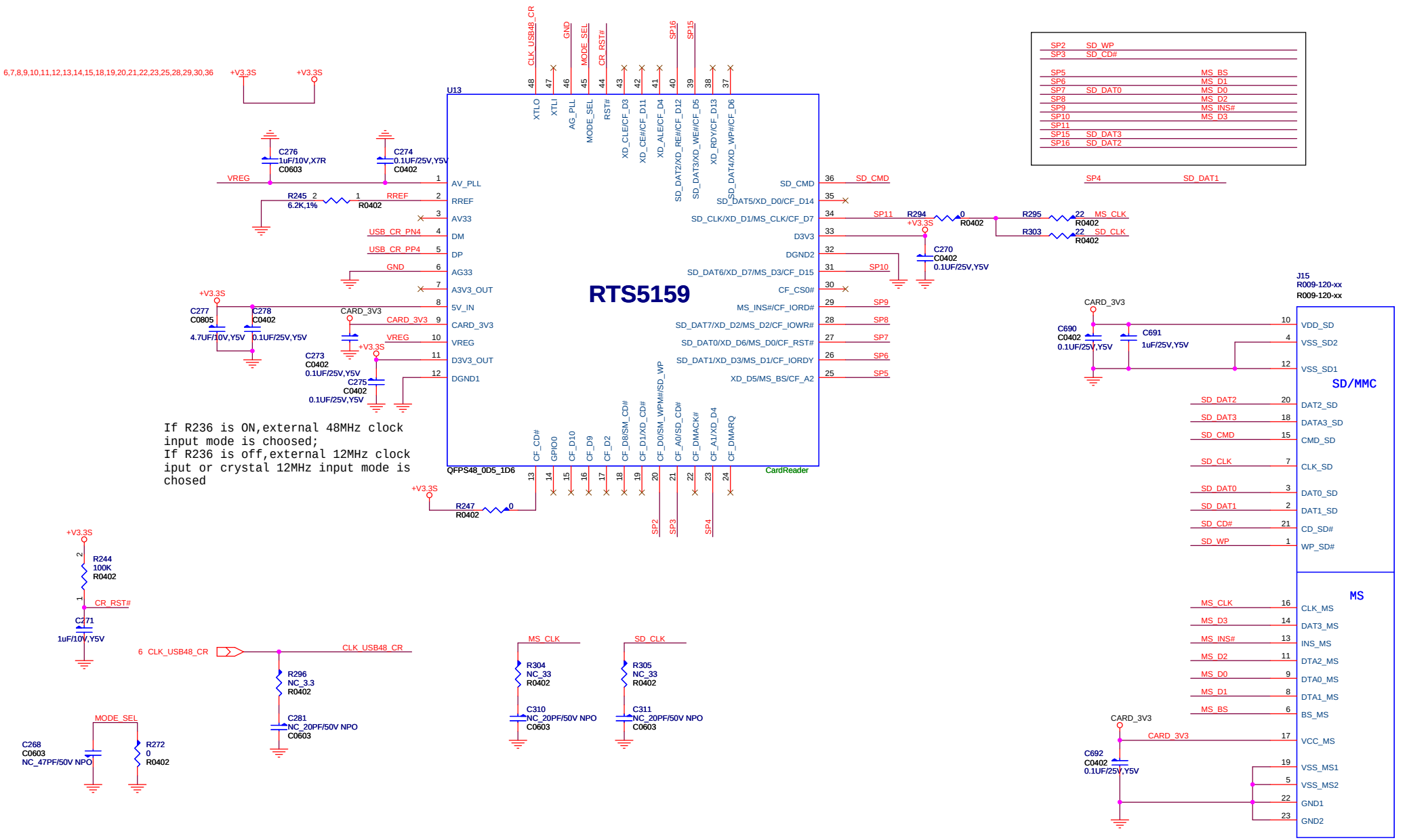

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BITC_PN	BM5999	Rev	1.3
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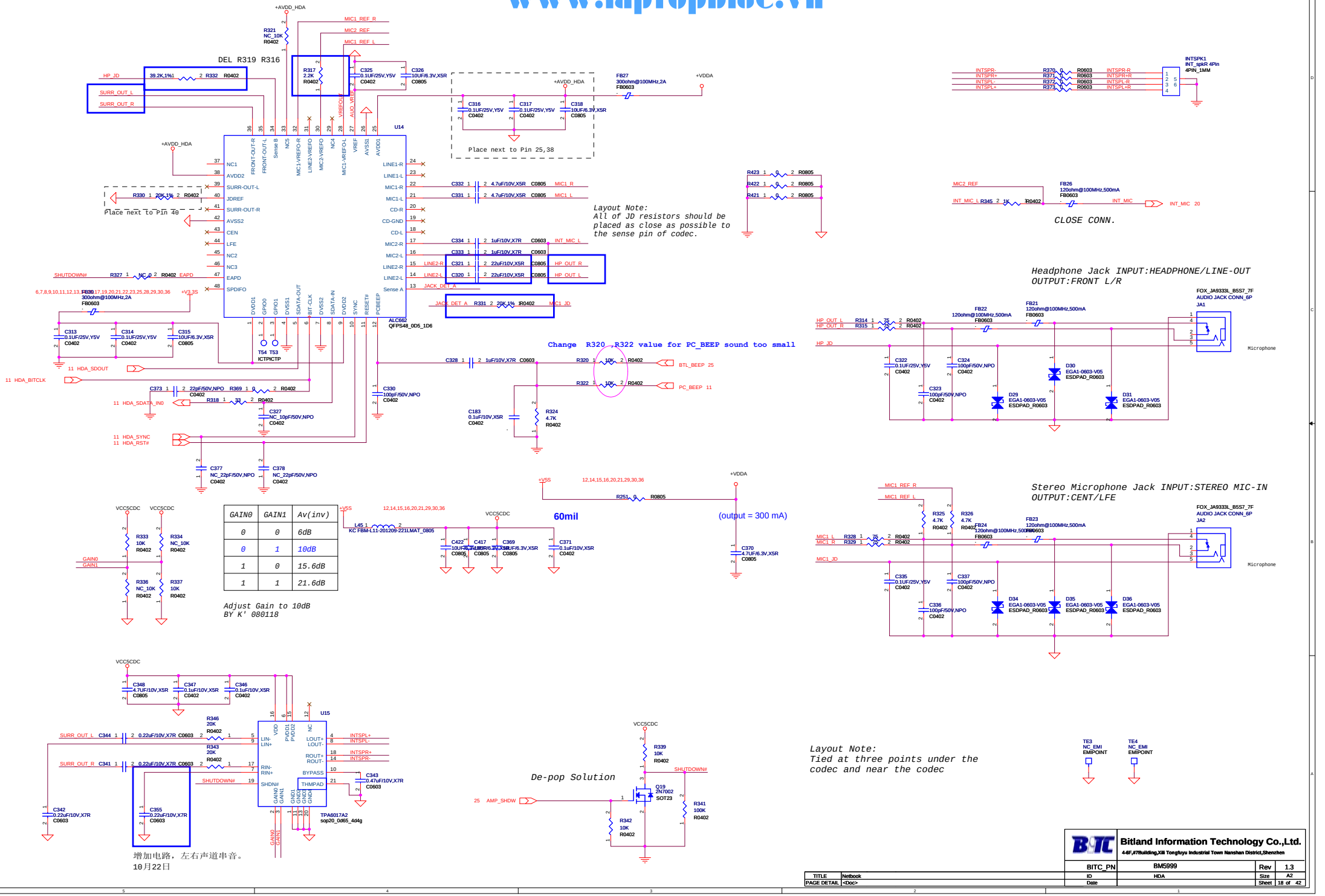
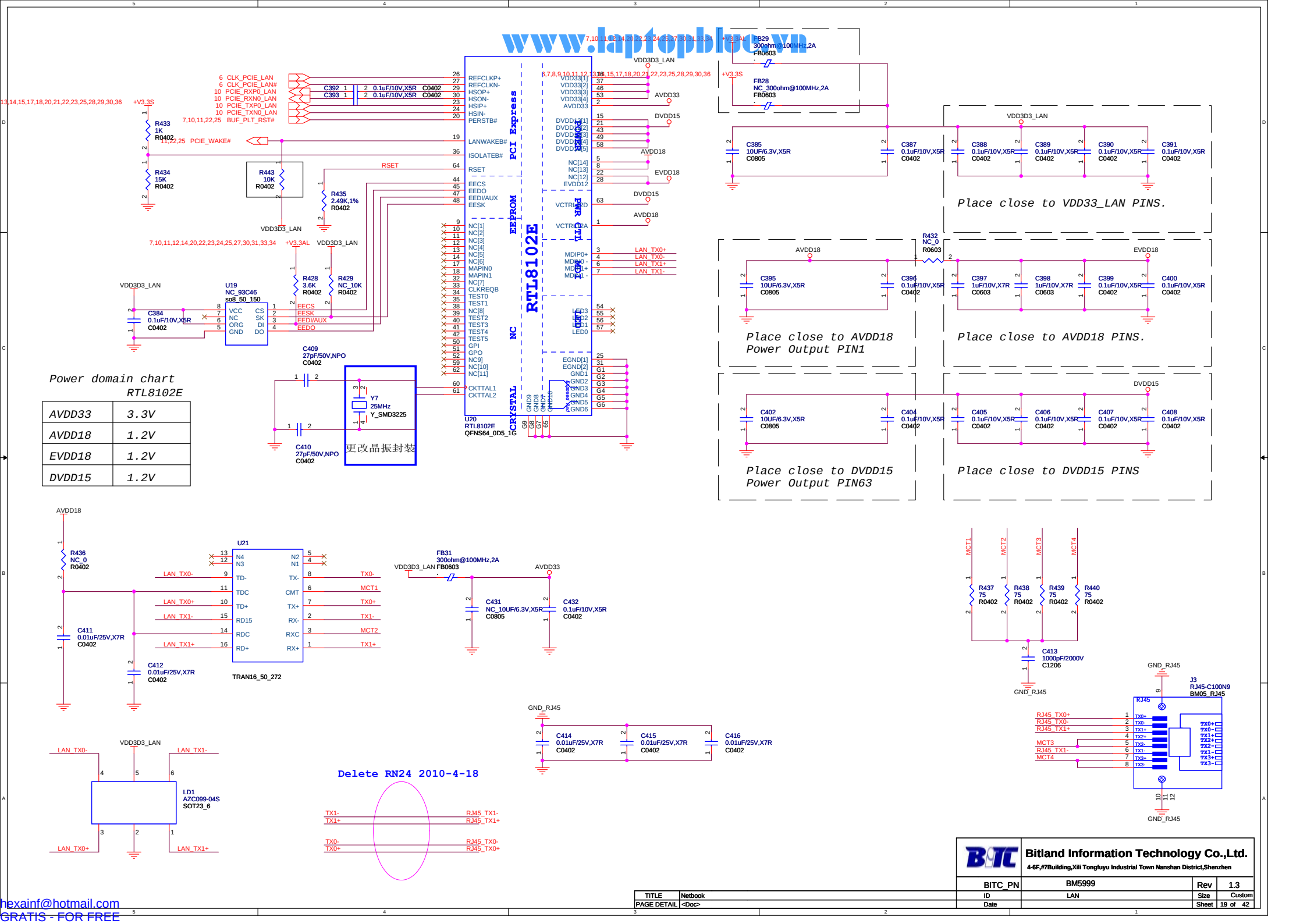
		Sheet	17 of 42





Power domain chart
RTL8102E

AVDD33	*3.3V*
AVDD18	*1.2V*
EVDD18	*1.2V*
DVDD15	*1.2V*

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BITC_PN	BM5999
Rev	1.3
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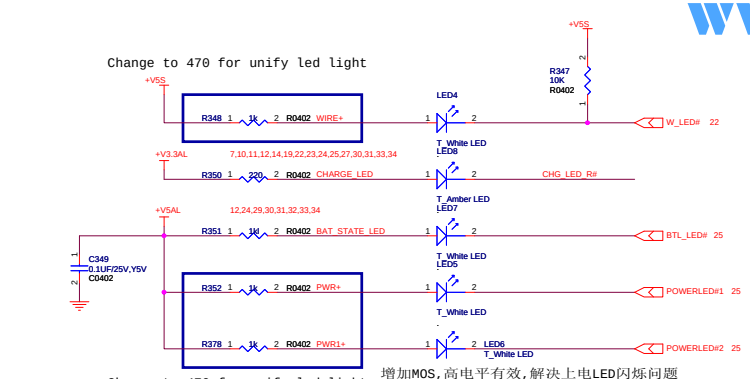
PAGE DETAIL	<Doc>
Date	
Sheet	19 of 42

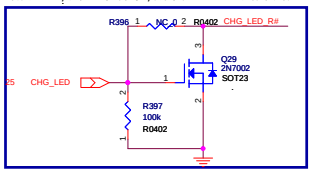
LED MB.

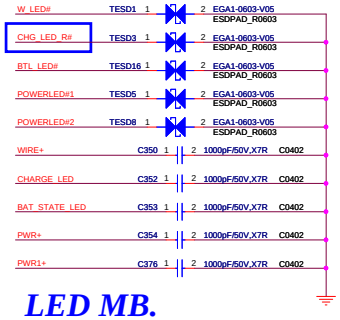
Change to 470 for unify led light

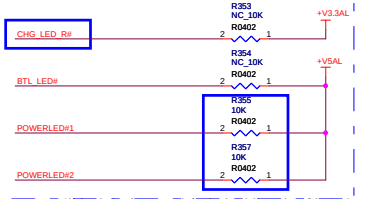


Change to 470 for unify led light

增加MOS,高电平有效,解决上电LED闪烁问题

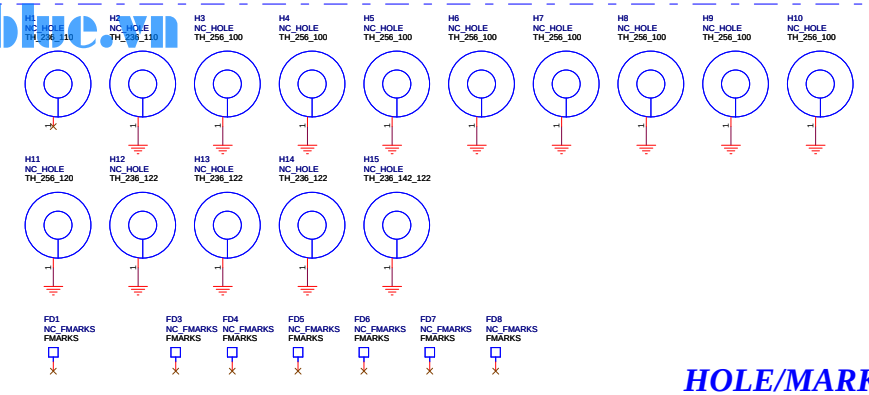






增加上拉电阻，避免上电时指示灯瞬间闪烁

HOLE/MARK



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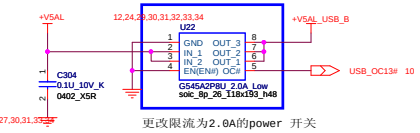
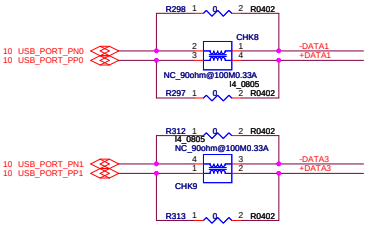
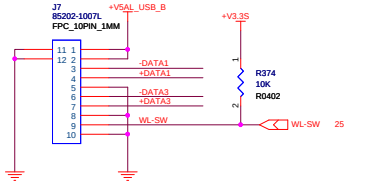
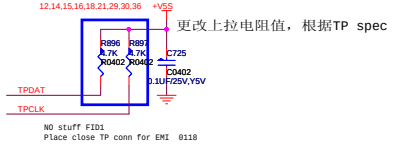


更改限流为2.0A的power 开关

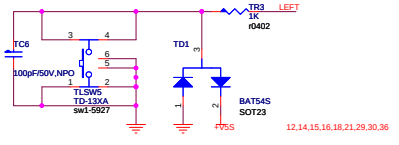


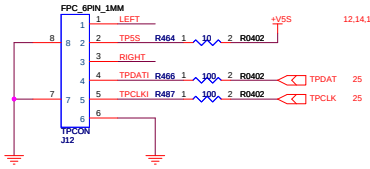


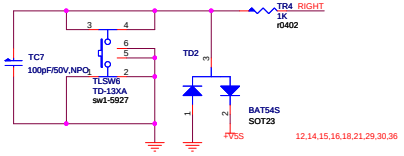
TOUCHPAD CONN.



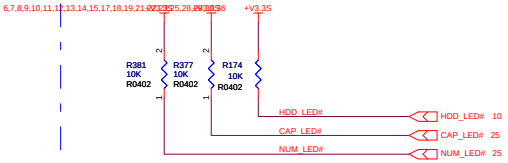
更改上拉电阻值，根据TP spec

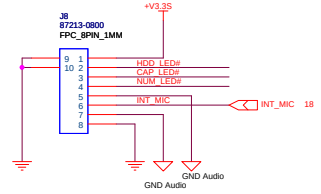






LED DB CONN.





Bitland Information Technology Co.,Ltd. 4-6F,#7Building,XiliTongfuyu Industrial Town Nanshan District,Shenzhen			
BITC_PN	BM5999	Rev	1.3
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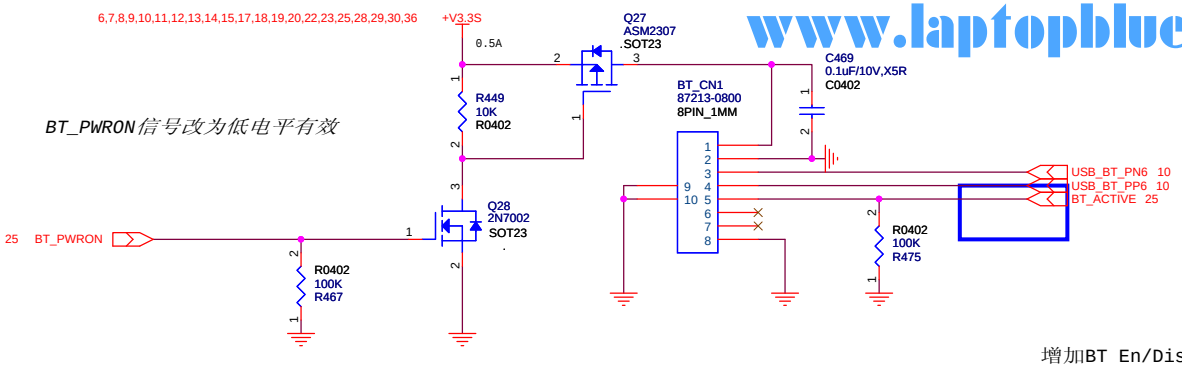
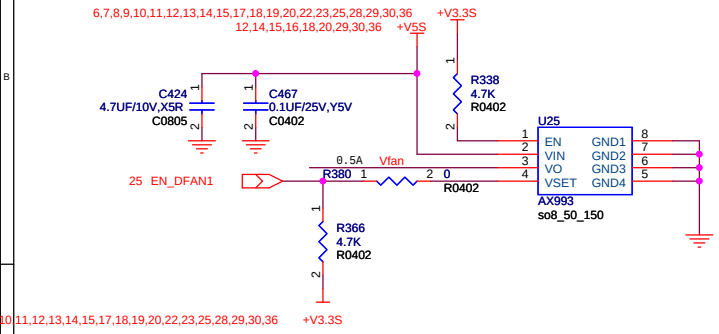
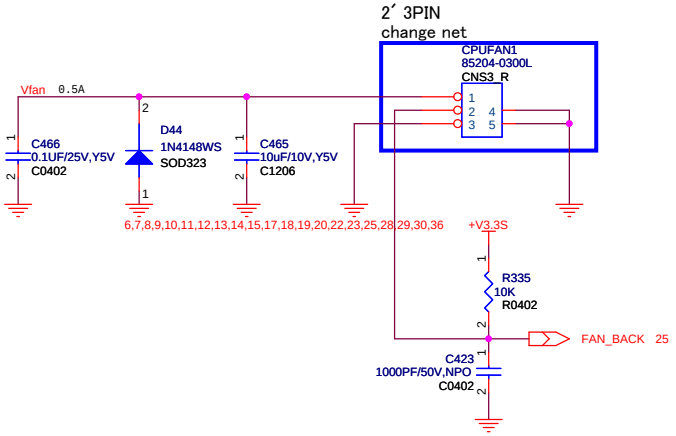
PAGE DETAIL	<Doc>	Date		Sheet	20 of 42



增加BT En/Disable信号，高电平有效。增加对地电阻。

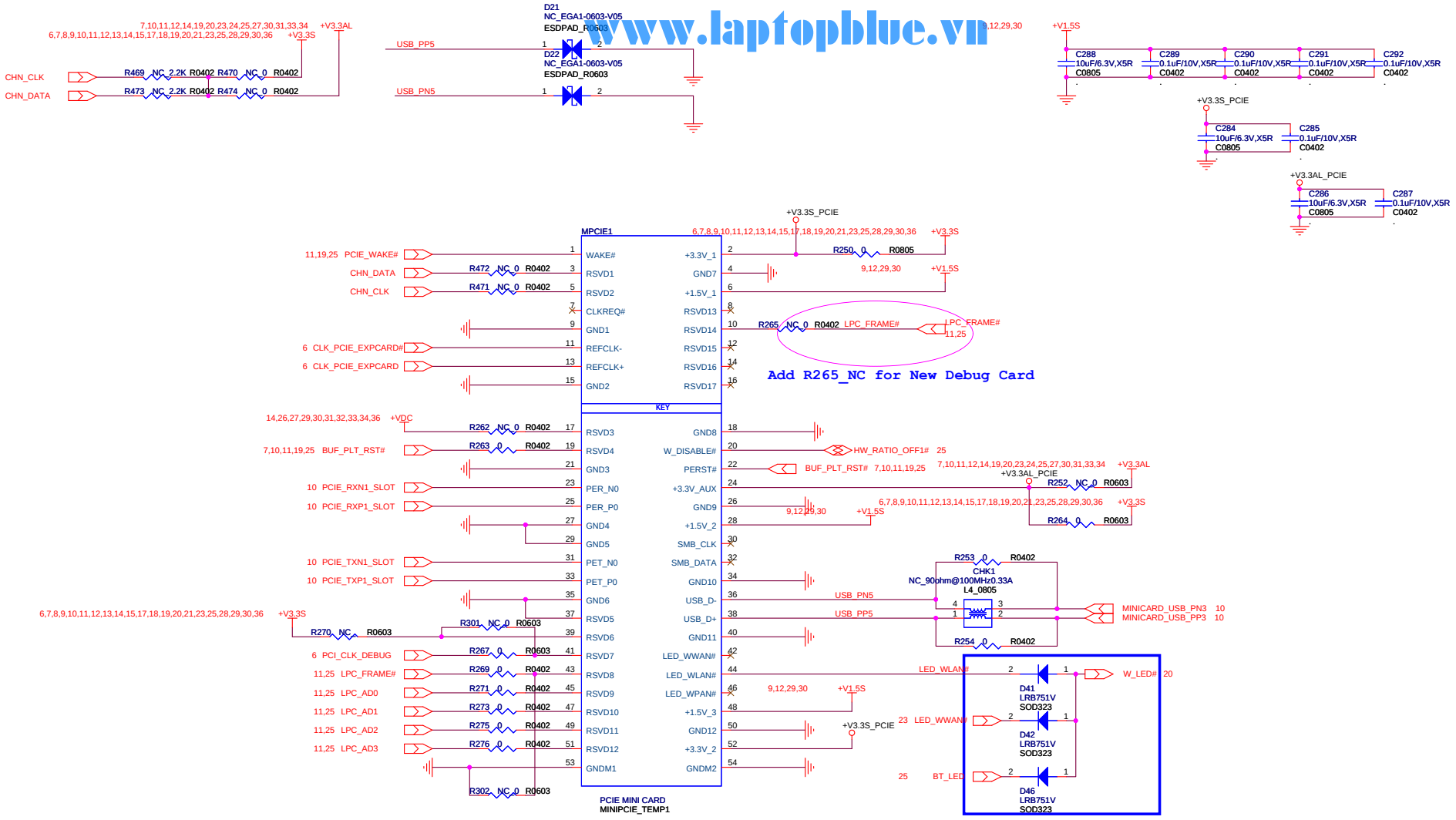
BLUE TOOTH





FAN

		Bitland Information Technology Co.,Ltd.			
		4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen			
		BITC_PN	BM5999	Rev	1.3
TITLE	Netbook	ID	BT&FAN	Size	A3
PAGE DETAIL	<Doc>	Date		Sheet	21 of 42



Bitland Information Technology Co.,Ltd.			
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen			
BITC_PN	BM5999	Rev	1.3
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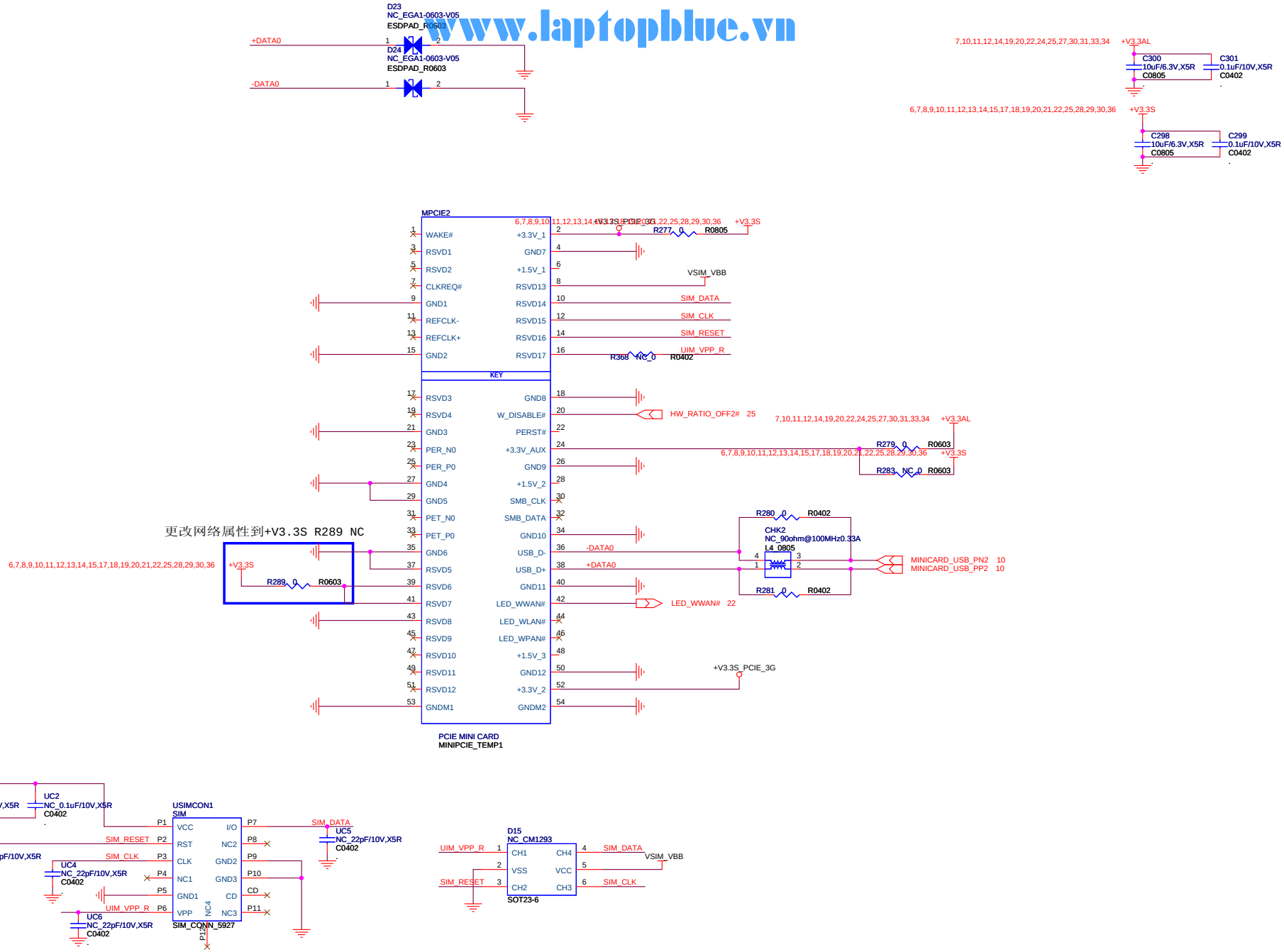
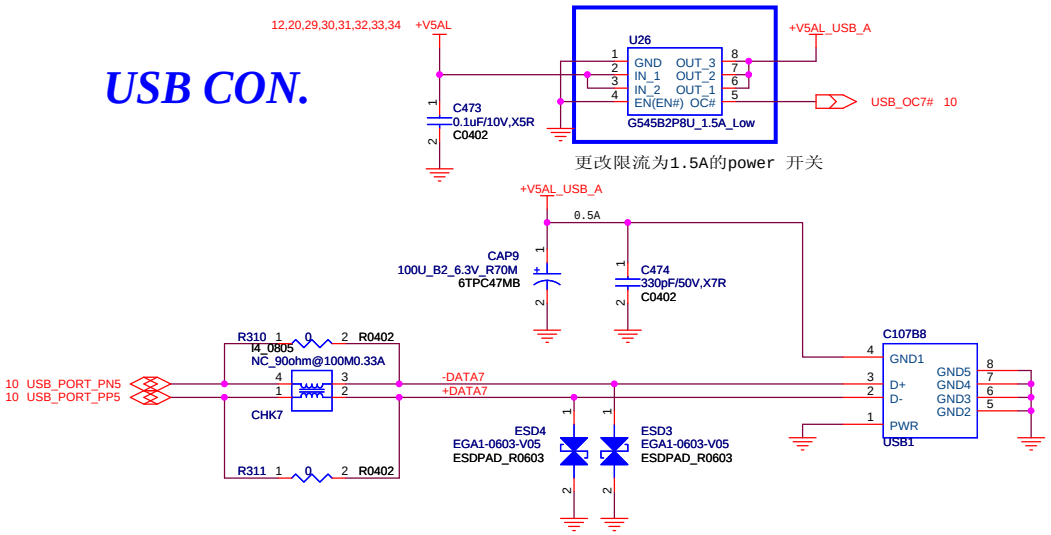
PAGE DETAIL	<Doc>	Date	Size: Custom; Sheet: 22 of 42

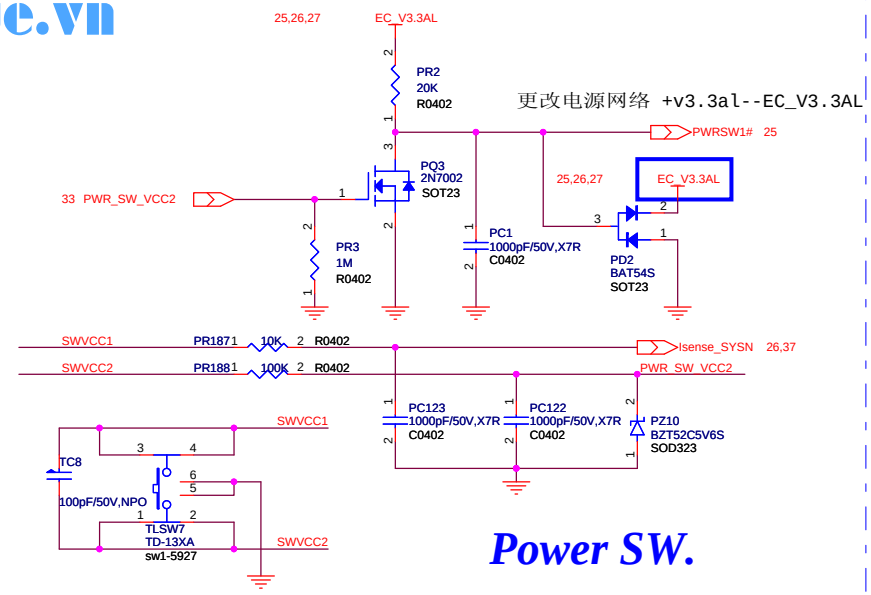


Bitland Information Technology Co.,Ltd.			
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen			
BITC_PN	BM5999	Rev	1.3
TITLE	Netbook	ID	MINI_PCIE_SLOT2
PAGE DETAIL	<Doc>	Date	Size: Custom; Sheet: 23 of 42

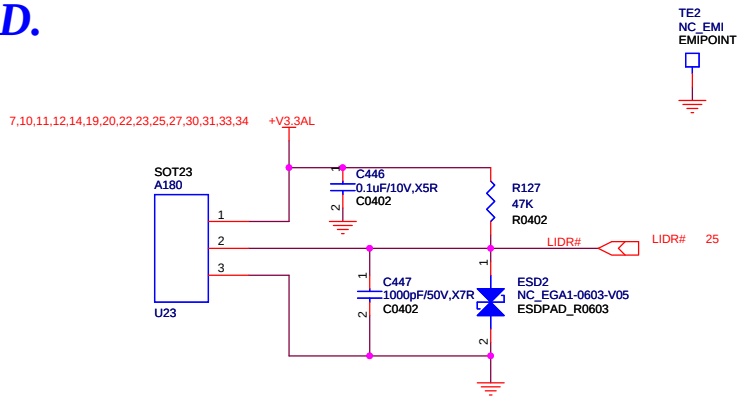
USB CON.



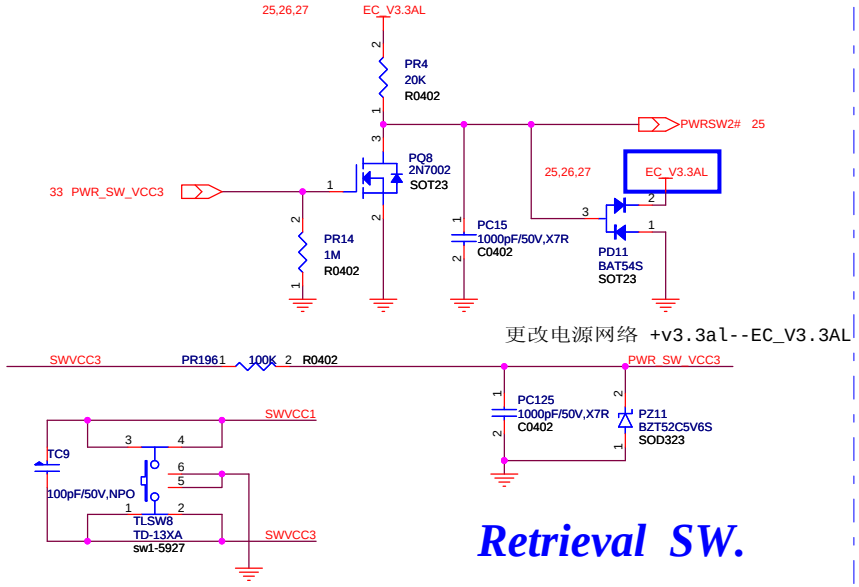
Power SW.



LID.



Retrieval SW.



Bitland Information Technology Co.,Ltd.	
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen	
BITC_PN	BM5999
Rev	1.3
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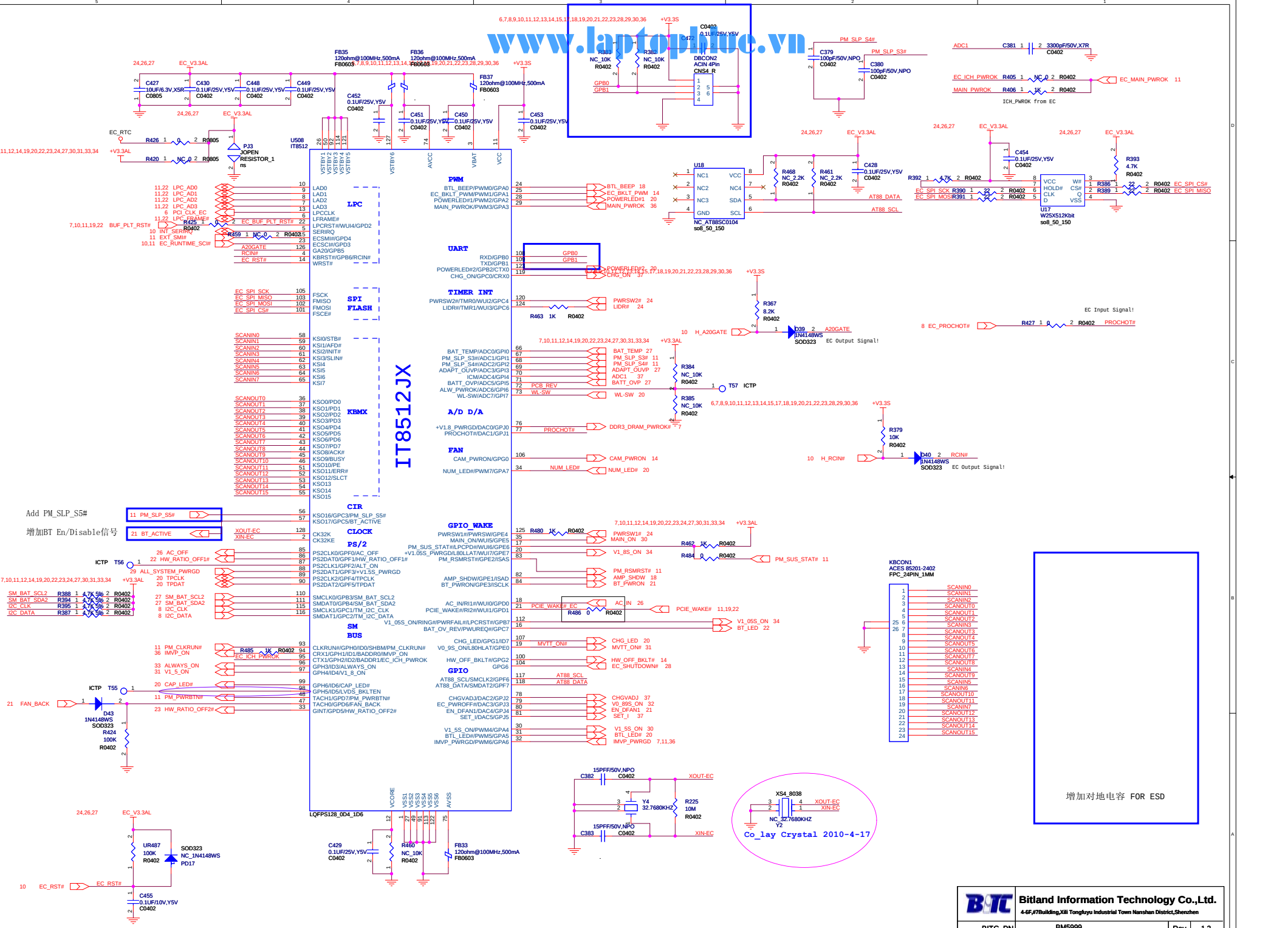
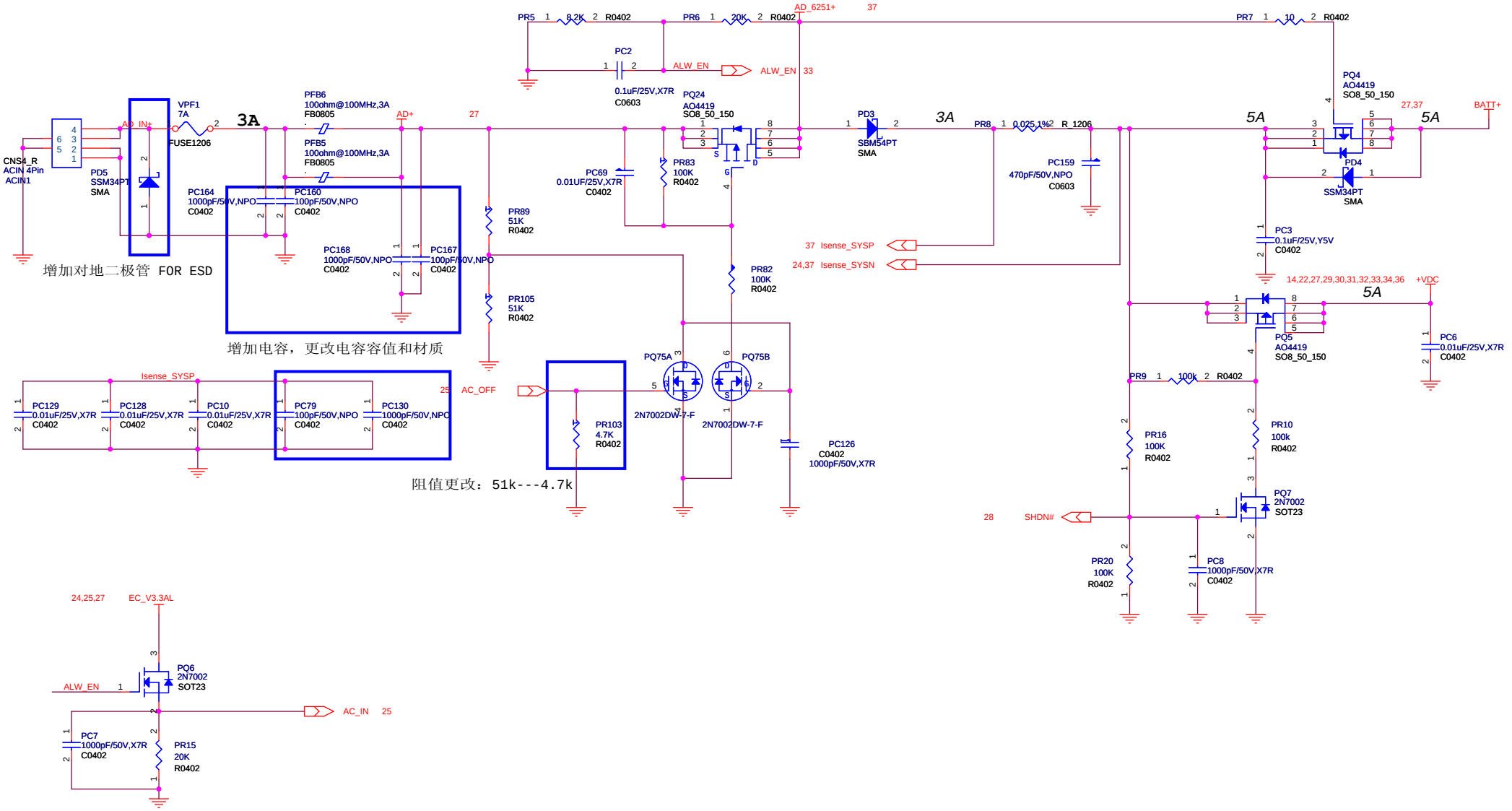
Size	A3
PAGE DETAIL	<Doc>
Date	
Sheet	24 of 42



hexainf@hotmail.com
GRATIS - FOR FREE

Bitland Information Technology Co.,Ltd.	4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen
BITC_PN	BM5999
Rev	1.3
TITLE	Netbook
ID	EC
Size	C
PAGE DETAIL	<Doc>
Date	
Sheet	25 of 42



Bitland Information Technology Co.,Ltd.			
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen			
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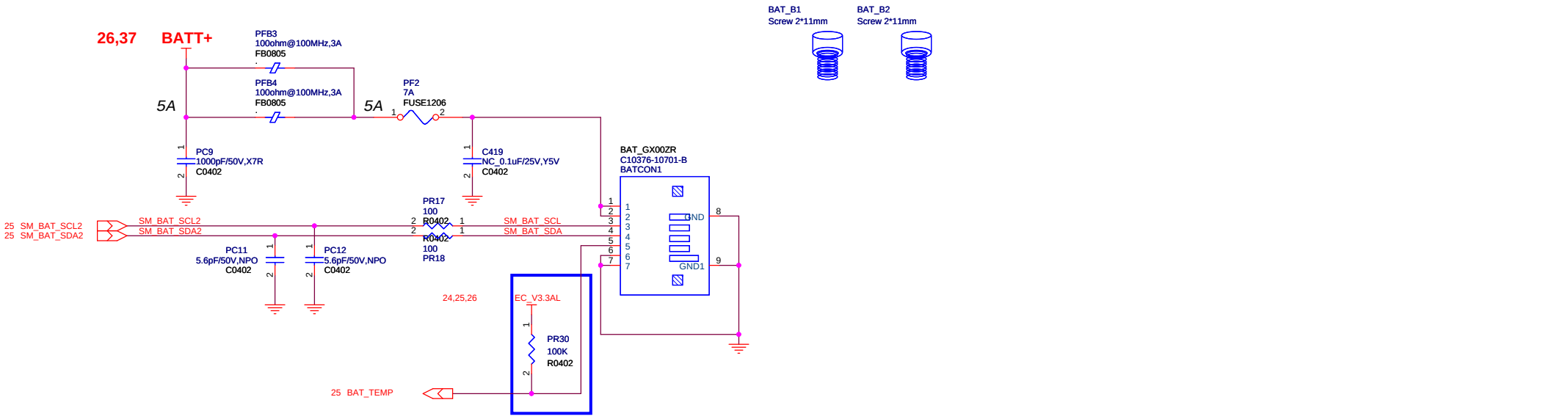
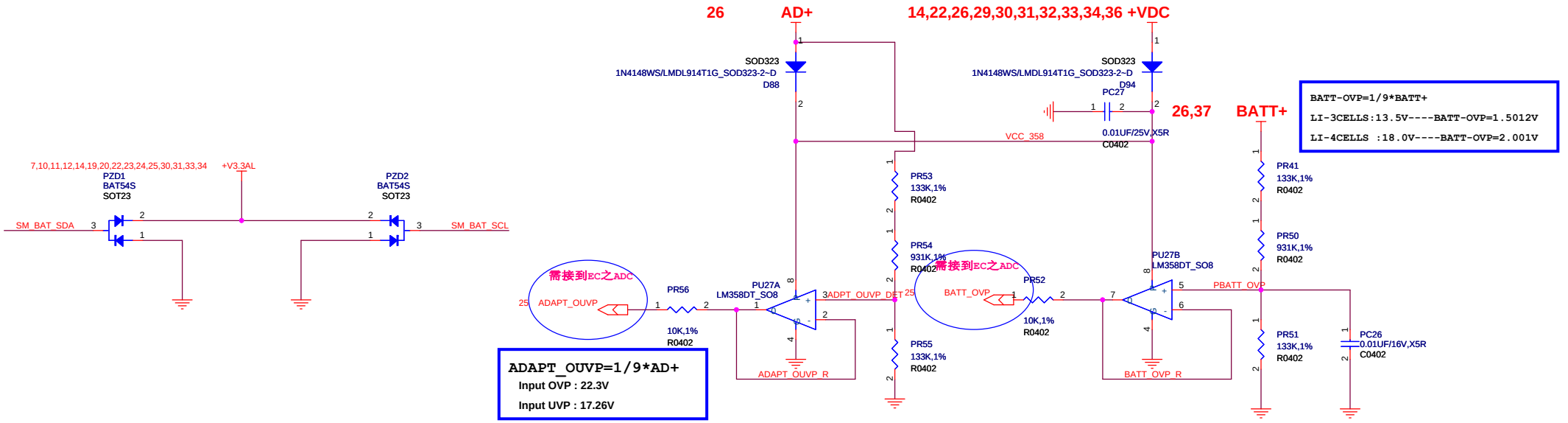
PAGE DETAIL	<Doc>	Date	
		Size	A3
		Sheet	26 of 42



阻值更改：10k---100k



Bitland Information Technology Co.,Ltd.			
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen			
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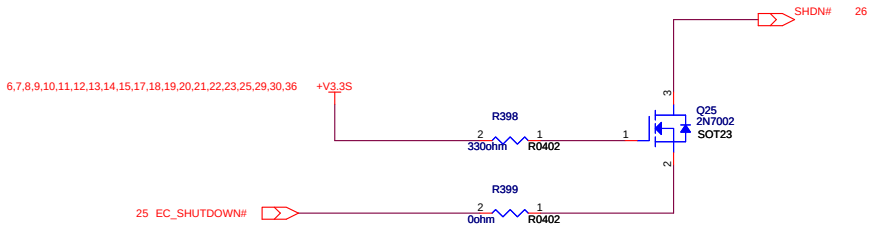
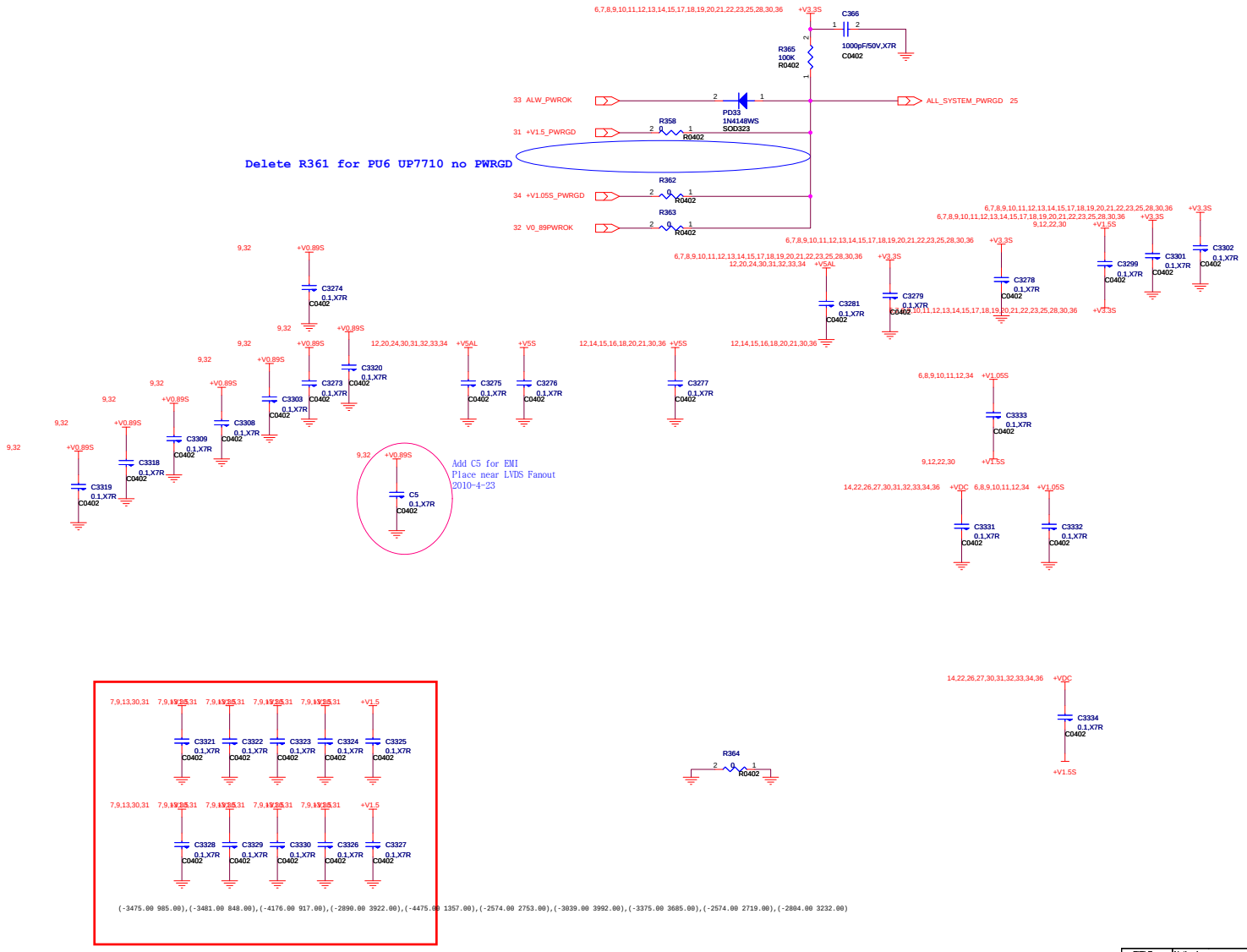
PAGE DETAIL	<Doc>	Date	Size A3 Sheet 27 of 42



	Bitland Information Technology Co.,Ltd. 4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen				
		BITC_PN	BM5999	Rev	1.3
TITLE	Netbook	ID	THERMAL PROTECT	Size	Custom
PAGE DETAIL	<Doc>	Date		Sheet	28 of 42



Bitland Information Technology Co.,Ltd.			
4-6F,#7Building,XIII Tongfuyu Industrial Town Nanshan District,Shenzhen			
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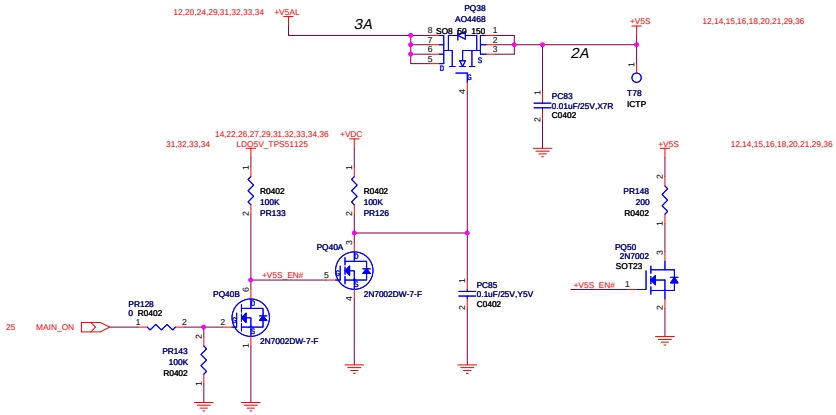
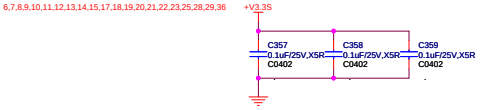
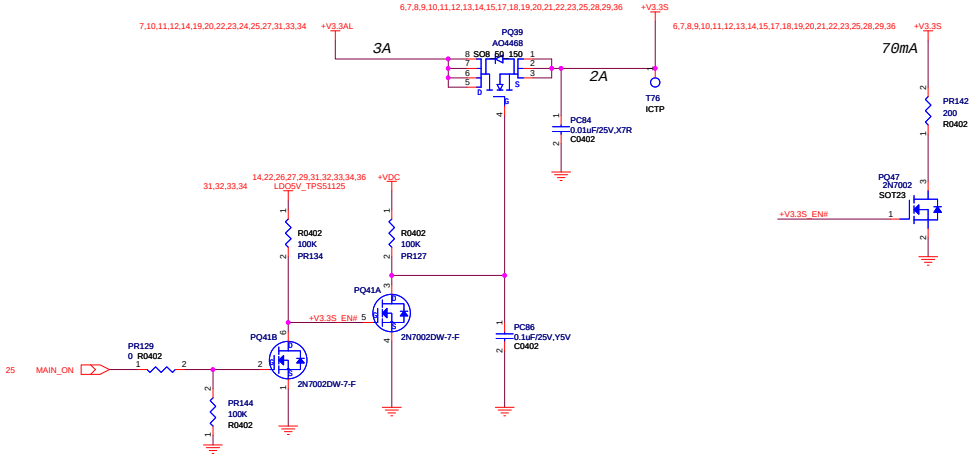
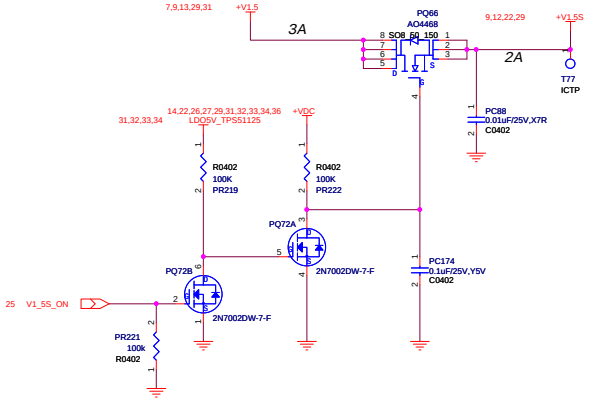
TITLE	Netbook	ID	POWER OVP	Size	A2
PAGE DETAIL	<Doc>	Date		Sheet	29 of 42

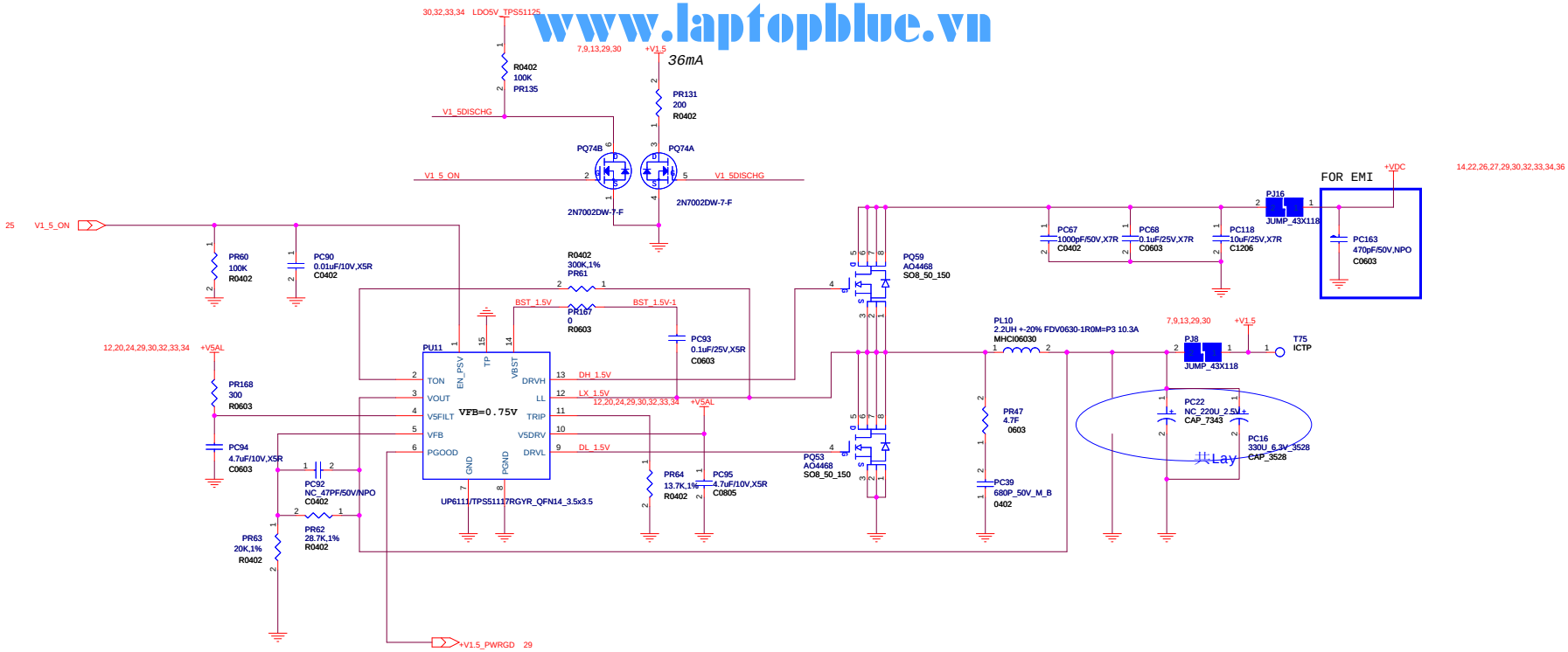


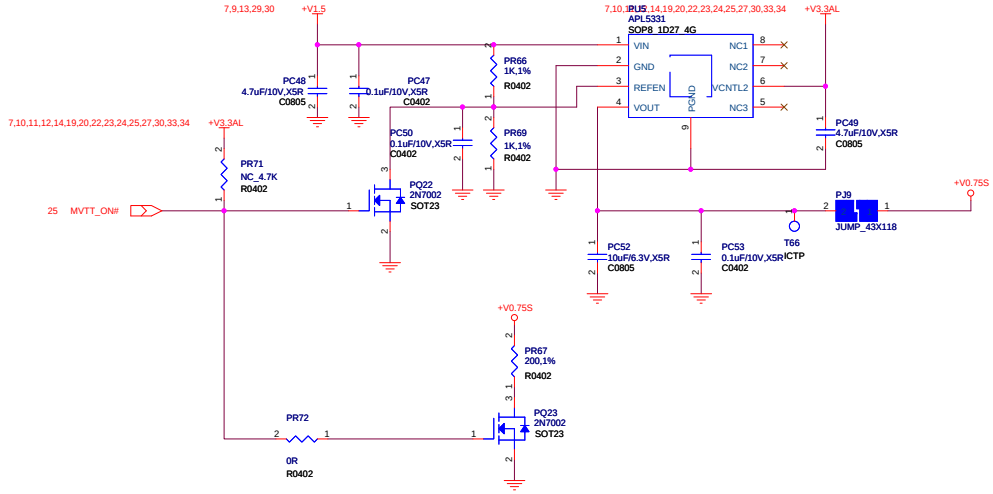




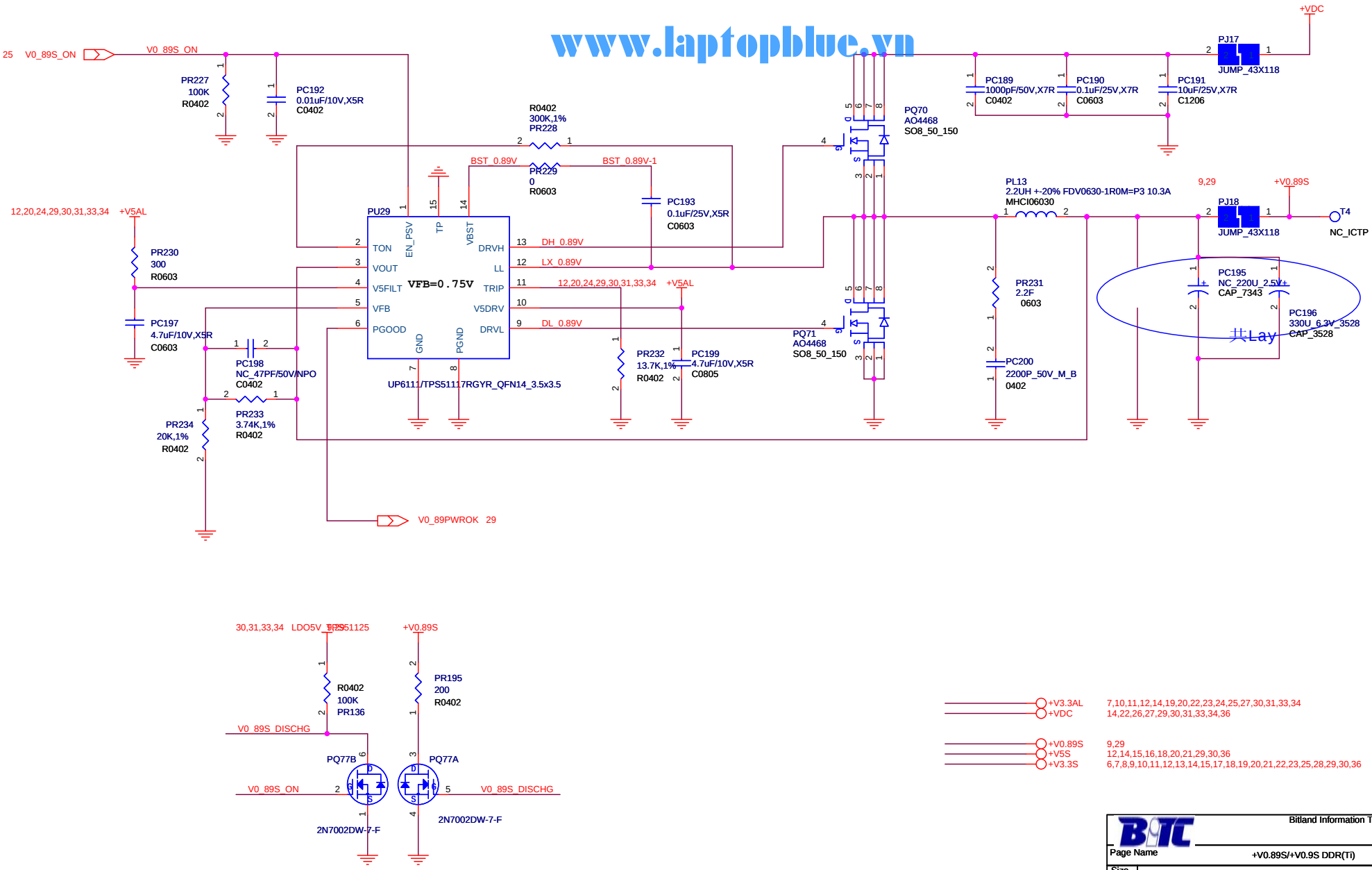


Bitland Information Technology Co.,Ltd.			
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen			
BITC_PN	BM5999	Rev	1.3
TITLE	Netbook	ID	POWER CONTROL	Size	A2
PAGE DETAIL	<Doc>	Date		Sheet	30 of 42





Bitland Information Technology Co.,Ltd.			
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen			
BITC_PN	BM5999	Rev	1.3
TITLE	Netbook	Size	C
PAGE DETAIL	<Doc>	Date	Sheet 31 of 42



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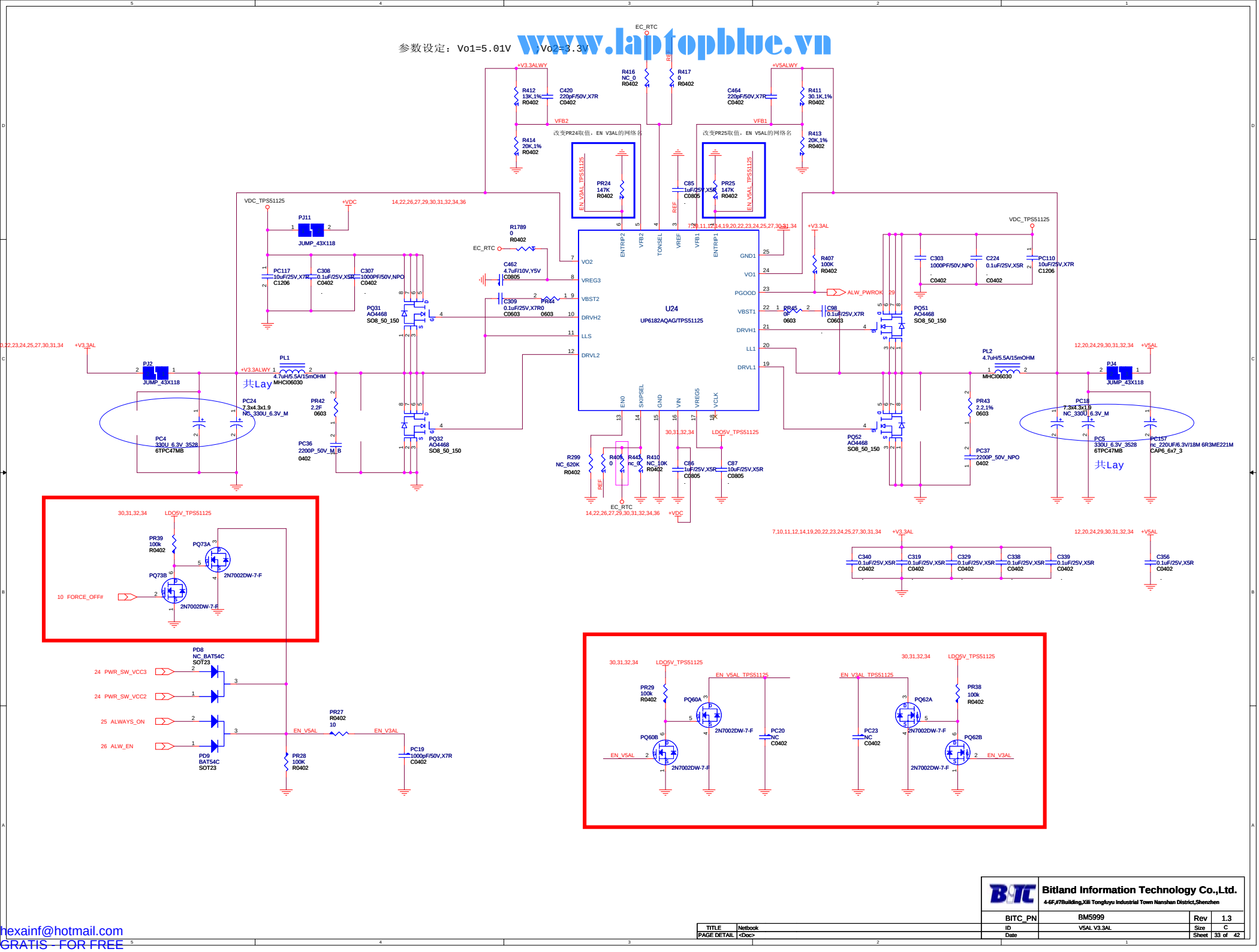
+VDC	14,22,26,27,29,30,31,33,34,36
+V0.89S	9,29
+V5S	12,14,15,16,18,20,21,29,30,36
+V3.3S	6,7,8,9,10,11,12,13,14,15,17,18,19,20,21,22,23,25,28,29,30,36

Bitland Information Technology Co.,Ltd

Page Name	+V0.89S/+V0.9S DDR(Ti)	
Size B	Project Name BM5999	Rev 1.3
Date:	Sheet 32 of 42	

参数设定：Vo1=5.01V Vo2=3.3V



Bitland Information Technology Co.,Ltd.			
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen			
BITC_PN	BM5999	Rev	1.3
TITLE	Netbook	ID	V5AL V3.3AL
PAGE DETAIL	<Doc>	Date	
		Size	C
		Sheet	33 of 42

+V5AL 12,20,24,29,30,31,32,33

7,10,11,12,14,19,20,22,23,24,25,27,30,31,33 +V3.3AL

PU6 UP7710M5-ADJ
VIN VOUT EN FB GND

PC55 0.1uF/10V,X5R C0402
PC54 4.7uF/10V,X5R C0805
PR88 4.99K_0402_1%
NC_0.1U_0402_16V7K PC59
PR87 4.02K_0402_1%
PC57 4.7uF/10V,X5R C0805
PC58 0.1uF/10V,X5R C0402
T72 ICTP
PJ5 JUMP_43X118 +V1.8S

25 V1_8S_ON V1_8S_ON
PR86 100K R0402

Change PU6 from APL5913 to UP7710 2010/02/05

30,31,32,33 LDO5V_TPS51125
R0402 100K PR137
PR138 200 R0402
V1.8S_DISCHG
PQ79A PQ79B
V1_8S_ON V1.8S_DISCHG
2N7002DW-7-F 2N7002DW-7-F

FOR EMI FOR EMI
14,22,26,27,29,30,31,32,33,36 +VDC
PJ12 JUMP_43X118
PC161 470pF/50V,NPO C0603
PC65 1000pF/50V,X7R C0402
PC154 10uF/25V,X7R C1206
PC162 470pF/50V,NPO C0603
PQ54 AO4468 SO8_50_150

25 V1_05S_ON V1_05S_ON
PR97 100K R0402
PC99 0.01uF/10V,X5R C0402
R0402 300K,1% PR98
PR169 0 R0603
BST_1.05V BST_1.05V-1
PC101 0.1uF/25V,X5R C0603

12,20,24,29,30,31,32,33 +V5AL
PR170 300 R0603
PC103 4.7uF/10V,X5R C0603
PC102 NC_47PF/50V/NPO C0402
PR99 8.2K,1% R0402
PR100 20K,1% R0402

PU12
TON VOUT V5FILT VFB PGOOD EN_PSV TP V5ST DRVH LL TRIP V5DRV DRVL GND PGND
VFB=0.75V
DH_1.05V LX_1.05V DL_1.05V
12,20,24,29,30,31,32,33 +V5AL
UP6111/TPS51117RGYR_QFN14_3.5x3.5
PR65 13.7K,1% R0402
PC97 4.7uF/10V,X5R C0805

PQ55 AO4468 SO8_50_150
PR46 2.2,1% 0603
PC38 2200P_50V_M_B 0402
PL12 2.2UH +-20% FDV0630-1R0M=P3 10.3A MHCI06030
6,8,9,10,11,12,29 +V1.05S
PJ6 JUMP_43X118
T70 ICTP
PC21 NC_330U_2/5V_3528
PC17 7.3x4.3x1.9 NC_330U_2.5V_M
共Lay

+V1.05S_PWRGD 29

+V1.05S 6,8,9,10,11,12,29
C456 10uF/6.3V,X5R C0805
C437 0.1uF/10V,X5R C0402

30,31,32,33 LDO5V_TPS51125 +V1.05S
R0402 100K PR220
PR146 200 R0402
V1.05S_DISCHG
PQ78B PQ78A
V1_05S_ON V1.05S_DISCHG
2N7002DW-7-F 2N7002DW-7-F

Bitland Information Technology Co.,Ltd.	
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen	
BITC_PN	BM5999
Rev	1.3
TITLE	Netbook
ID	V1.5S V1.05S
Size	C
PAGE DETAIL	<Doc>
Date	
Sheet	34 of 42

Bitland Information Technology Co.,Ltd.	
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen	
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Rev	1.3
TITLE	Netbook
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PAGE DETAIL	<Doc>
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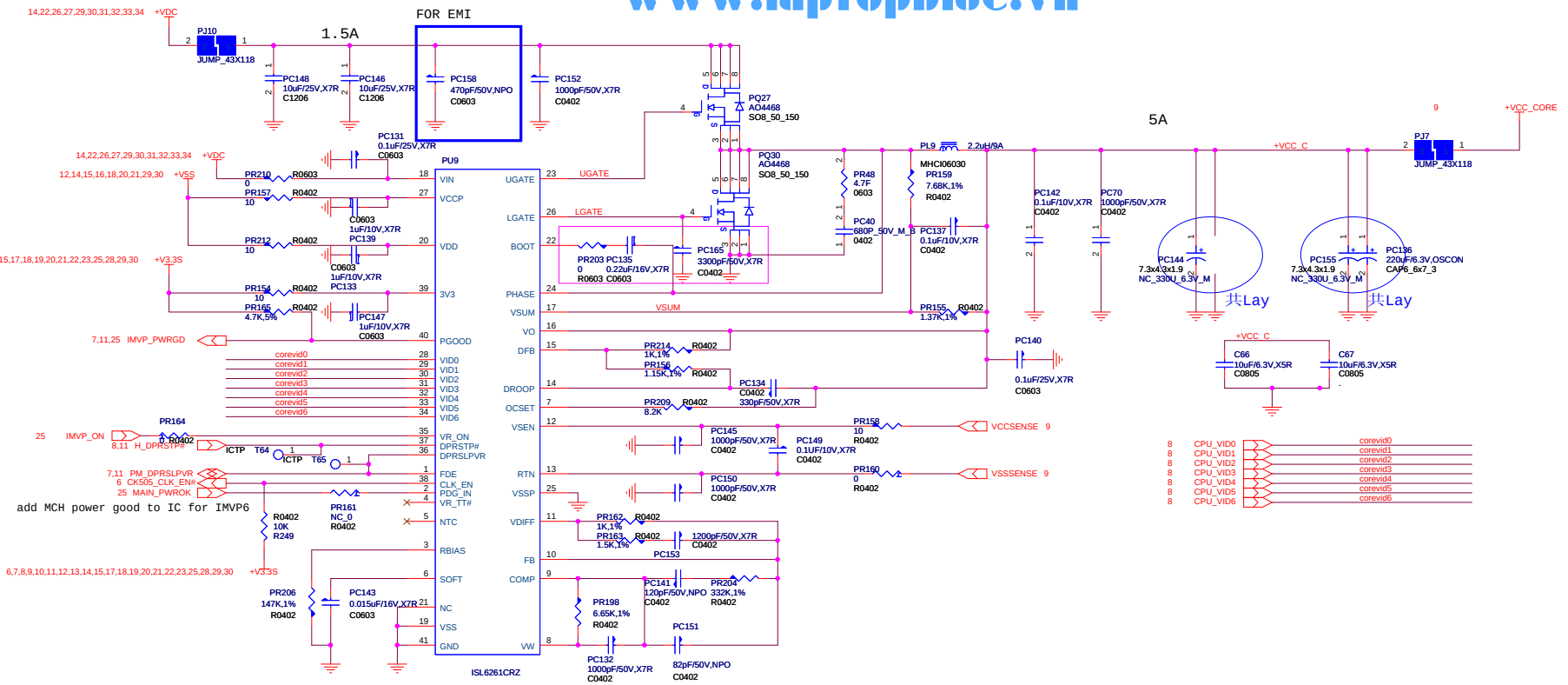
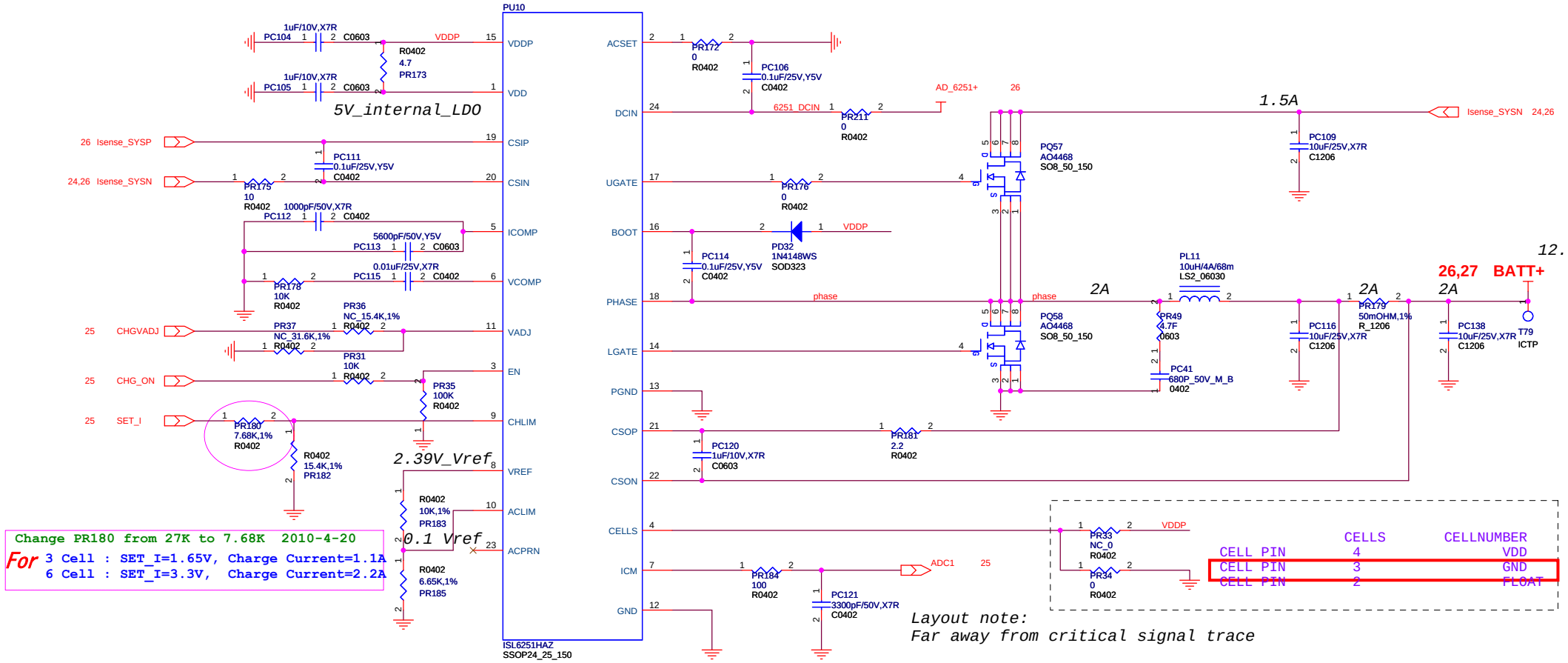
Sheet	35 of 42



Bitland Information Technology Co.,Ltd.			
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen			
BITC_PN	BM5999	Rev	1.3
TITLE	Netbook	ID	CPU VCORE
PAGE DETAIL	<Doc>	Date	Size: Custom; Sheet: 36 of 42



设置适配器限流值为
50mV/25m ohm=2.0A.

Iaclim=1/PR8*(0.05*Vaclim/Vref+0.05)

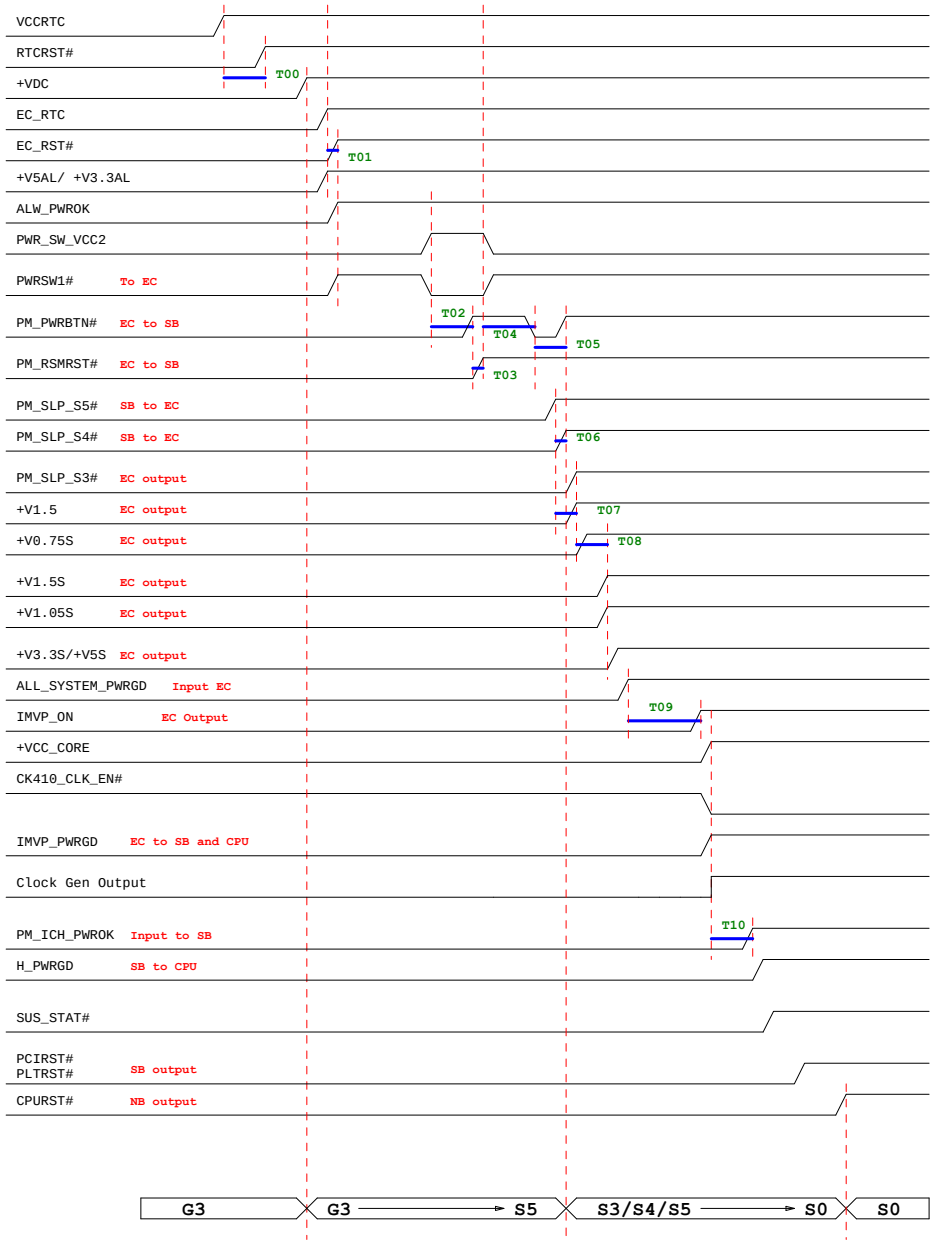
SET_I	*充电电流*
0V	*0A*
0.66V	*400mA*
3.3V	*2A*

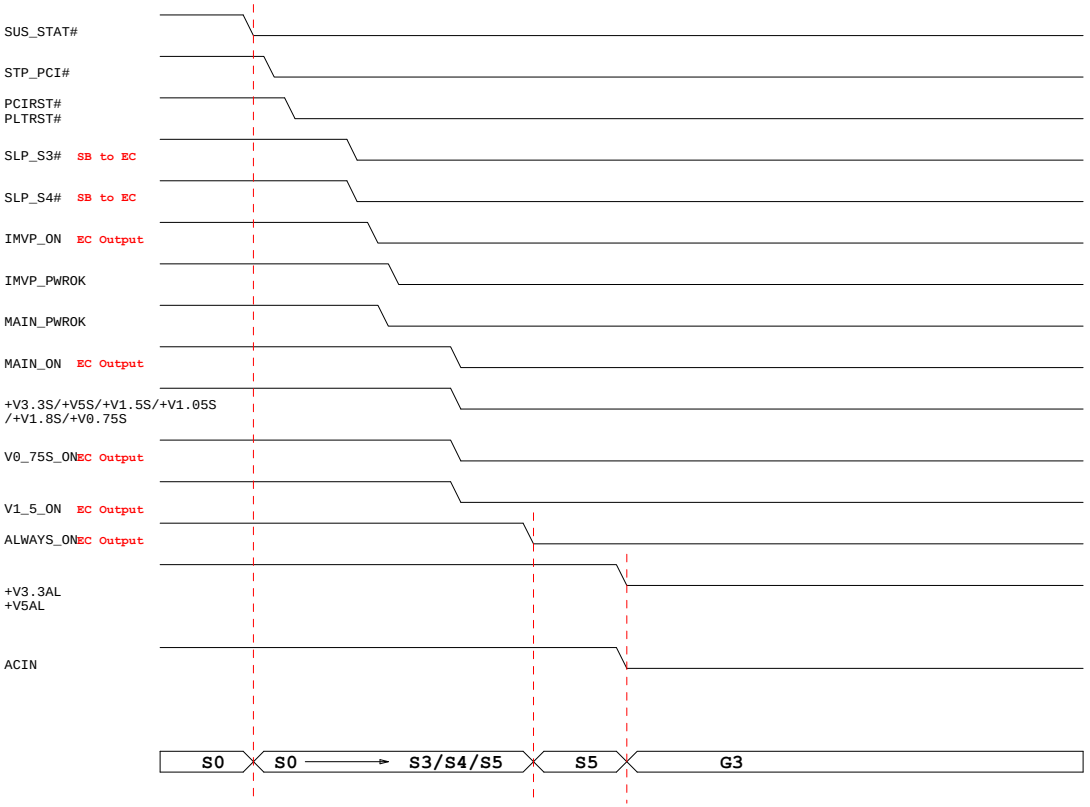
ICHG=165mV/PR179*(VCHLIM/3.3V)

Bitland Information Technology Co.,Ltd. 4-6F,#7Building,XiII Tongfuyu Industrial Town Nanshan District,Shenzhen			
BITC_PN	BM5999	Rev	1.3
TITLE	Netbook	ID	CHARGER
PAGE DETAIL	<Doc>	Date	Size A3 Sheet 37 of 42

	Bitland Information Technology Co.,Ltd. 4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen		
BITC_PN	BM5999	Rev	1.3
TITLE	Netbook	ID	History	Size	B
PAGE DETAIL	<Doc>	Date		Sheet	38 of 42

BM5999 Power On/Off Sequence Specification(Adapter Mode)



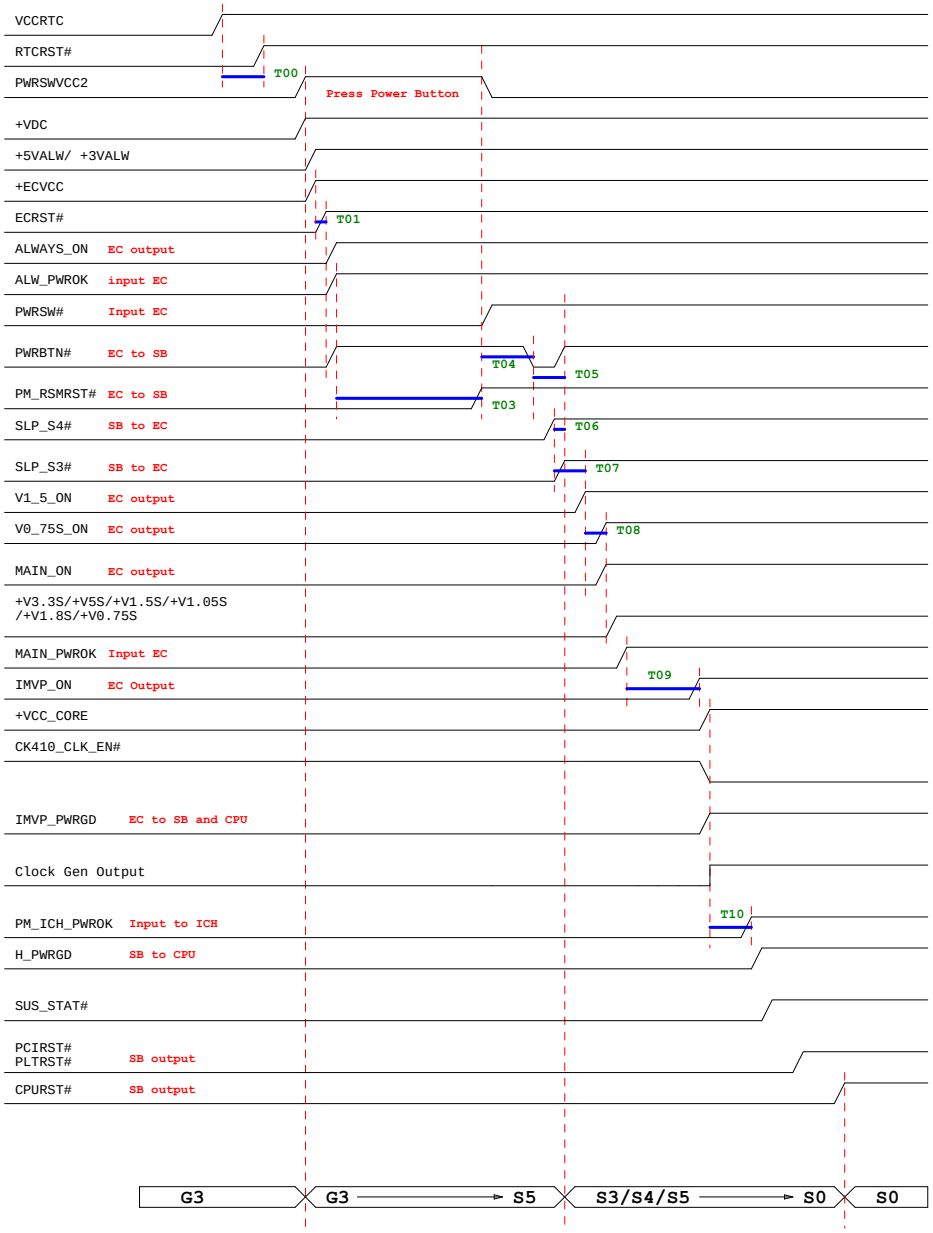


T00	T01	T02	T03	T04	T05	T06	T07	T08	T09	T10
no control	200 ms	700 ms	5 ms	100 ms	50 ms	(>1 RTC CLK)	2 ms	2 ms	150 ms	99 ms

BITC_PN	BM5999	Rev	1.3
TITLE	Netbook	ID	Power On/Off Sequerce1	Size	C
PAGE DETAIL	<Doc>	Date		Sheet	39 of 42

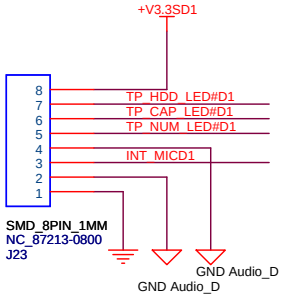
Bitland Information Technology Co.,Ltd.
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen

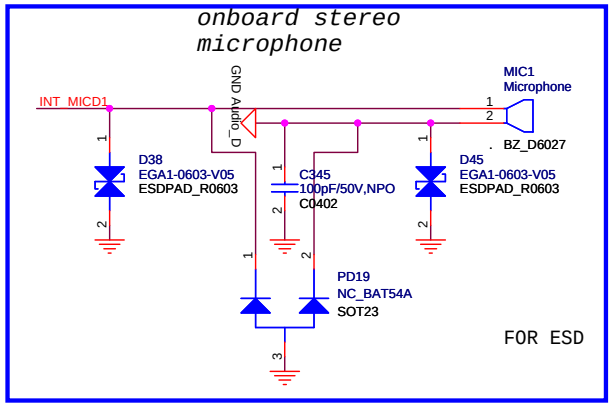
BM5999 Power On/Off Sequence Specification(Battery Mode)

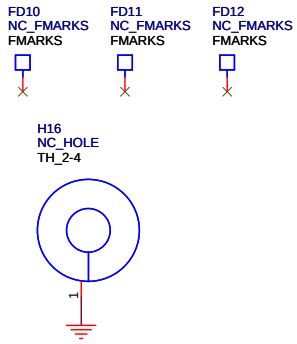


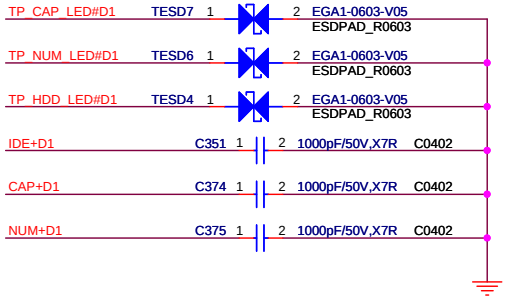
T00	T01	T03	T04	T05	T06	T07	T08	T09	T10
no control	200 ms	no control	100 ms	50 ms	(>1 RTC CLK)	2 ms	2 ms	150 ms	99 ms

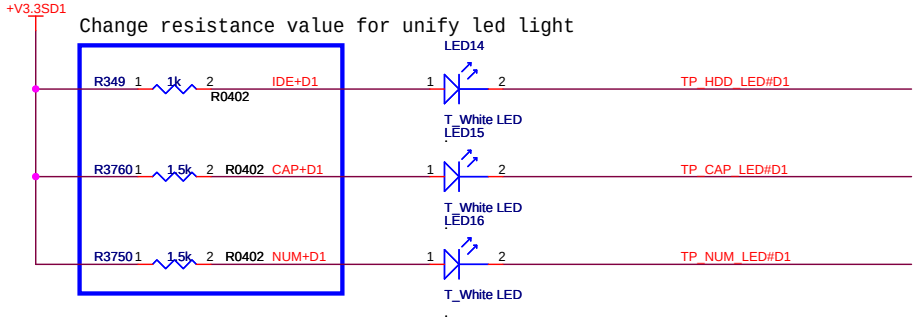
Bitland Information Technology Co.,Ltd. 4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen			
BITC_PN	BM5999	Rev	1.3
TITLE	Netbook	ID	Power On/Off Sequerce2	Size	C
PAGE DETAIL	<Doc>	Date		Sheet	40 of 42











Bitland Information Technology Co.,Ltd.			
4-6F,#7Building,Xili Tongfuyu Industrial Town Nanshan District,Shenzhen			
BITC_PN	BH5999A	Rev	1.3
TITLE	Netbook	ID	DB LED/MIC
PAGE DETAIL	<Doc>	Date	Size B
			Sheet 41 of 42

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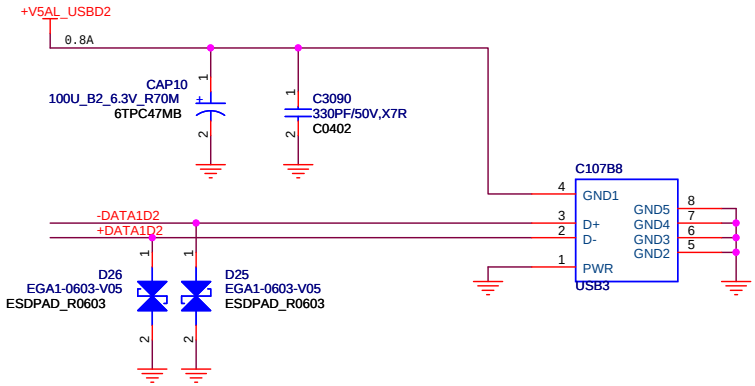
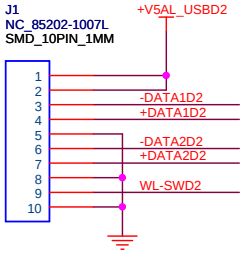
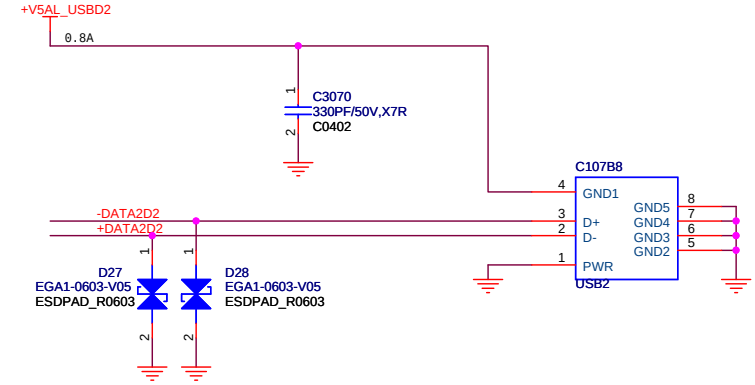
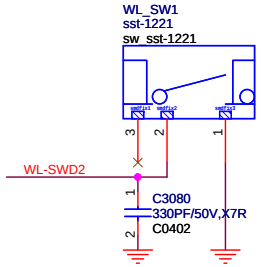
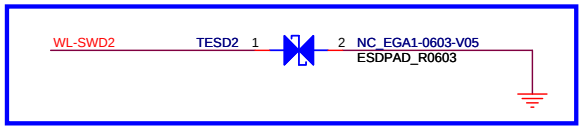
FD14 NC_FMARKS FMARKS
FD15 NC_FMARKS FMARKS
FD16 NC_FMARKS FMARKS











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