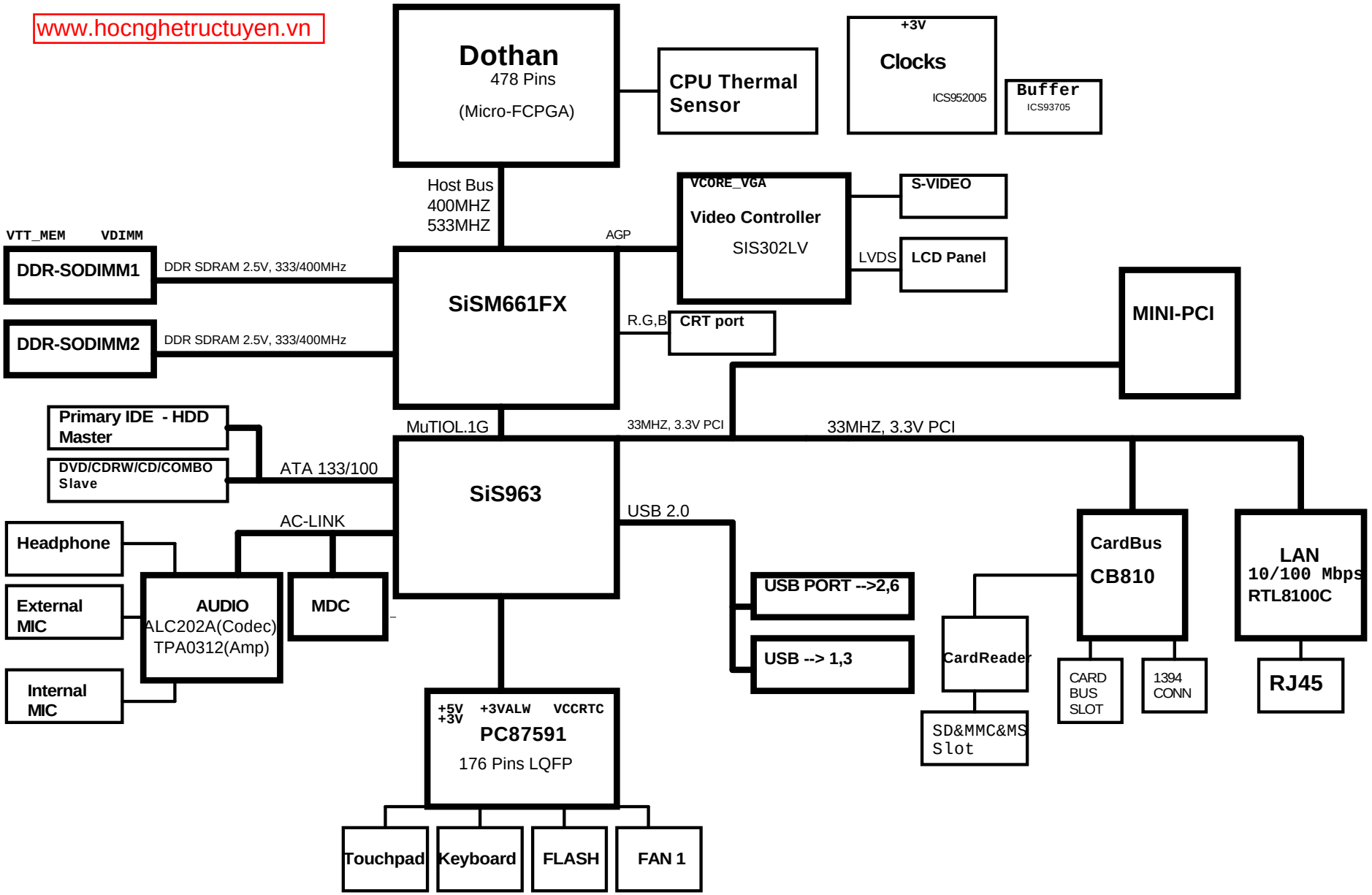

FOXCONN TECHNOLOGY COPR.

Title

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Device / Rails	CPU	M661FX	963L	PC87591	DDR	M10	302LV	LCD	MiniPCI		LAN	AUDIO	HDD	MDC	BufferCLK GEN.	cardbus
+1.5VSUS																
+3VALW				●												
+3v		●	●	●		●		●	●		●		●	●	●	●
+1.8V	●	●	●													
3VAUX		●	●								●			●		●
+1.8VAUX			●													
5VAUX																
VDDQ		●					●									
VDIMM		●			●											
DDR_VTT					●											
+1.2V						●										
+1.5V	●															
+5VALW																
+12V																
VCORE_CPU	●															
VCCP	●	●	●													
+5V				●												
3VSUS									●							
VCORE_VGA						●										

FOXCONN TECHNOLOGY COPR.

Title: **Power Diagram**

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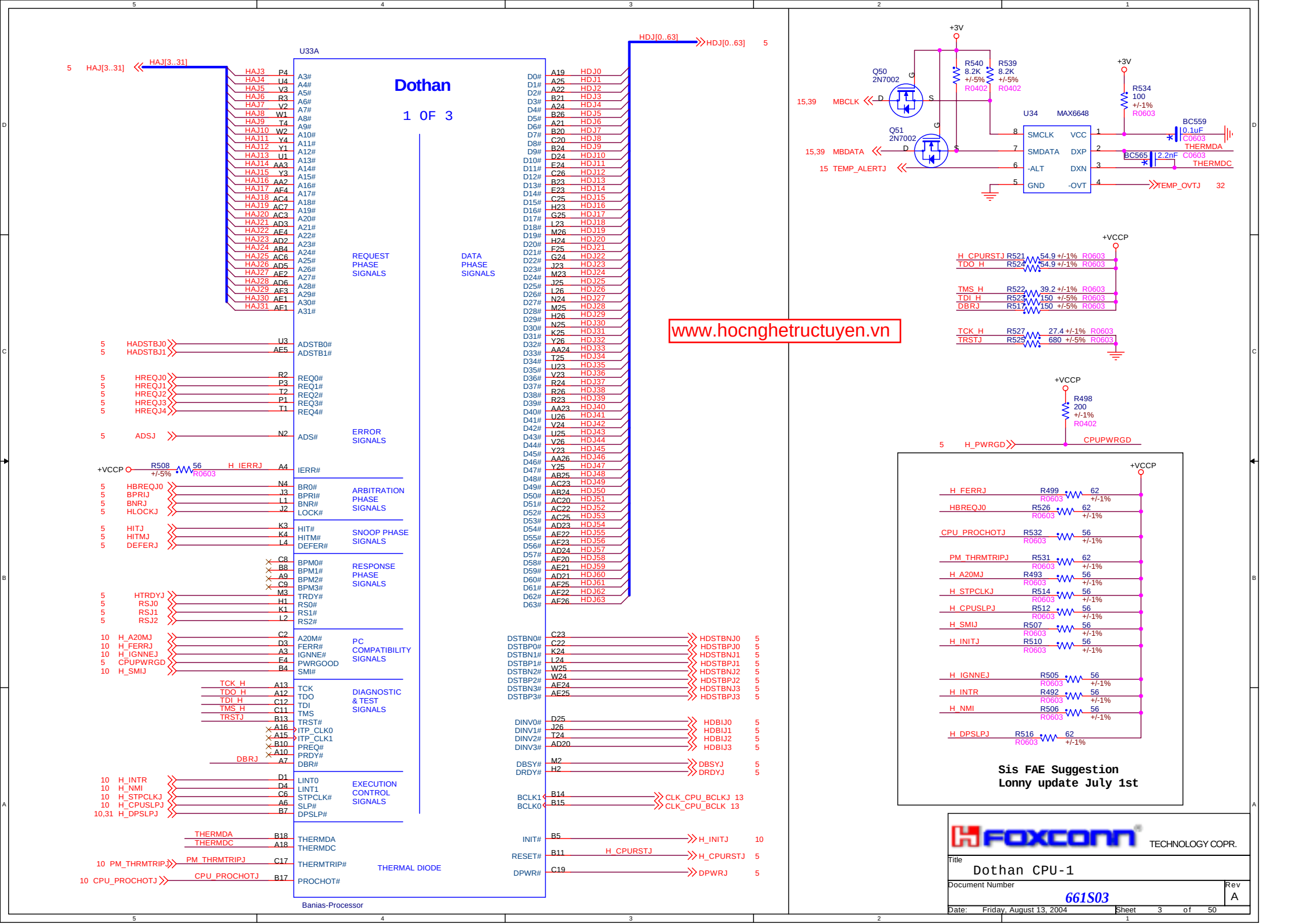
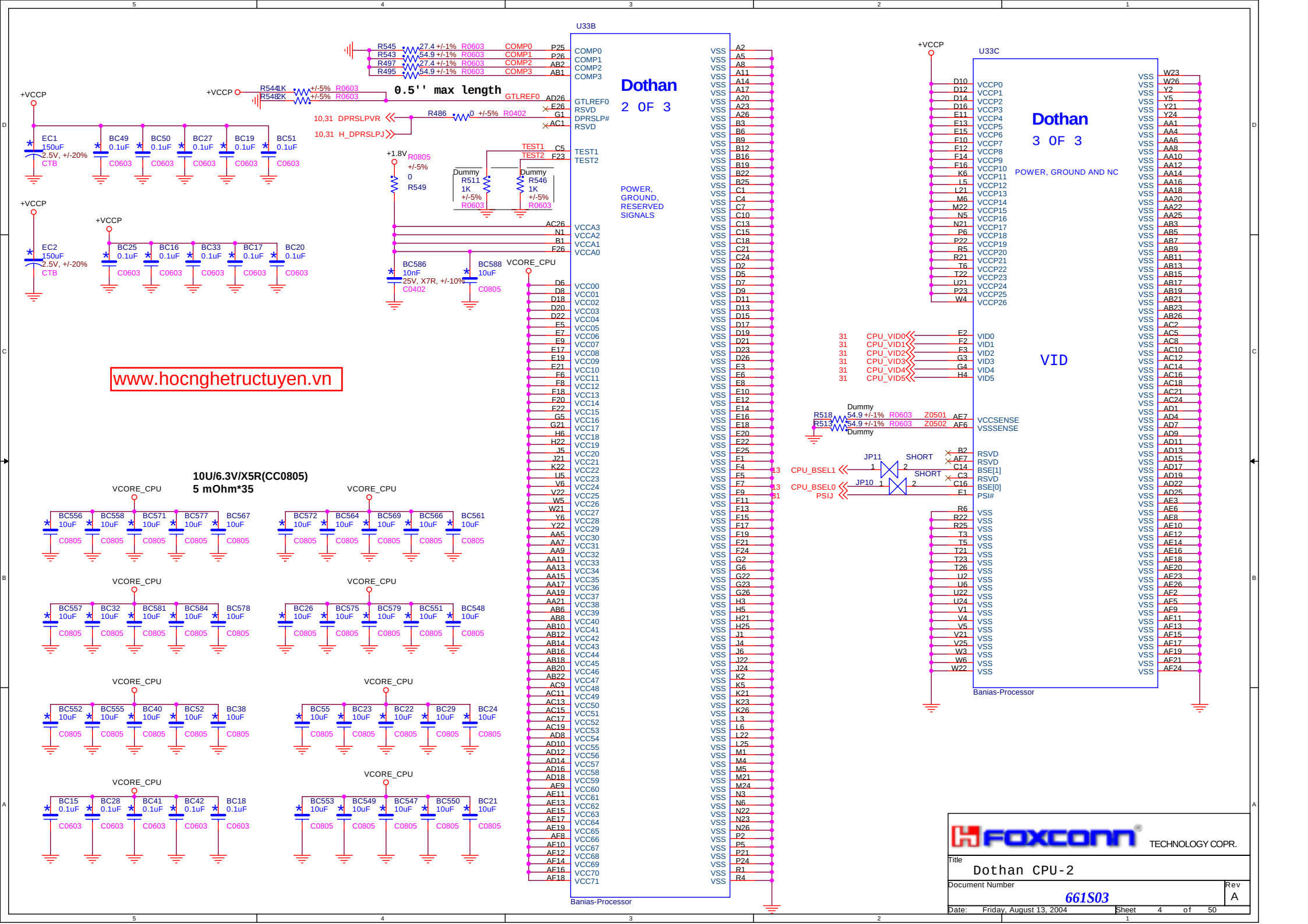

U33A
Dothan
1 OF 3
HAJ[3..31]
HDJ[0..63]
REQUEST PHASE SIGNALS
DATA PHASE SIGNALS
ERROR SIGNALS
ARBITRATION PHASE SIGNALS
SNOOP PHASE SIGNALS
RESPONSE PHASE SIGNALS
PC COMPATIBILITY SIGNALS
DIAGNOSTIC & TEST SIGNALS
EXECUTION CONTROL SIGNALS
THERMAL DIODE
Banias-Processor
www.hocnghetructuyen.vn
Q50 2N7002
Q51 2N7002
MBCLK
MBDATA
TEMP_ALERTJ
U34 MAX6648
SMCLK
SMDATA
-ALT
GND
VCC
DXP
DXN
-OVT
THERMDA
THERMDC
TEMP_OVTJ
H_CPURSTJ
TDO_H
TMS_H
TDI_H
DBRJ
TCK_H
TRSTJ
H_PWRGD
CPUPWRGD
H_FERRJ
HBREQJ0
CPU_PROCHOTJ
PM_THRMTRIPJ
H_A20MJ
H_STPCLKJ
H_CPUSLPJ
H_SMIJ
H_INITJ
H_IGNNEJ
H_INTR
H_NMI
H_DPSLPJ
Sis FAE Suggestion
Lonny update July 1st
FOXCONN
TECHNOLOGY COPR.
Dothan CPU-1
661S03
Friday, August 13, 2004


U33B
Dothan
2 OF 3
POWER, GROUND, RESERVED SIGNALS
Banias-Processor
U33C
Dothan
3 OF 3
POWER, GROUND AND NC
VID
Banias-Processor
0.5'' max length
10U/6.3V/X5R(CC0805)
5 mOhm*35
www.hocnghetructuyen.vn
FOXCONN
TECHNOLOGY COPR.
Title
Dothan CPU-2
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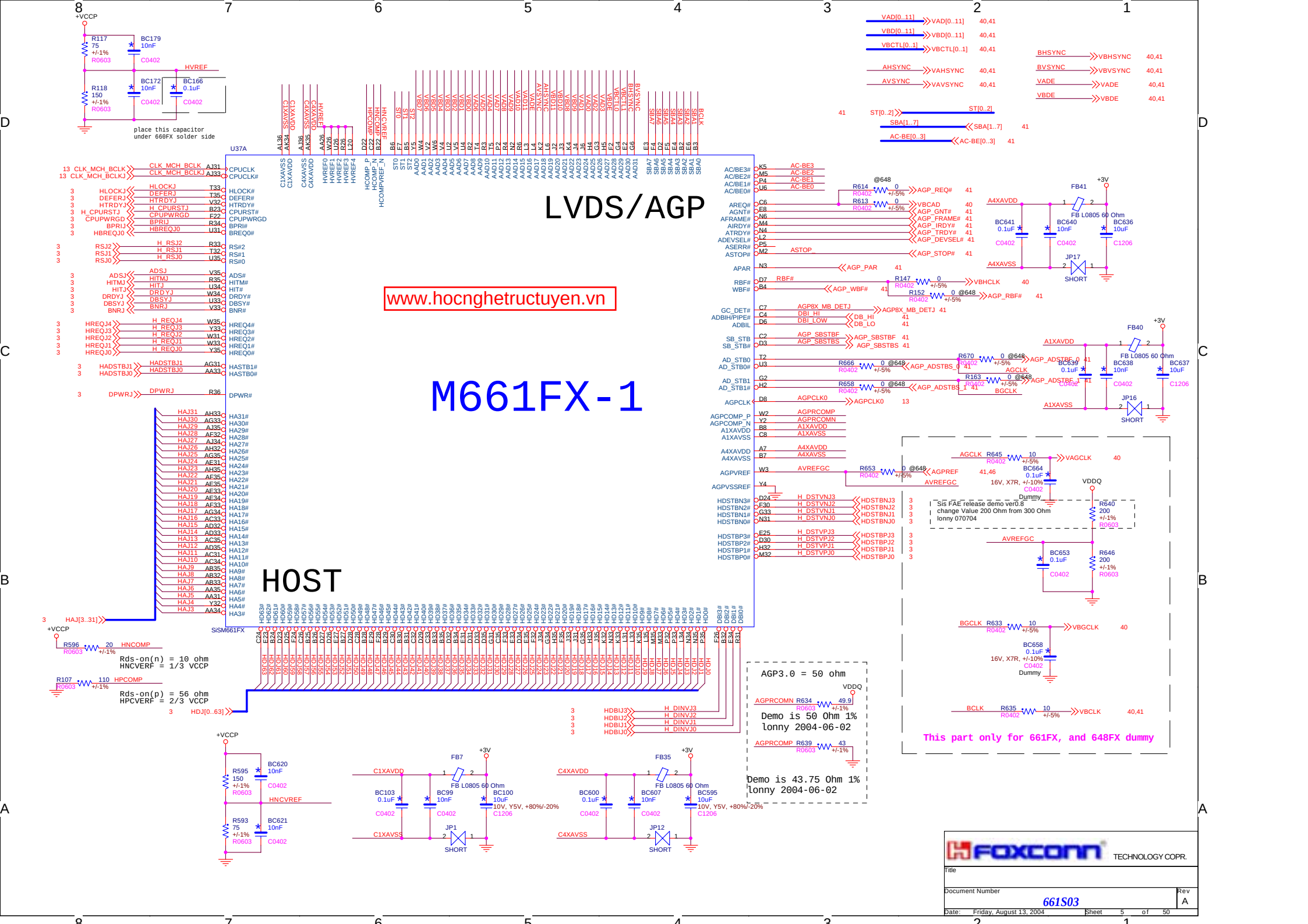
LVDS/AGP
HOST
M661FX-1
www.hocnghetructuyen.vn
U37A
SiSM661FX
place this capacitor under 660FX solder side
Rds-on(n) = 10 ohm
HNCVERF = 1/3 VCCP
Rds-on(p) = 56 ohm
HPCVERF = 2/3 VCCP
AGP3.0 = 50 ohm
Demo is 50 Ohm 1%
lonny 2004-06-02
Demo is 43.75 Ohm 1%
lonny 2004-06-02
Sis FAE release demo ver0.8
change Value 200 Ohm from 300 Ohm
lonny 070704
This part only for 661FX, and 648FX dummy
FB L0805 60 Ohm
SHORT
FOXCONN
TECHNOLOGY COPR.
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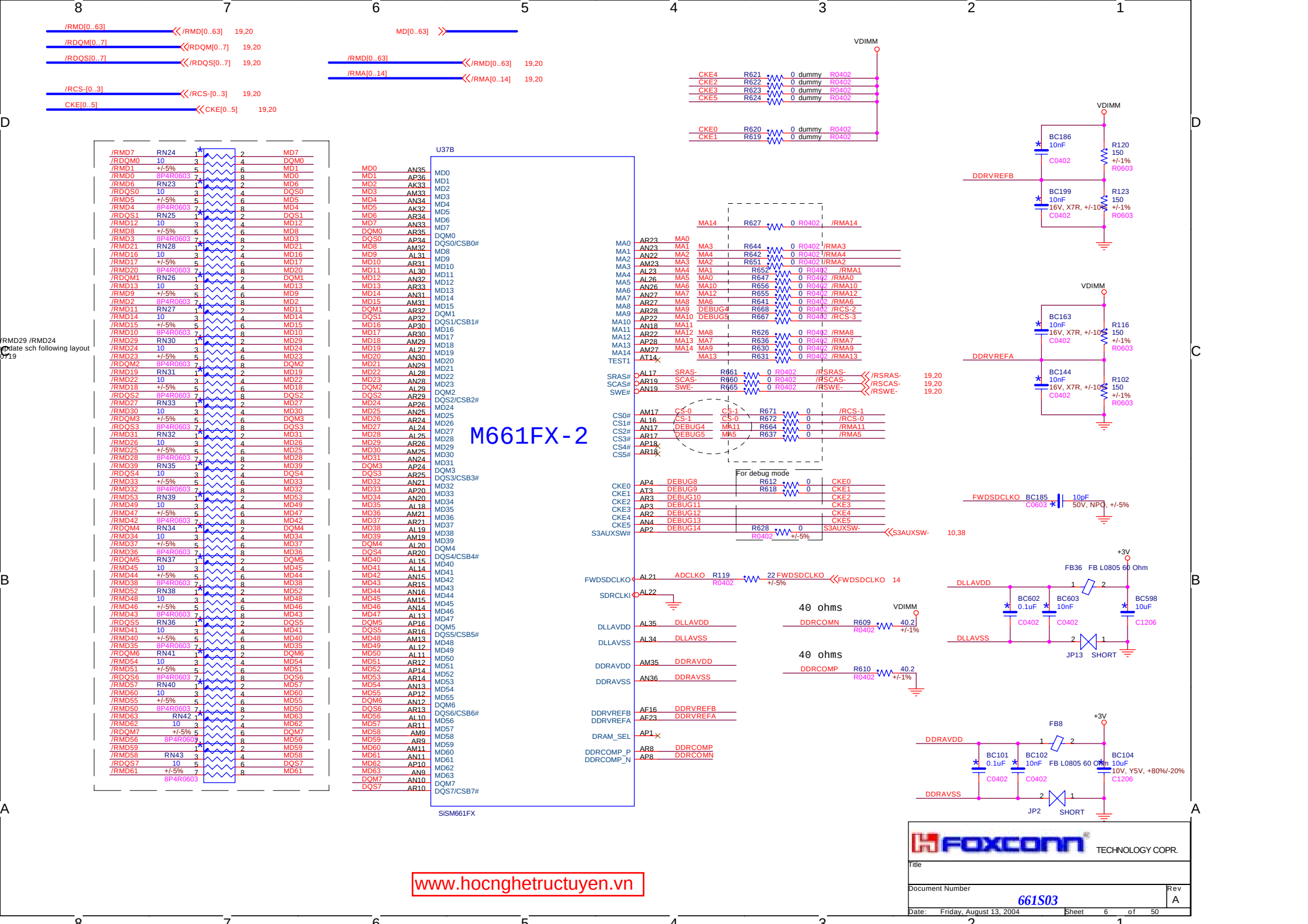
M661FX-2
U37B
SiSM661FX
/RMD29 /RMD24
Update sch following layout
0719
For debug mode
40 ohms
40 ohms
FOXCONN
TECHNOLOGY COPR.
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www.hocnghetructuyen.vn

9 ZAD[0..16]

ZAD[0..16]

NB Hardware Trap
(for SiS internal test only)

DLLEN- R139 0 dummy R0402 +/-5%
TRAP0 R141 0 dummy R0402 +/-5%
TRAP1 R144 0 dummy R0402 +/-5%

TMODE0 R137 0 dummy R0402 +/-5%
TMODE1 R608 0 dummy R0402 +/-5%
TMODE2 R607 0 dummy R0402 +/-5%

+1.8V
R153 150 +/-1% R0603
BC248 0.1uF 16V, X7R, +/-10% C0402
ZVREF
R138 75 +/-1% R0402
R146 150 +/-1% R0603
BC231 0.1uF 16V, X7R, +/-10% C0402

U37C

HyperZip

M661FX-3

SiSM661FX

		ZCLK0	AL6	ZCLK
13	ZCLK0			
9	ZUREQ	ZUREQ	AL4	ZUREQ
9	ZDREQ	ZDREQ	AK5	ZDREQ
9	ZSTB0	ZSTB0	AJ2	ZSTB0
9	ZSTB-0	ZSTB-0	AJ3	ZSTB0#
9	ZSTB1	ZSTB1	AF3	ZSTB1
9	ZSTB-1	ZSTB-1	AF2	ZSTB1#

ZAD0 AH5 ZAD0
ZAD1 AK2 ZAD1
ZAD2 AJ4 ZAD2
ZAD3 AJ6 ZAD3
ZAD4 AH2 ZAD4
ZAD5 AH4 ZAD5
ZAD6 AG3 ZAD6
ZAD7 AG6 ZAD7
ZAD8 AF4 ZAD8
ZAD9 AG2 ZAD9
ZAD10 AF5 ZAD10
ZAD11 AG4 ZAD11
ZAD12 AD2 ZAD12
ZAD13 AE6 ZAD13
ZAD14 AE2 ZAD14
ZAD15 AE4 ZAD15
ZAD16 AL3 ZAD16

ZVREF AK4 ZVREF

ZCMP_N AD5 ZCOMP_N
ZCMP_P AD4 ZCOMP_P

Z1XAVDD AN1 Z1XAVDD
Z1XAVSS AM2 Z1XAVSS

Z4XAVDD AL2 Z4XAVDD
Z4XAVSS AL1 Z4XAVSS

VOSCI A15 REFCLK0 13

ROUT B12 302LV_CRT_R 18
GOUT B13 302LV_CRT_G 18
BOUT A13 302LV_CRT_B 18

HSYNC A11 R606 33 R0402 302LV_CRTHS_VGA 18
VSYNC B11 R605 33 R0402 302LV_CRTVS_VGA 18

VGPIO0 E13 R132 100 R0402 302LV_DDCCLK 18
VGPIO1 C11 R135 100 R0402 302LV_DDCDAT 18

Update sch basis on demo ver0.8
lonny 2004/07/12

INT#A C10 INT-A 9,22,23,40

CSYNC D12 CSYNC
RSYNC E12 RSYNC
LSYNC D11 LSYNC

VCOMP E15 VCOMP
VRSET D15 VRSET
VVBWN E14 VVBWN

DACAVDD1 D13 DACAVDD
DACAVSS1 C12 DACAVSS

DACAVDD2 D14 DACAVDD
DACAVSS2 C13 DACAVSS

DCLKAVDD B15 DCLKAVDD
DCLKAVSS C15 DCLKAVSS

ECLKAVDD B14 ECLKAVDD
ECLKAVSS C14 ECLKAVSS

PCIRST# AN2
PWROK AM4
AUXOK AN3
TRAP1 F9
TRAP0 D10
TESTMODE2 C9
TESTMODE1 B9
TESTMODE0 B10
DLLEN# E10
ENTEST D9

9 NBRSTJ
10,15,31 PWRGD
10,32 AUXOK

PWRGD
AUXOK

		Enable	Disable
RSYNC	VGA Interrupt	1	0
LSYNC	TBD	1	0
CSYNC	TBD	1	0

+3V
RSYNC R130 4.7K R0402 +/-5%
LSYNC R140 4.7K R0402 +/-5% Dummy
CSYNC R133 4.7K R0402 +/-5% Dummy
RSYNC R131 4.7K R0402 +/-5% Dummy
LSYNC R136 4.7K R0402 +/-5%
CSYNC R134 4.7K R0402 +/-5%

This part only for 661FX, and 648FX reserved.

+3V
FB43 FB L0805 60 Ohm
BC670 10uF C1206
BC657 0.1uF C0402
BC650 10nF 16V, X7R, +/-10% C0402
JP18 SHORT
Z1XAVDD
Z1XAVSS

+3V
FB42 FB L0805 60 Ohm
BC669 10uF C1206
BC649 0.1uF C0402
BC656 10nF 16V, X7R, +/-10% C0402
JP19 SHORT
Z4XAVDD
Z4XAVSS

+1.8V
FB11 FB L0805 60 Ohm
BC229 10uF C1206
BC230 0.1uF C0402
BC233 10nF 16V, X7R, +/-10% C0402
JP4 SHORT
R148 56 +/-1% R0603 ZCMP_N
R149 56 +/-1% R0603 ZCMP_P

ENTEST R142 4.7K R0402 +/-5%
PWRGD BC648 0.1uF C0402
AUXOK BC655 0.1uF C0402

+3V
DCLKAVDD
FB38 FB L0805 60 Ohm
BC628 10nF C0402
BC627 0.1uF C0402
BC626 10uF C1206
JP14 SHORT
DCLKAVSS

+3V
ECLKAVDD
FB39 FB L0805 60 Ohm
BC632 10nF C0402
BC633 0.1uF C0402
BC631 10uF C1206
JP15 SHORT
ECLKAVSS

VVBWN BC197 0.1uF C0402 VRSET
VCOMP BC187 0.1uF C0402
+1.8V
DACAVDD
FB10 FB L0805 60 Ohm
BC198 0.1uF C0402
BC201 1uF C0603
BC194 10uF C1206
JP3 SHORT
DACAVSS
R122 130 +/-1% R0402

This part only for 661FX, and 648FX reserved.

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M661FX-4

Power

661 bottom side

U37D

SiS661FX

change to DPWR#

change to MA15

648 solder side

close to 648 and on VDDQ plane

Place these capacitors under 661 solder side

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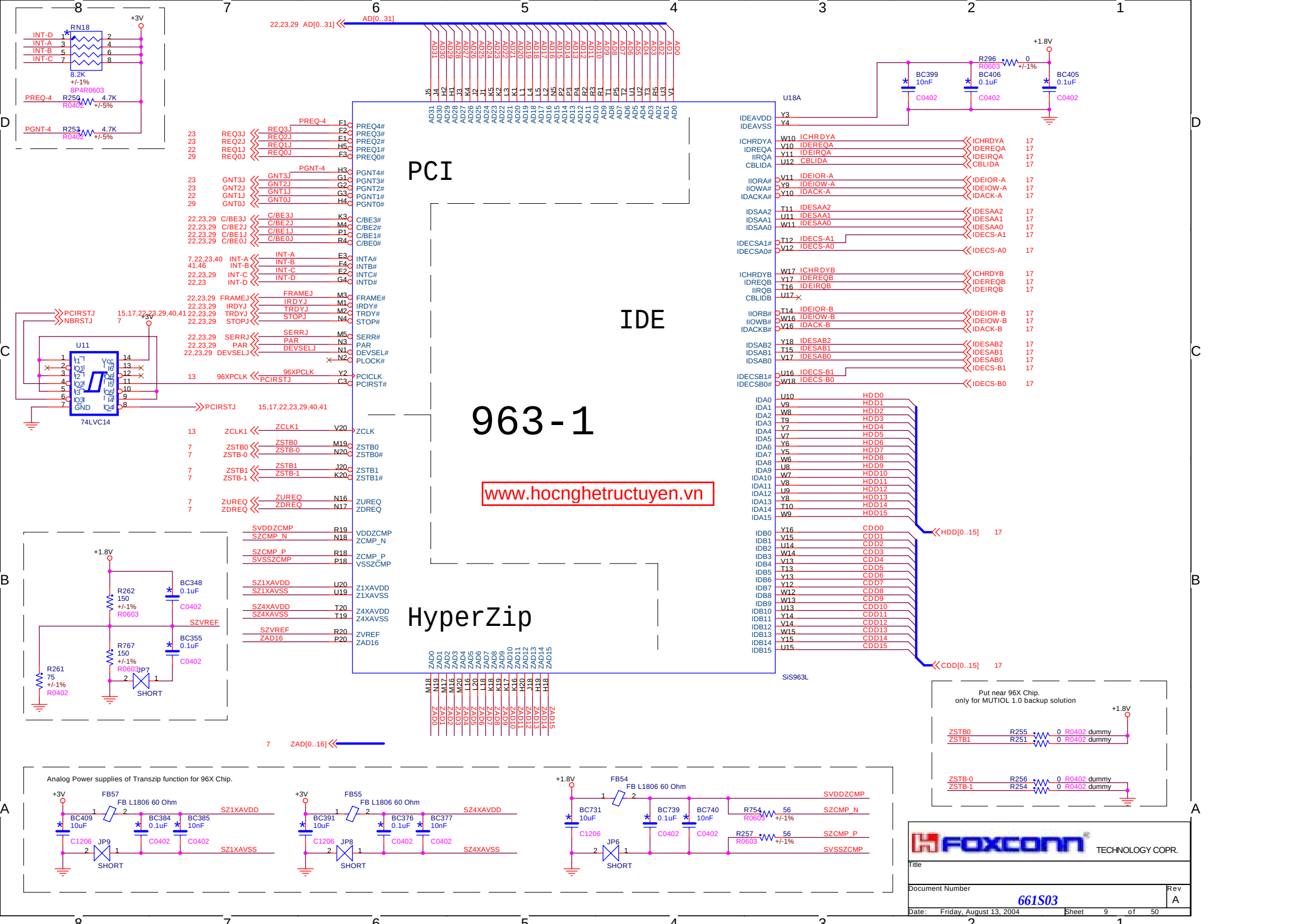
PCI
IDE
963-1
HyperZip
www.hocnghetructuyen.vn
SiS963L
U18A
U11
74LVC14
RN18
8P4R0603
Analog Power supplies of Transzip function for 96X Chip.
Put near 96X Chip.
only for MUTIOL 1.0 backup solution
FOXCONN
TECHNOLOGY COPR.
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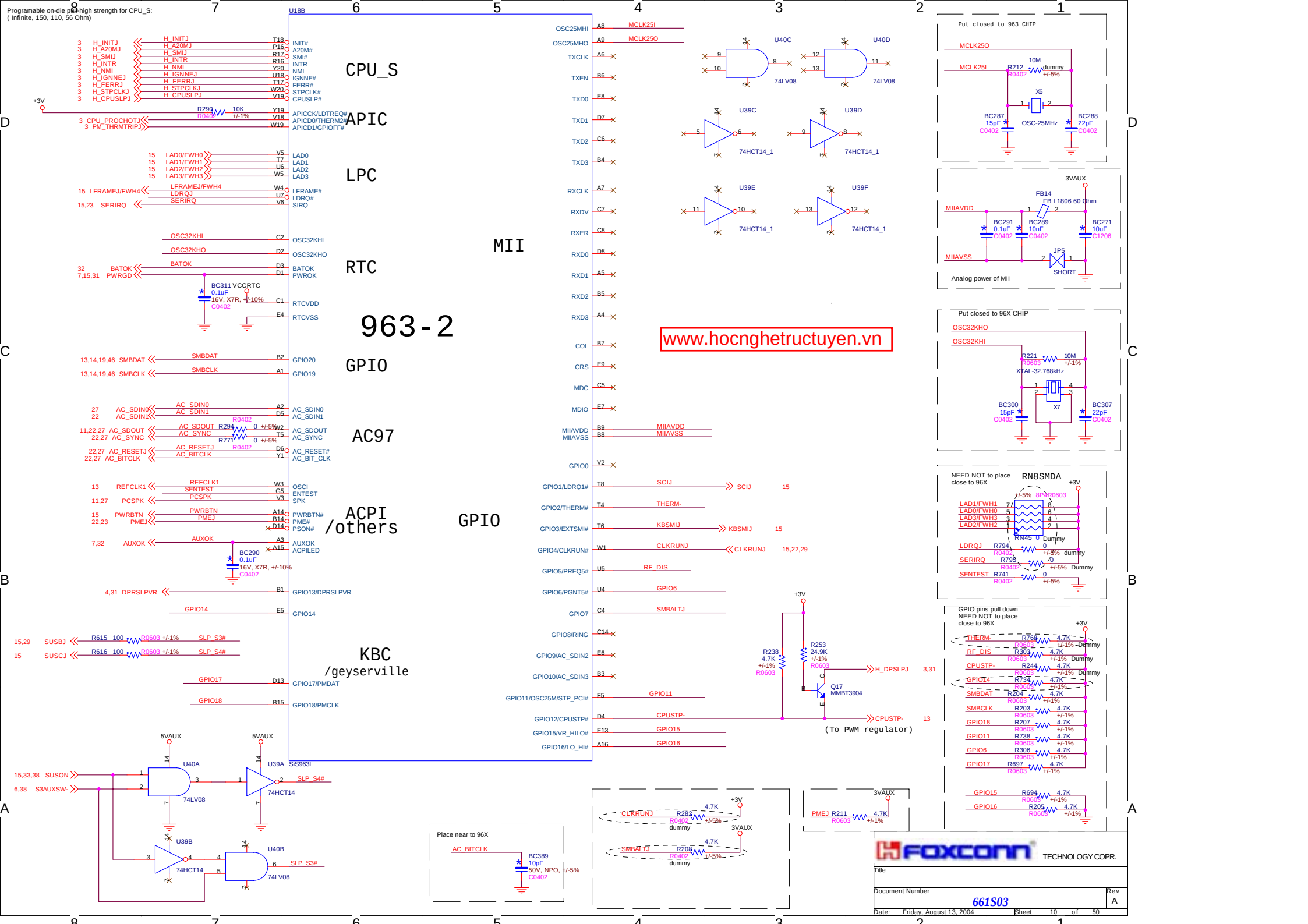
Programable on-die pull-high strength for CPU_S:
(Infinite, 150, 110, 56 Ohm)
U18B
CPU_S
APIC
LPC
RTC
963-2
GPIO
AC97
ACPI
/others
KBC
/geyserville
MII
GPIO
www.hocnghetructuyen.vn
H_INITJ
H_A20MJ
H_SMIJ
H_INTR
H_NMI
H_IGNNEJ
H_FERRJ
H_STPCLKJ
H_CPUSLPJ
CPU_PROCHOTJ
PM_THRMTRIPJ
LAD0/FWH0
LAD1/FWH1
LAD2/FWH2
LAD3/FWH3
LFRAMEJ/FWH4
LDRQJ
SERIRQ
OSC32KHI
OSC32KHO
BATOK
PWRGD
SMBDAT
SMBCLK
AC_SDIN0
AC_SDIN1
AC_SDOUT
AC_SYNC
AC_RESETJ
AC_BITCLK
REFCLK1
SENTEST
PCSPK
PWRBTN
PMEJ
AUXOK
DPRSLPVR
GPIO14
SUSBJ
SUSCJ
GPIO17
GPIO18
MCLK25I
MCLK25O
TXCLK
TXEN
TXD0
TXD1
TXD2
TXD3
RXCLK
RXDV
RXER
RXD0
RXD1
RXD2
RXD3
COL
CRS
MDC
MDIO
MIIAVDD
MIIAVSS
GPIO0
GPIO1/LDRQ1#
GPIO2/THERM#
GPIO3/EXTSMI#
GPIO4/CLKRUN#
GPIO5/PREQ5#
GPIO6/PGNT5#
GPIO7
GPIO8/RING
GPIO9/AC_SDIN2
GPIO10/AC_SDIN3
GPIO11/OSC25M/STP_PCI#
GPIO12/CPUSTP#
GPIO15/VR_HILO#
GPIO16/LO_HI#
SCIJ
THERM-
KBSMIJ
CLKRUNJ
RF_DIS
CPUSTP-
SMBALTJ
H_DPSLPJ
Q17
MMBT3904
(To PWM regulator)
U40A
U40B
U40C
U40D
U39A
U39B
U39C
U39D
U39E
U39F
74LV08
74HCT14
74HCT14_1
SIS963L
Put closed to 963 CHIP
Put closed to 96X CHIP
Analog power of MII
NEED NOT to place close to 96X
GPIO pins pull down
NEED NOT to place close to 96X
RN8SMDA
Place near to 96X
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SDATO(Trap mode)

U18C

USB

963-3

1394

SiS963L

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13 UCLK48M — UCLK48M — V4 USBCLK48M

17 SYSUSBP0+ — B18 UV0+
17 SYSUSBP0- — C18 UV0-
17 SYSUSBP1+ — D18 UV1+
17 SYSUSBP1- — D19 UV1-
18 SYSUSBP2+ — E14 UV2+
18 SYSUSBP2- — D15 UV2-
18 SYSUSBP3+ — E18 UV3+
18 SYSUSBP3- — F18 UV3-
UV4+ — E16 UV4+
UV4- — E15 UV4-
UV5+ — G18 UV5+
UV5- — G19 UV5-

OC0- — G20 OC0#
OC1- — G17 OC1#
OC2- — J16 OC2#
OC3- — H16 OC3#
OC4- — H17 OC4#
OC5- — G16 OC5#

3VAUX — FB47 — FB L0805 60 Ohm

BC692 10uF, 10V, X5R, +/-10% C1206
BC681 1uF C0603
BC680 0.1uF, 10V, X7R, +/-10% C0402

D16 USBVDD
D17 USBVDD
E17 USBVDD
F17 USBVDD

F19 USBVSS
E19 USBVSS
B19 USBVSS
B17 USBVSS

connect VSS pin directly to GND

15 D[0..7]

D0 — A12 D0
D1 — B12 D1
D2 — C12 D2
D3 — D12 D3
D4 — E12 D4
D5 — A13 D5
D6 — B13 D6
D7 — C13 D7

D11 CTL0
C11 CTL1

SCLK E11
LINKON C19
LREQ A19
LPS A20

GPIO21/EESK F20 GPIO21
GPIO22/EEDI D20 GPIO22
GPIO23/EEDO E20 GPIO23
GPIO24/EECS C20 GPIO24

OSC12MHI B16 OSC12MHI
OSC12MHO A17 OSC12MHO

USBREF F16 USBREF — R702 R0603 412 +/-1%

USBPVDD A18 USBPVDD
USBPVSS C15 USBPVSS

IVDD_AUX C16 IVDD_AUX
IVDD_AUX C17 IVDD_AUX

IPBRST# B11
TDFRAME D10
RDFRAME A11
IPB_RDCLK E10
IPB_TDCLK D9
IPB_OUT0/PLLENN B10
IPB_OUT1/ZCLKSEL A10
IPB_IN0 C10
IPB_IN1 C9

USBREFAVDD B20 USBPVDD

3VAUX — R705 4.7K +/-5% R0402

U15 AT93C46-2.7V
GPIO24 — 1 CS — 8 VCC
GPIO21 — 2 SK — 7 NC
GPIO22 — 3 DI — 6 ORG
GPIO23 — 4 DO — 5 GND
3VAUX — VCC
GND

OSC12MHI
OSC12MHO

R209 R0603 10M +/-5%

X5 12M

BC286 15pF, 50V, NPO, +/-5% C0402
BC285 10pF, 50V, NPO, +/-5% C0402

X5 not in CIS 070904 lonny

+3V

OC3- R739 10K R0402
OC4- R742 10K R0402
OC5- R737 10K R0402
OC0- R239 10K R0402
OC1- R736 10K R0402
OC2- R743 10K R0402

UV4+ R731 15K R0402
UV4- R730 15K R0402
UV5+ R236 15K R0402
UV5- R235 15K R0402

SB Hardware Trap

+3V

10,27 PCSPK — R280 4.7K R0402 dummy
10,22,27 AC_SDOUT — R305 4.7K R0402 dummy
OC4- — R740 0 R0402 dummy

external pull-up at page 28 USB header

+1.8VAUX

IVDD_AUX

R691 0 +/-5% R0402

BC690 1uF C0603
BC686 10nF, 16V, X7R, +/-10% C0402
BC684 10uF, 10V, X5R, +/-10% C1206

JP20 SHORT

3VAUX

FB48 FB L0805 60 Ohm

USBPVDD

BC699 10nF, 16V, X7R, +/-10% C0402
BC698 1uF C0603
BC678 10uF, 10V, X5R, +/-10% C1206

JP21 SHORT

USBPVSS

	0	1	Default	internal pull-low (30~50K Ohm)
SPKR(LPC addr mapping)	disable	enable	R169 un-stuff	yes
SDATO(Trap from)	ROM	PCI AD	R170 un-stuff	yes
OC4-(SB debug mode)	enable	disable	R171 un-stuff	NO
SYNC(PCICLK PLL)	enable	disable	NONE	yes

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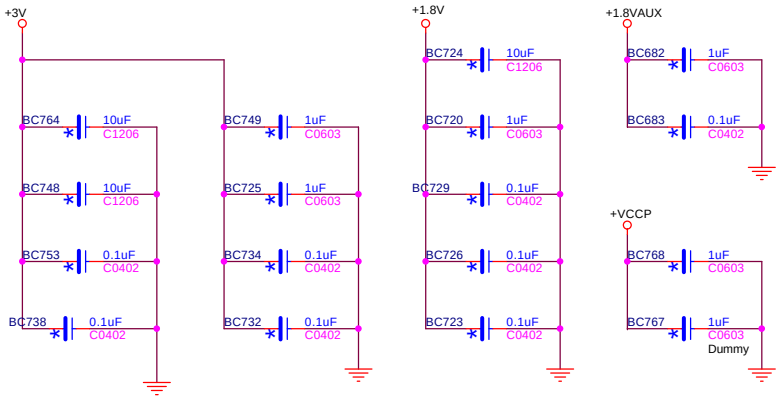

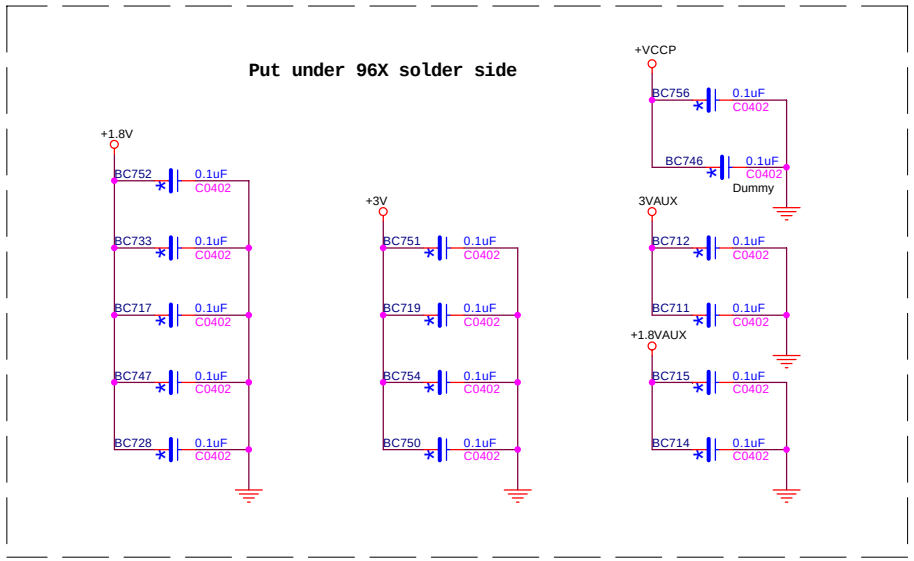

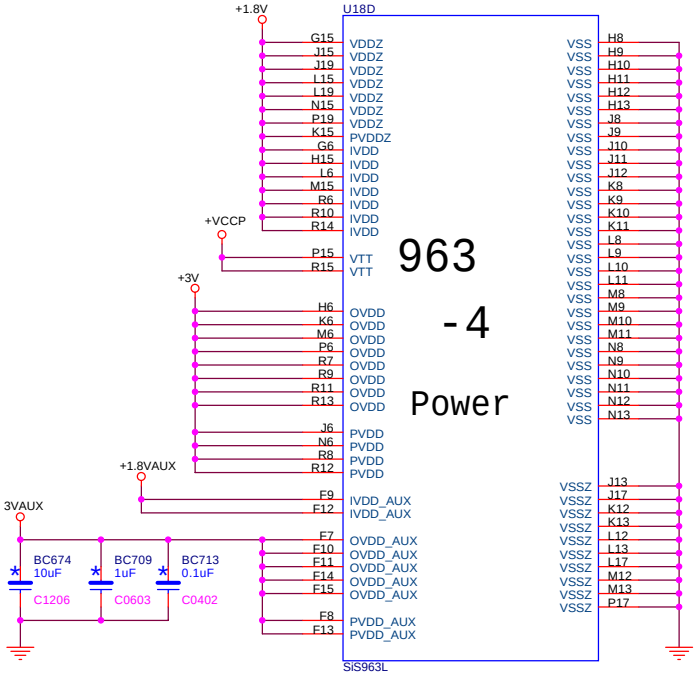

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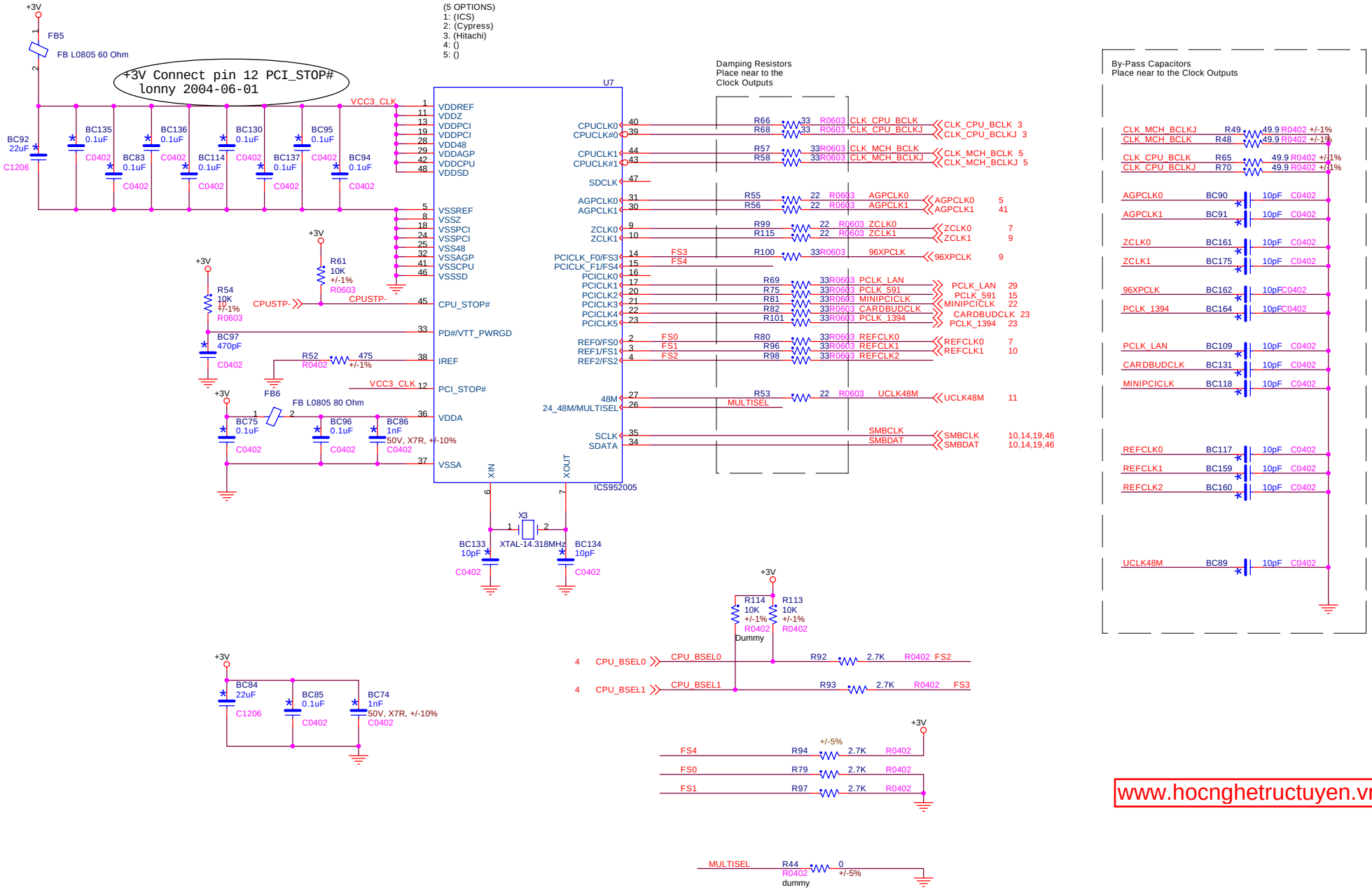
Main Clock Generator

(5 OPTIONS)
1: (ICS)
2: (Cypress)
3. (Hitachi)
4: ()
5: ()

+3V Connect pin 12 PCI_STOP#
lonny 2004-06-01

Damping Resistors
Place near to the
Clock Outputs

By-Pass Capacitors
Place near to the Clock Outputs



FOXCONN TECHNOLOGY COPR.

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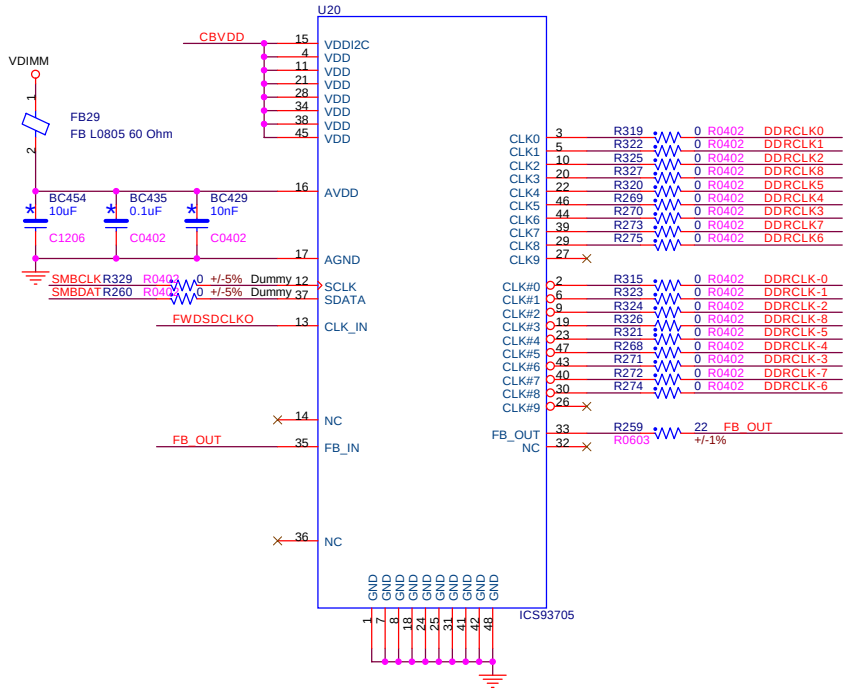
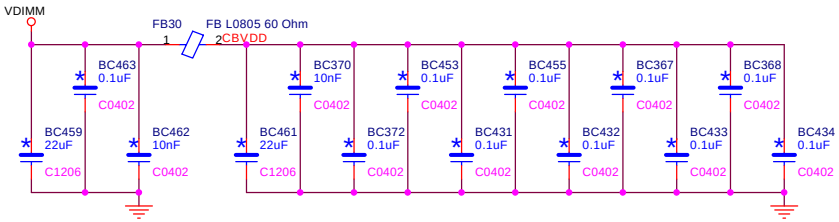
Clock Buffer (DDR)

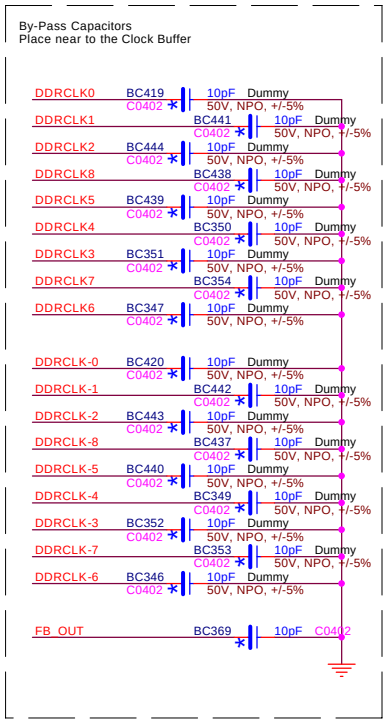
(OPTIONS)
1: (ICS-93705)

DDRCLK[0..8] — DDRCLK[0..8] 19
DDRCLK-[0..8] — DDRCLK-[0..8] 19
SMBCLK — SMBCLK 10,13,19,46
SMBDAT — SMBDAT 10,13,19,46
FWDSDCLKO — FWDSDCLKO 6





By-Pass Capacitors
Place near to the Clock Buffer



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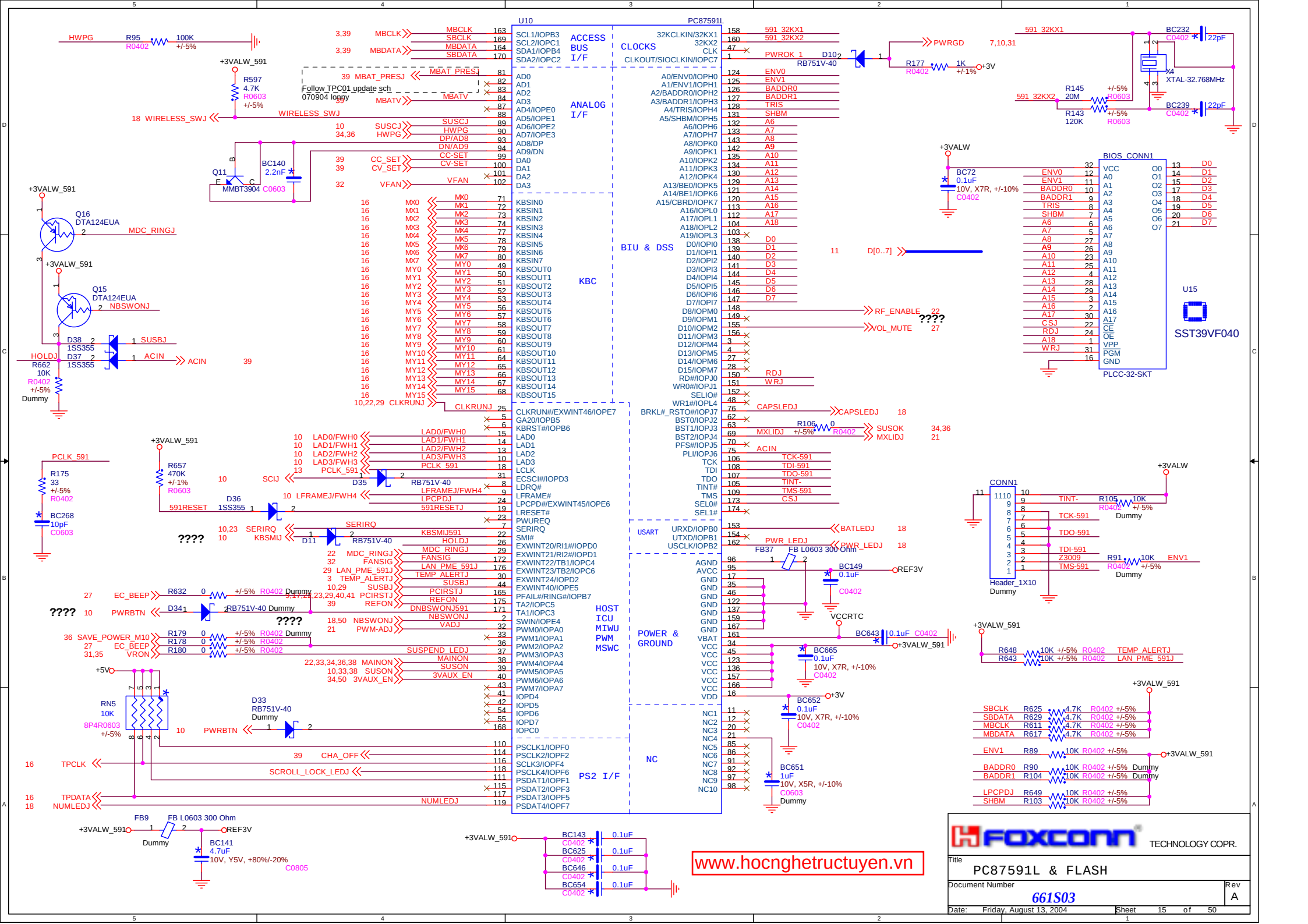
U10
PC87591L
ACCESS BUS I/F
CLOCKS
ANALOG I/F
BIU & DSS
KBC
USART
POWER & GROUND
HOST ICU MIWU PWM MSWC
PS2 I/F
NC
SCL1/IOPB3
SCL2/IOPC1
SDA1/IOPB4
SDA2/IOPC2
32KCLKIN/32KX1
32KX2
CLK
CLKOUT/SIOCLKIN/IOPC7
PWROK_1
RB751V-40
PWRGD
7,10,31
591_32KX1
591_32KX2
591_32KX2
BC232
C0402
22pF
X4
XTAL-32.768MHz
R145
20M
R143
120K
BC239
C0402
22pF
HWPG
R95
R0402
100K
+/-5%
+3VALW_591
R597
4.7K
R0603
+/-5%
WIRELESS_SWJ
Follow TPC01 update sch
070904 loogy
MBCLK
SBCLK
MBDATA
SBDATA
MBAT_PRESJ
MBATV
SUSCJ
HWPG
DP/AD8
DN/AD9
CC-SET
CV-SET
VFAN
Q11
MMBT3904
C0603
BC140
2.2nF
+3VALW
BC72
0.1uF
10V, X7R, +/-10%
C0402
BIOS_CONN1
PLCC-32-SKT
U15
SST39VF040
Q16
DTA124EUA
MDC_RINGJ
Q15
DTA124EUA
NBSWONJ
D38
D37
1SS355
SUSBJ
ACIN
HOLDJ
R662
10K
R0402
+/-5%
Dummy
MX0
MX1
MX2
MX3
MX4
MX5
MX6
MX7
MY0
MY1
MY2
MY3
MY4
MY5
MY6
MY7
MY8
MY9
MY10
MY11
MY12
MY13
MY14
MY15
CLKRUNJ
KBSIN0
KBSIN1
KBSIN2
KBSIN3
KBSIN4
KBSIN5
KBSIN6
KBSIN7
KBSOUT0
KBSOUT1
KBSOUT2
KBSOUT3
KBSOUT4
KBSOUT5
KBSOUT6
KBSOUT7
KBSOUT8
KBSOUT9
KBSOUT10
KBSOUT11
KBSOUT12
KBSOUT13
KBSOUT14
KBSOUT15
D[0..7]
RF_ENABLE
VOL_MUTE
????
RDJ
WRJ
CAPSLEDJ
MXLIDJ
SUSOK
R106
0
R0402
+/-5%
TCK-591
TDI-591
TDO-591
TINT-
TMS-591
CSJ
BATLEDJ
PWR_LEDJ
FB37
FB L0603 300 Ohm
BC149
0.1uF
C0402
REF3V
VCCRTC
BC643
0.1uF
C0402
+3VALW_591
BC665
0.1uF
10V, X7R, +/-10%
C0402
BC652
0.1uF
10V, X7R, +/-10%
C0402
+3V
BC651
1uF
10V, X5R, +/-10%
C0603
Dummy
CONN1
Header_1X10
Dummy
TINT-
TCK-591
TDO-591
TDI-591
Z3009
TMS-591
R105
R91
10K
R0402
+/-5%
ENV1
R657
470K
+/-1%
R0603
591RESET
D36
1SS355
PCLK_591
R175
33
+/-5%
R0402
BC268
10pF
C0603
SCIJ
LFRAMEJ/FWH4
LPCPDJ
591RESETJ
SERIRQ
KBSMIJ
D11
RB751V-40
KBSMIJ591
HOLDJ
MDC_RINGJ
FANSIG
LAN_PME_591J
TEMP_ALERTJ
SUSBJ
PCIRSTJ
REFON
DNBSWONJ591
NBSWONJ
VADJ
PWM-ADJ
D35
LAD0/FWH0
LAD1/FWH1
LAD2/FWH2
LAD3/FWH3
LCLK
ECSCI#/IOPD3
LDRQ#
LFRAME#
LPCPD#/EXWINT45/IOPE6
LRESET#
PWUREQ
SERIRQ
SMI#
EXWINT20/RI1#/IOPD0
EXWINT21/RI2#/IOPD1
EXWINT22/TB1/IOPC4
EXWINT23/TB2/IOPC6
EXWINT24/IOPD2
EXWINT40/IOPE5
PFAIL#/RING#/IOPB7
TA2/IOPC5
TA1/IOPC3
SWIN/IOPE4
PWM0/IOPA0
PWM1/IOPA1
PWM2/IOPA2
PWM3/IOPA3
PWM4/IOPA4
PWM5/IOPA5
PWM6/IOPA6
PWM7/IOPA7
IOPD4
IOPD5
IOPD6
IOPD7
IOPC0
PSCLK1/IOPF0
PSCLK2/IOPF2
SCLK3/IOPF4
PSCLK4/IOPF6
PSDAT1/IOPF1
PSDAT2/IOPF3
PSDAT3/IOPF5
PSDAT4/IOPF7
AGND
AVCC
GND
VCC
VBAT
VDD
NC1
NC2
NC3
NC4
NC5
NC6
NC7
NC8
NC9
NC10
R648
R643
10K +/-5% R0402
TEMP_ALERTJ
LAN_PME_591J
SBCLK
SBDATA
MBCLK
MBDATA
R625
R629
R611
R617
4.7K R0402 +/-5%
ENV1
R89
10K R0402 +/-5%
BADDR0
BADDR1
R90
R104
LPCPDJ
SHBM
R649
R103
RN5
10K
8P4R0603
+/-5%
D33
RB751V-40
Dummy
PWRBTN
TPCLK
TPDATA
NUMLEDJ
CHA_OFF
SCROLL_LOCK_LEDJ
SAVE_POWER_M10
EC_BEEP
VRON
SUSPEND_LEDJ
MAINON
SUSON
3VAUX_EN
FB9
FB L0603 300 Ohm
BC141
4.7uF
10V, Y5V, +80%/-20%
C0805
BC143
BC625
BC646
BC654
0.1uF
C0402
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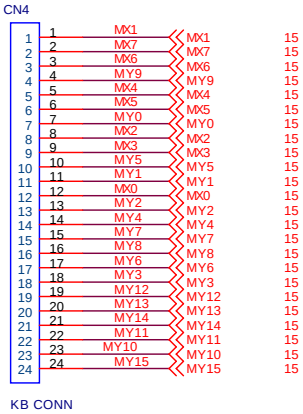
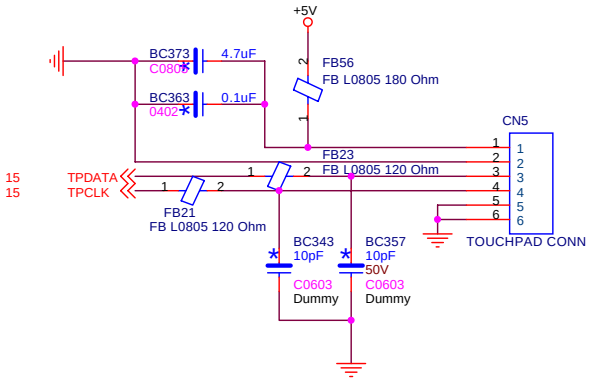
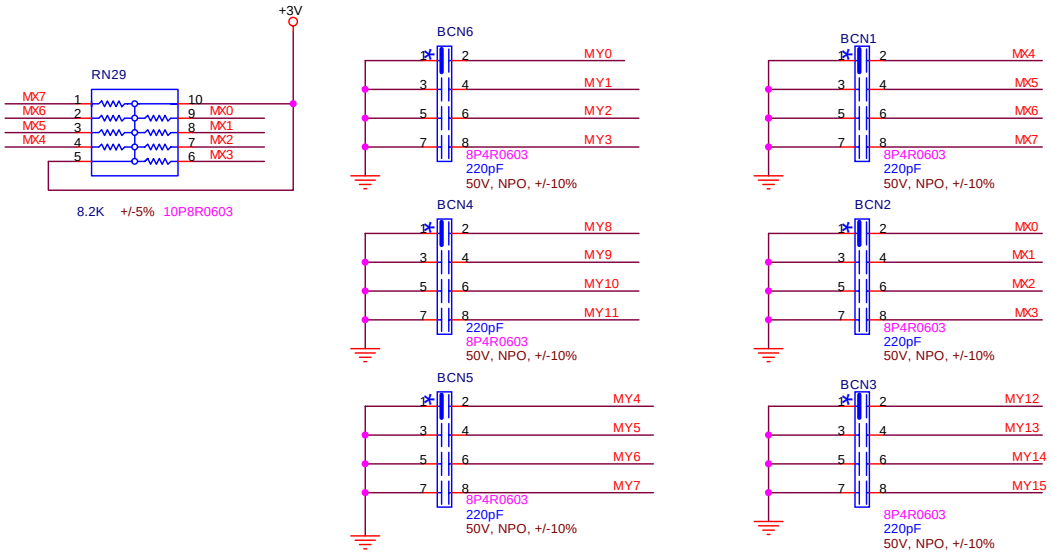
KEY BOARD



TOUCH PAD





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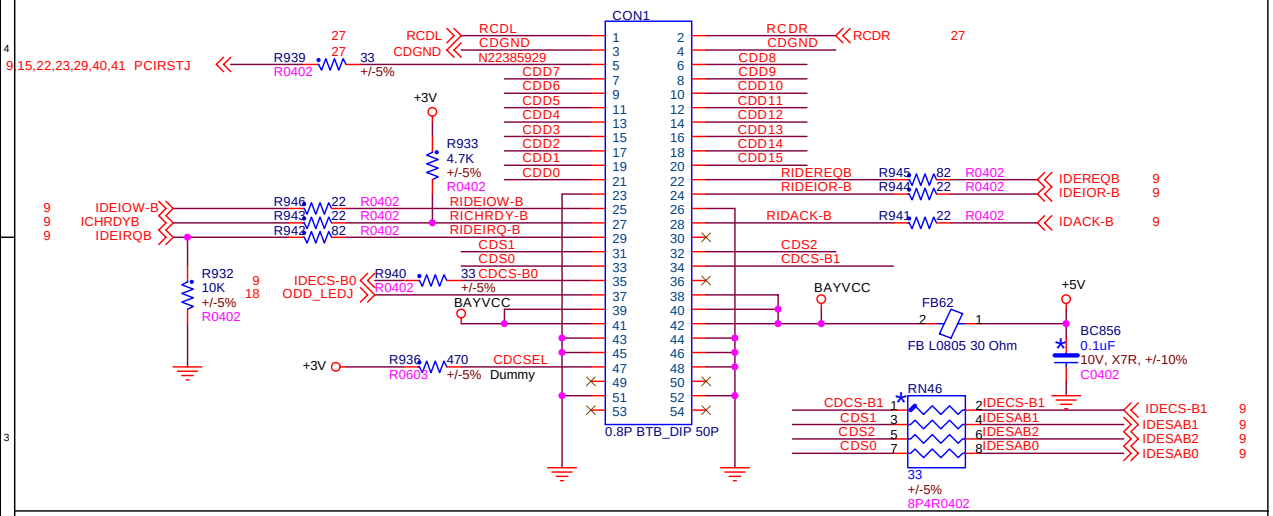
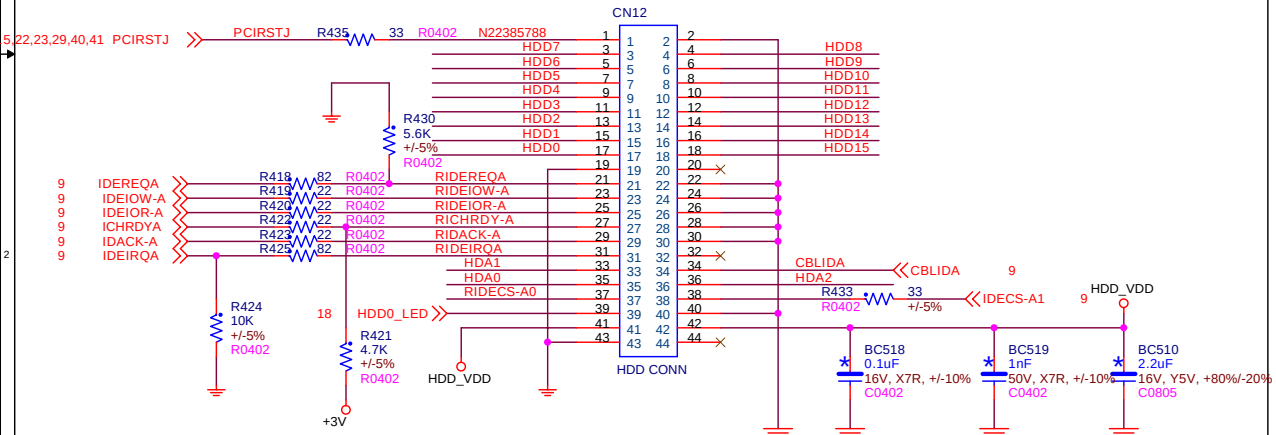
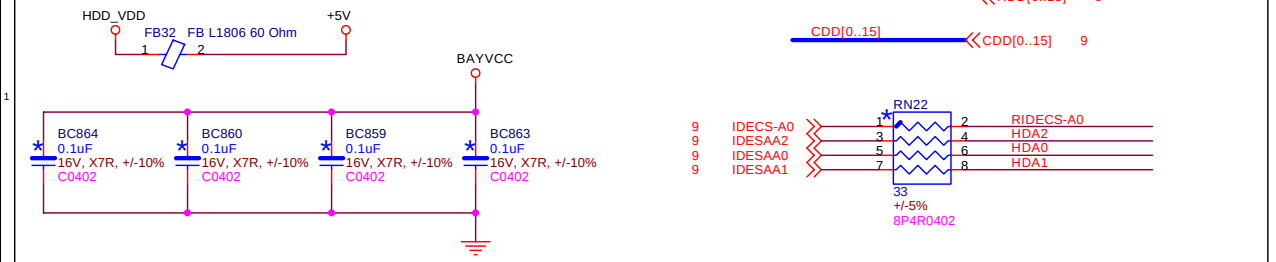
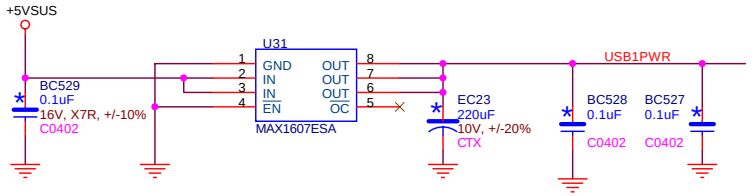
ODD CONNECTOR

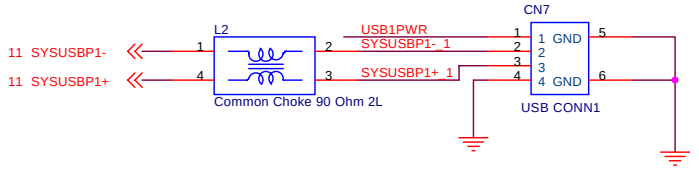


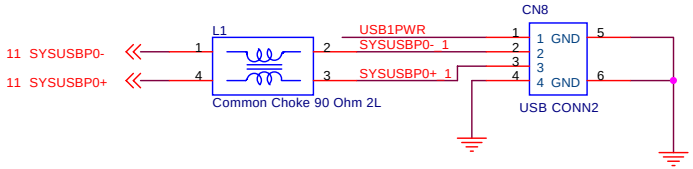
HDD CONNECTOR











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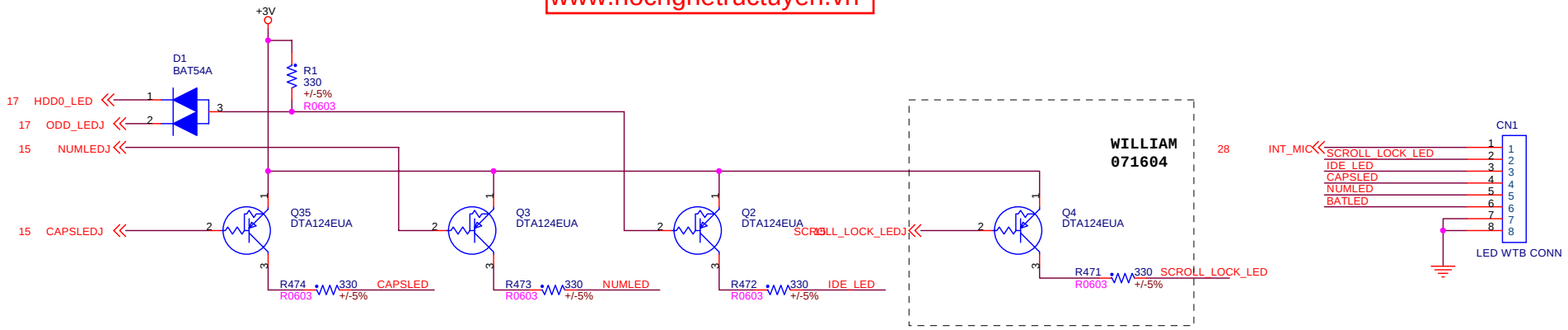

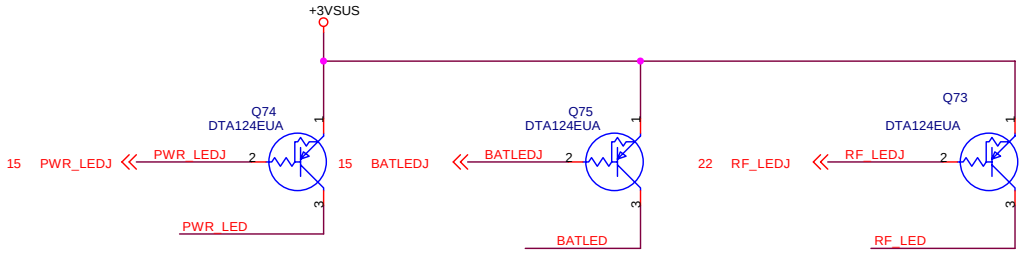

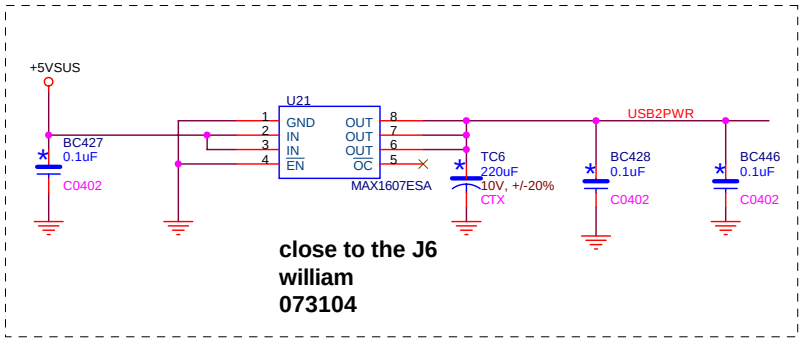

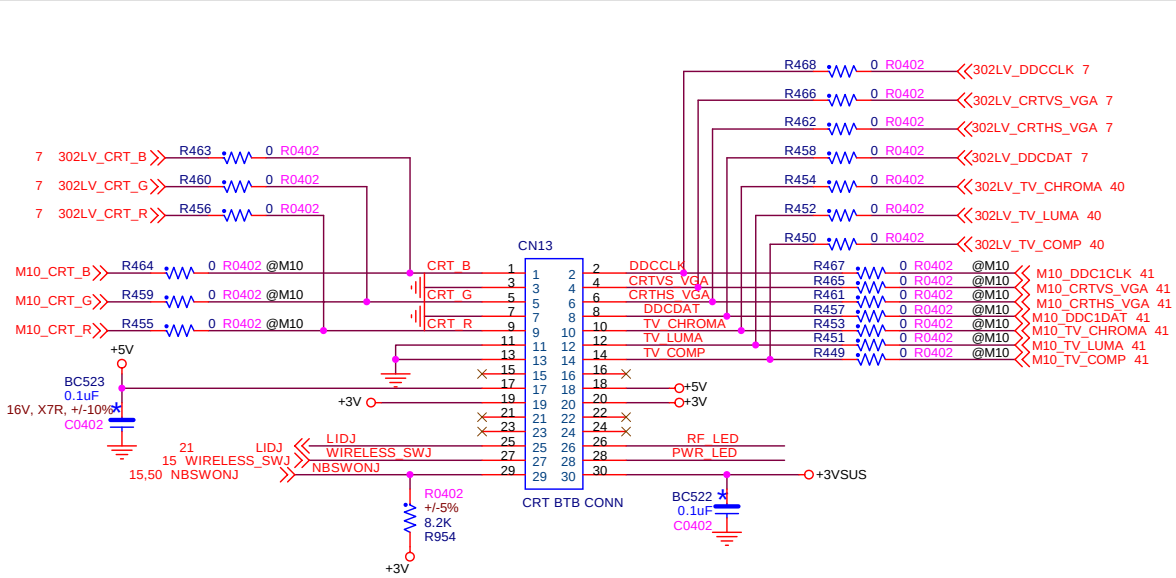

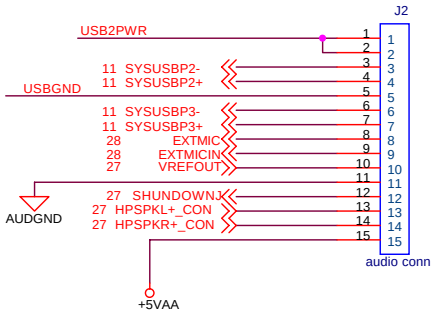

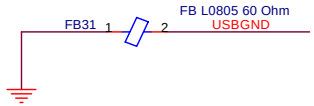

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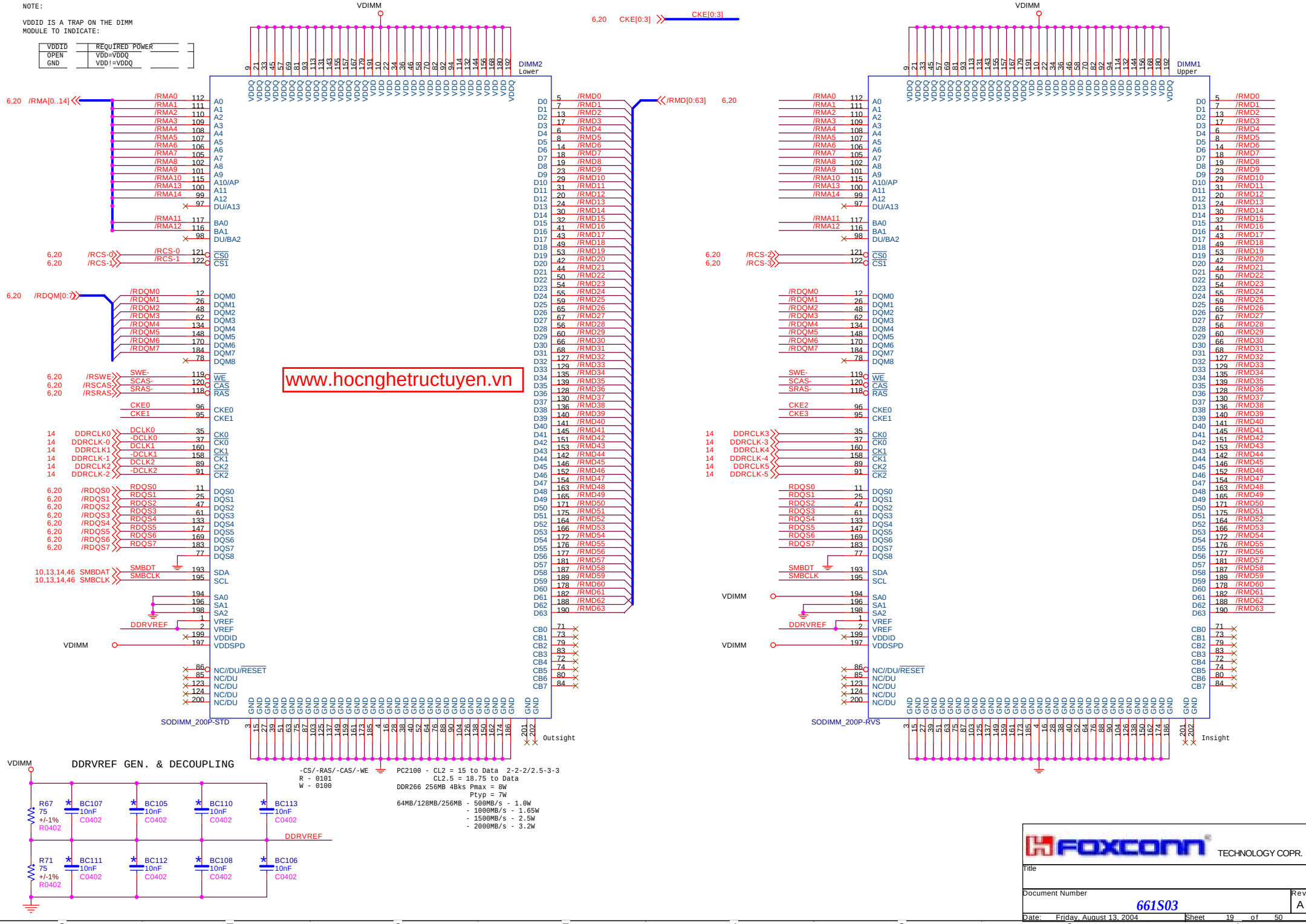
NOTE:

VDDID IS A TRAP ON THE DIMM MODULE TO INDICATE:

VDDID	REQUIRED POWER
OPEN	VDD=VDDQ
GND	VDD!=VDDQ



DDRVREF GEN. & DECOUPLING

-CS/-RAS/-CAS/-WE
R - 0101
W - 0100

PC2100 - CL2 = 15 to Data 2-2-2/2.5-3-3
CL2.5 = 18.75 to Data
DDR266 256MB 4Bks Pmax = 8W
Ptyp = 7W
64MB/128MB/256MB - 500MB/s - 1.0W
- 1000MB/s - 1.65W
- 1500MB/s - 2.5W
- 2000MB/s - 3.2W

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SSTL-2 Termination Resistors

	SDR		DDR		
		Rs		Rs	Rtt
MD/DQM(/DQS)	LV-CMOS	0/10/-	SSTL-2	10	33
MA/Control	LV-CMOS	10	SSTL-2	0	33
CS	LV-CMOS	0	SSTL-2	0	47
CKE	OD 3.3V		OD 2.5V		

/RMD[0..63] /RMD[0..63] 6,19
/RDQM[0..7] /RDQM[0..7] 6,19
/RDQS[0..7] /RDQS[0..7] 6,19
/RMA[0..14] /RMA[0..14] 6,19
/RCS-[0..3] /RCS-[0..3] 6,19

6,19 CKE[0..3] CKE[0..3]

DDR_VTT

/RMD4 /RMD5 /RDQM0 /RMD6 — RN1 33 +/-5% 8P4R0603
/RMD2 /RDQS0 /RMD1 /RMD0 — RN2 33 +/-5% 8P4R0603
/RDQS1 /RMD9 /RMD8 /RMD3 — RN4 33 +/-5% 8P4R0603
/RMD7 /RMD13 /RMD12 /RDQM1 — RN3 33 +/-5% 8P4R0603
/RMD17 R127 33 R0402
/RMD16 R125 33 R0402
/RMD11 R112 33 R0402
/RMD10 R109 33 R0402
/RDQM2 /RMD23 /RMD22 /RMD28 — RN7 33 +/-5% 8P4R0603
/RMD20 R126 33 R0402
/RMD21 R128 33 R0402
/RMD15 R111 33 R0402
/RMD14 R108 33 R0402
/RMD24 /RMD19 /RMD18 /RDQS2 — RN6 33 +/-5% 8P4R0603
/RMD27 /RMD26 /RMD25 /RDQS3 — RN8 33 +/-5% 8P4R0603
/RMD29 /RDQM3 /RMD30 /RMD31 — RN9 33 +/-5% 8P4R0603

R995 R996 R997 R998
R999 R1000 R1001 R1002
update sch following layout
07/19/04

/RMD36 /RMD37 /RDQM4 /RMD38 — RN12 33 +/-5% 8P4R0603
/RMD34 /RDQS4 /RMD33 /RMD32 — RN11 33 +/-5% 8P4R0603
/RMD39 /RMD44 /RMD45 /RDQM5 — RN14 33 +/-5% 8P4R0603
/RMD49 /RMD48 /RMD42 /RMD43 — RN15 33 +/-5% 8P4R0603
/RDQM6 /RMD54 /RMD55 /RMD60 — RN19 33 +/-5% 8P4R0603
/RMD56 /RMD51 /RMD50 /RDQS6 — RN17 33 +/-5% 8P4R0603
/RMD59 /RMD58 /RDQS7 /RMD57 — RN20 33 +/-5% 8P4R0603
/RMD61 /RDQM7 /RMD62 /RMD63 — RN21 33 +/-5% 8P4R0603

DDR_VTT

/RMA0 R173 33 R0402
/RMA1 R174 33 R0402
/RMA2 R172 33 R0402
/RMA3 R171 33 R0402
/RMA4 R167 33 R0402
/RMA5 R168 33 R0402
/RMA6 R170 33 R0402
/RMA7 R160 33 R0402
/RMA8 R161 33 R0402
/RMA9 R162 33 R0402
/RMA10 R181 33 R0402
/RMA11 R184 33 R0402
/RMA12 R176 33 R0402
/RMA13 R159 33 R0402
/RMA14 R157 33 R0402

6,19 /RSRAS- /RSRAS- R183 33 R0402
6,19 /RSCAS- /RSCAS- R186 33 R0402
6,19 /RSWE- /RSWE- R188 33 R0402

DDR_VTT

/RMD47 /RMD46 /RMD53 /RMD52 — RN16 33 +/-5% 8P4R0603
/RDQS5 /RMD41 /RMD40 /RMD35 — RN13 33 +/-5% 8P4R0603
/RCS-3 /RCS-2 /RCS-1 /RCS-0 — RN10 33 +/-5% 8P4R0603

DDR_VTT

DECOUPLING CAPACITOR FOR SSTL-2 END TERMIANTION VTT
(SOIC) Package placed within 200mils of VTT Termination R-packs

BC270 BC241 BC119 BC314 0.1uF C0603 25V, X7R, +/-10%
BC321 BC617 BC326 BC634 0.1uF C0603 25V, X7R, +/-10%
BC308 BC281 BC240 BC242 0.1uF C0603 25V, X7R, +/-10%
BC142 BC191 BC262 BC217 0.1uF C0603 25V, X7R, +/-10%

DDR_VTT

BC184 BC168 BC292 BC180 0.1uF C0603 25V, X7R, +/-10%
BC278 BC622 BC619 BC234 0.1uF C0603 25V, X7R, +/-10%
BC329 BC269 BC647 BC315 0.1uF C0603 25V, X7R, +/-10%
BC645 BC170 BC249 BC181 0.1uF C0603 25V, X7R, +/-10%

DIMM DECOUPLING

VDIMM

BC247 BC245 0.1uF C0402 16V, X7R, +/-10%
BC299 BC279 0.1uF C0402 16V, X7R, +/-10%
BC280 BC330 0.1uF C0402 16V, X7R, +/-10%
BC327 BC325 0.1uF C0402 16V, X7R, +/-10%
BC207 BC250 0.1uF C0402 16V, X7R, +/-10%
BC252 BC116 0.1uF C0402 16V, X7R, +/-10%

VDIMM

BC169 0.1uF C0402 16V, X7R, +/-10%
BC208 0.1uF C0402 16V, X7R, +/-10%
BC246 0.1uF C0402 16V, X7R, +/-10%
BC115 0.1uF C0402 16V, X7R, +/-10%
BC301 0.1uF C0402 16V, X7R, +/-10%
BC167 0.1uF C0402 16V, X7R, +/-10%

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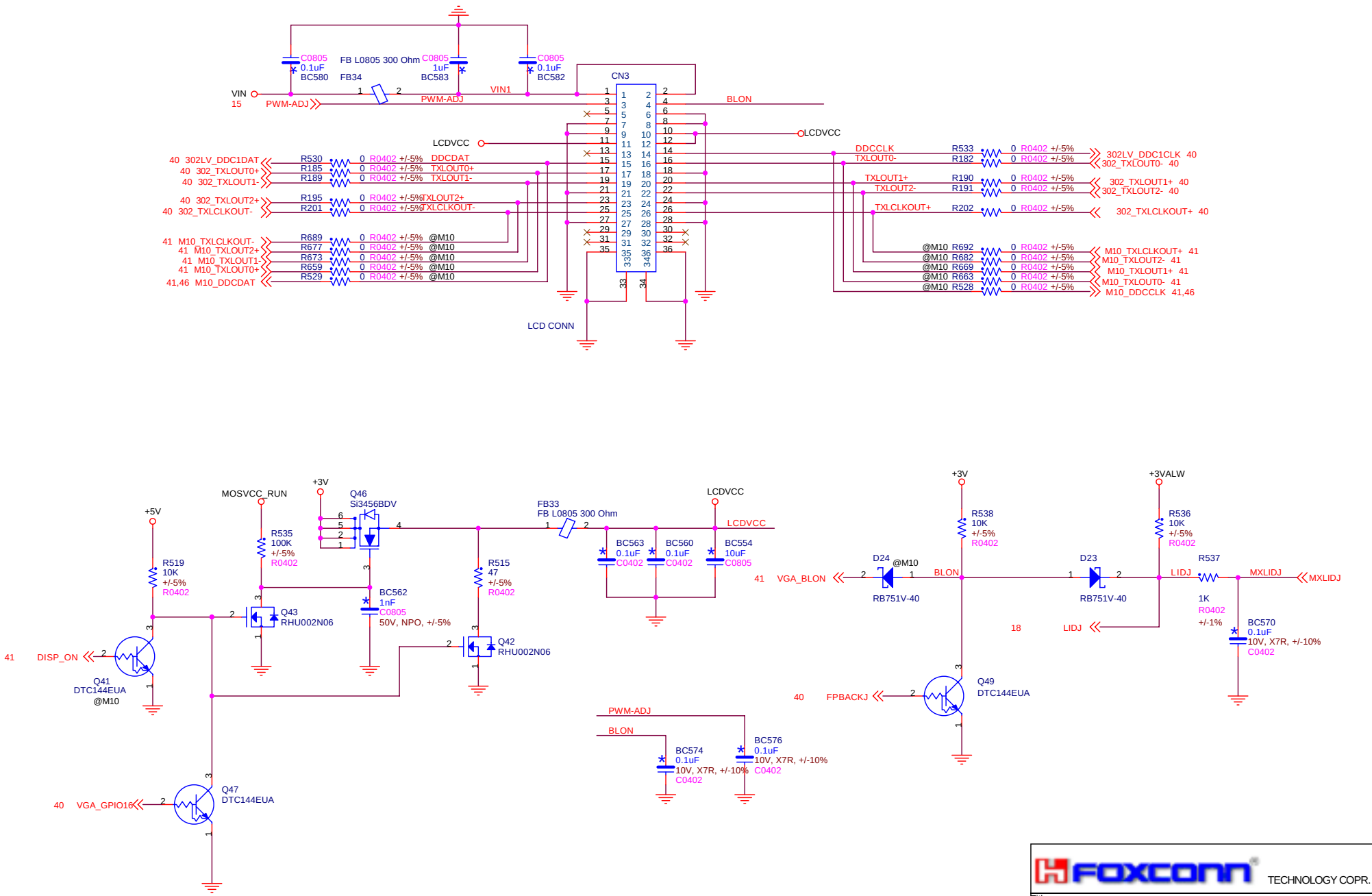

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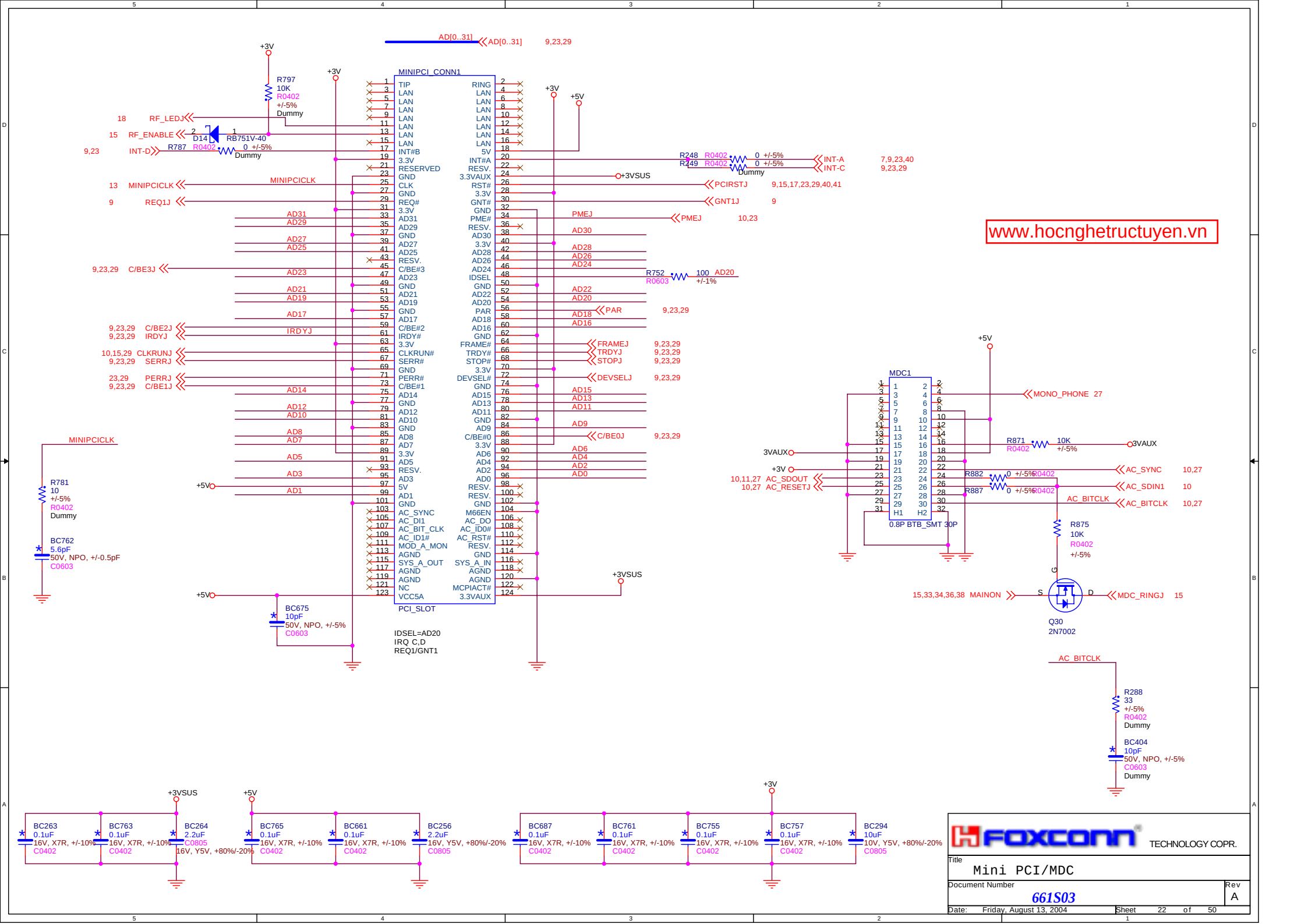
MINIPCI_CONN1
PCI_SLOT
MDC1
0.8P BTB_SMT 30P
Q30
2N7002
IDSEL=AD20
IRQ C,D
REQ1/GNT1
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GRST# should connect to Power On reset if support S3

CLOSE TO CB810

1394
IDSEL AD23
REQ3/GNT3

Cardbus
IDSEL AD25
REQ2/GNT2

U4

CB810

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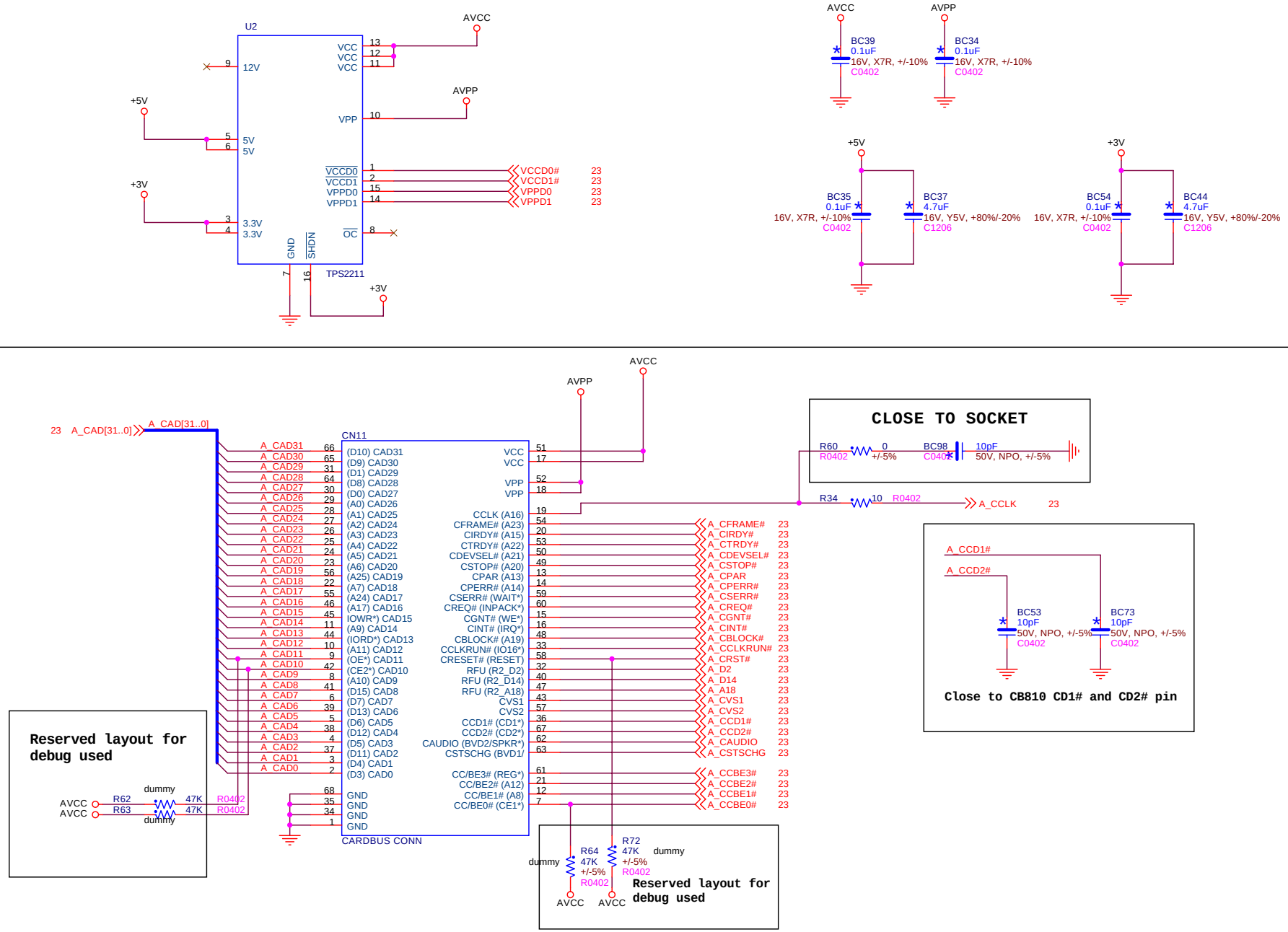

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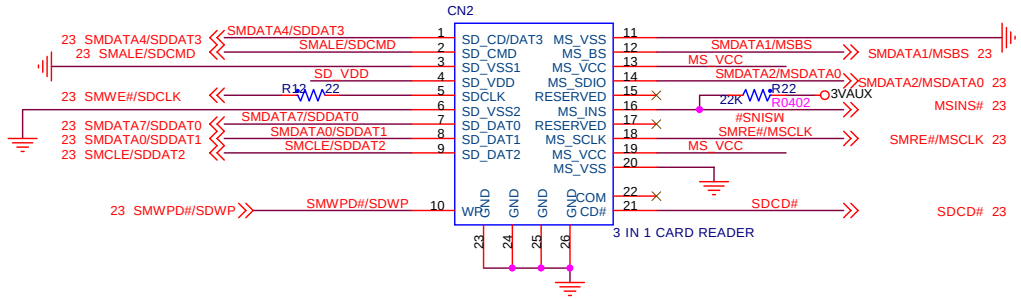

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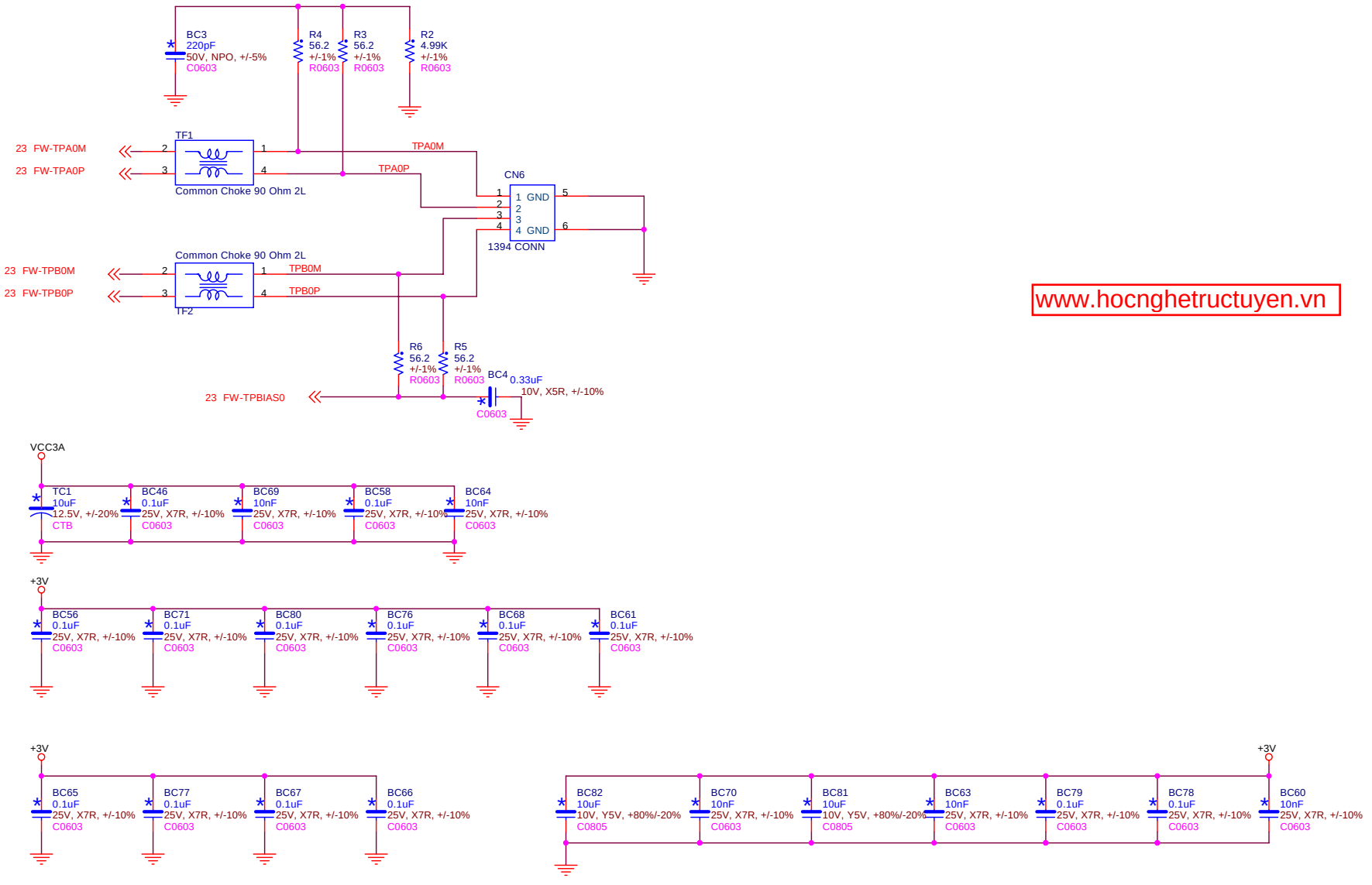

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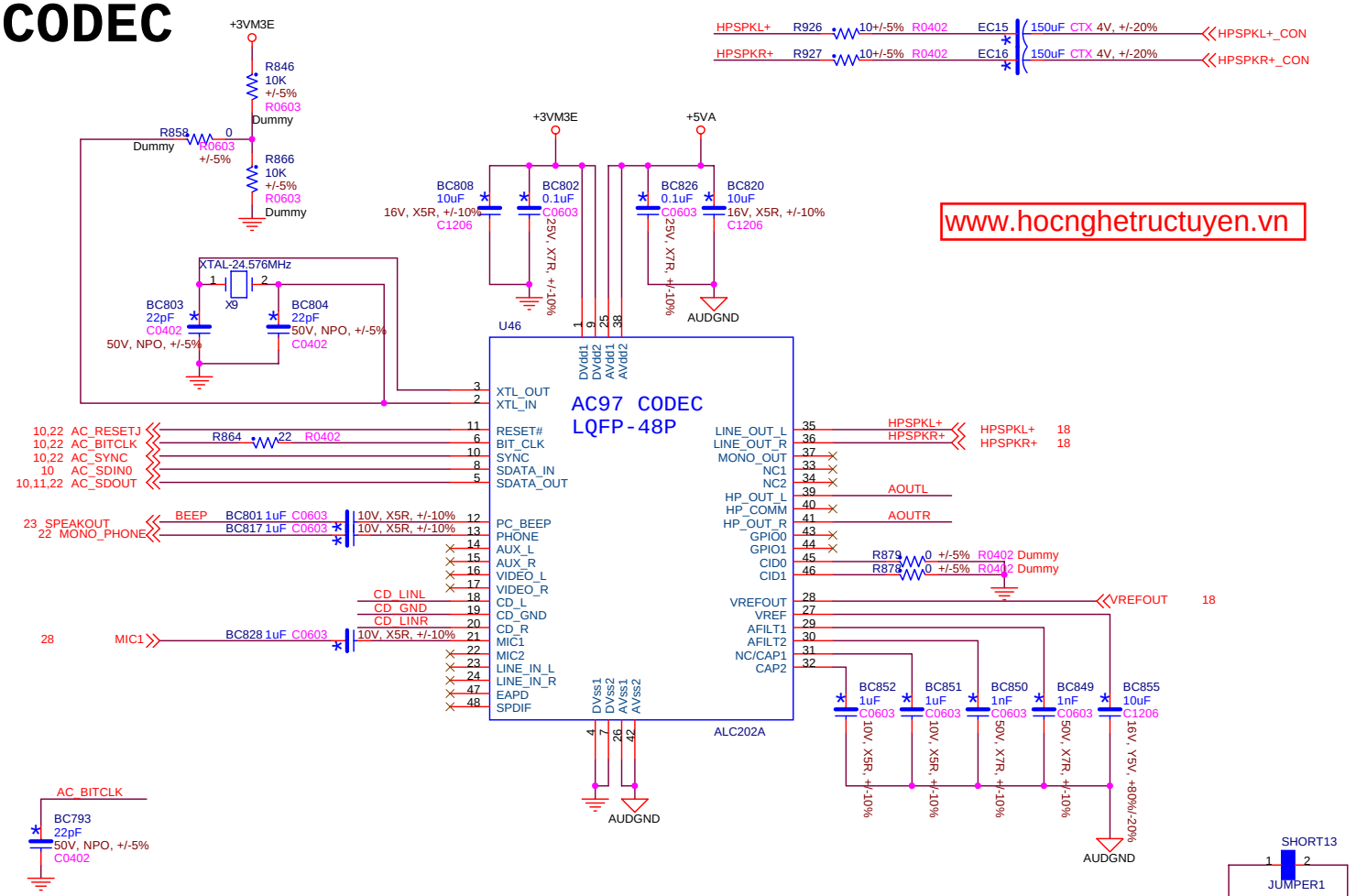
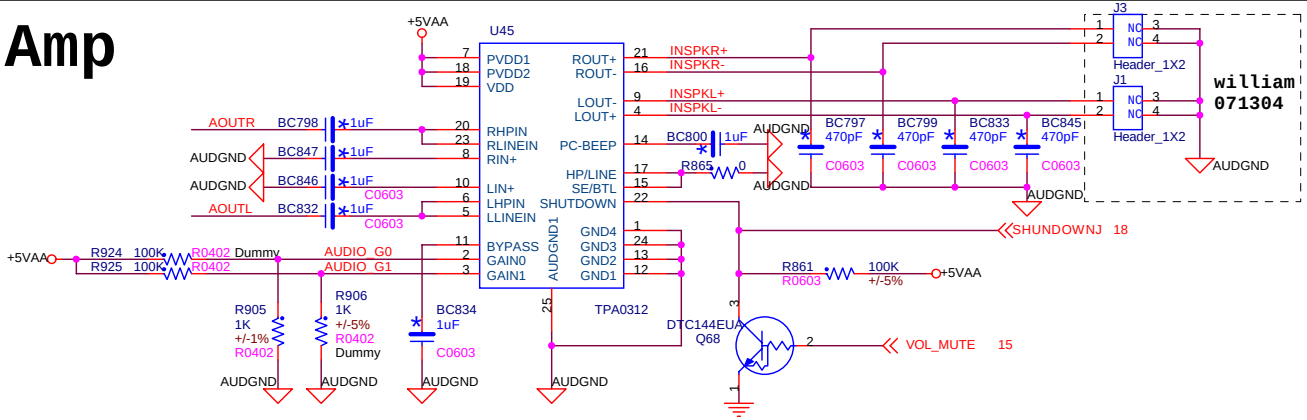
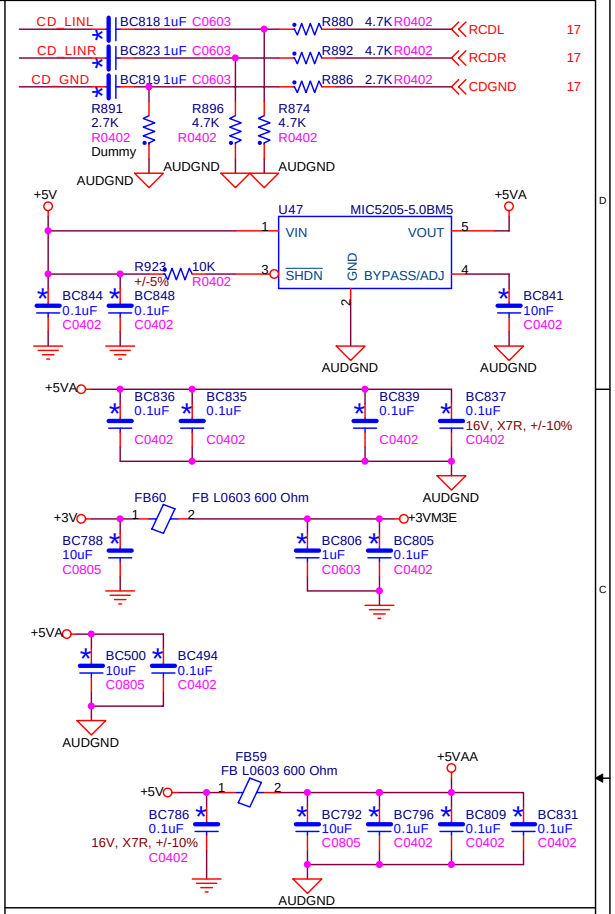
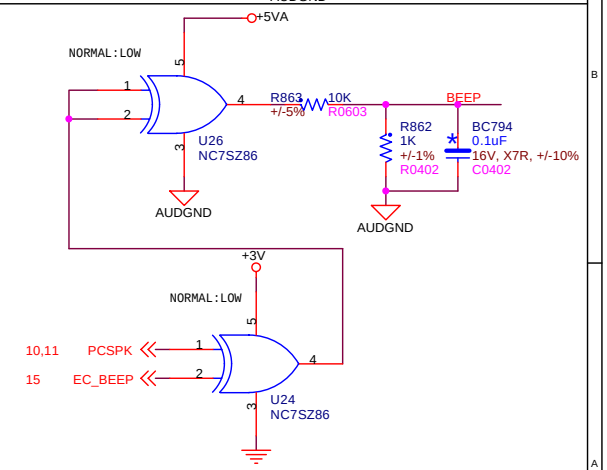
CODEC



Amp







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Title: AUDIO ALC202A & AMP

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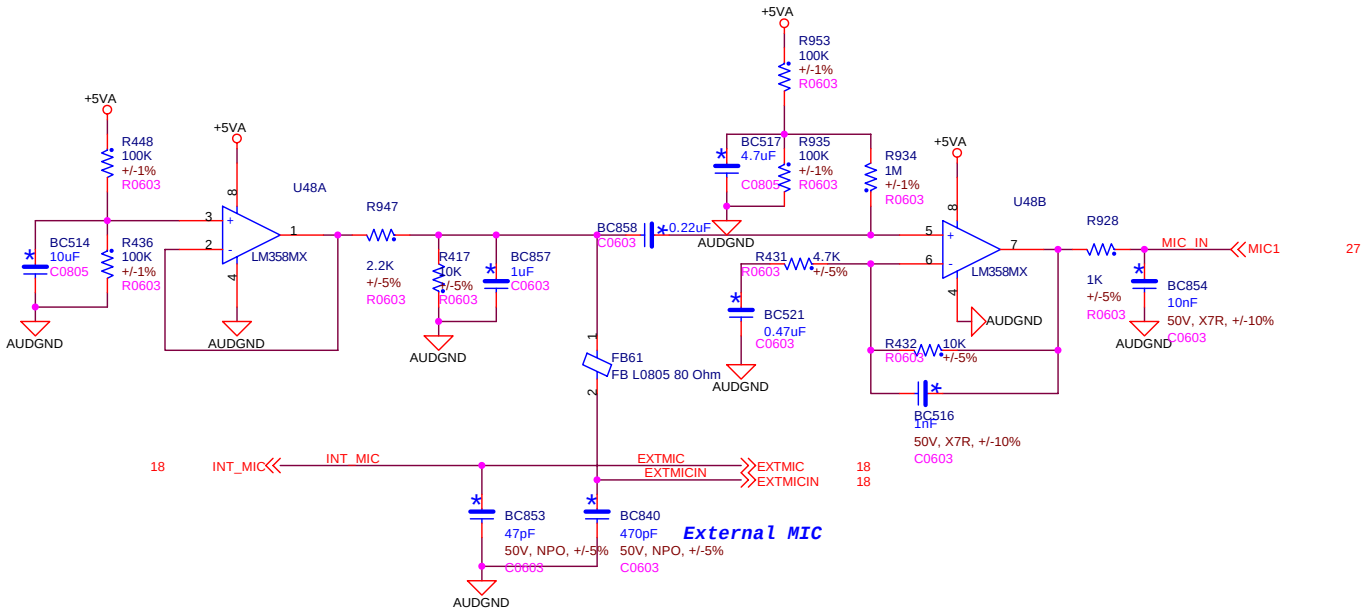
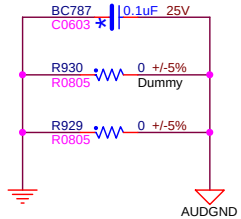


Place near the switch connecter 2004/07/03



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Title: MIC Jack & AUDIO Jack

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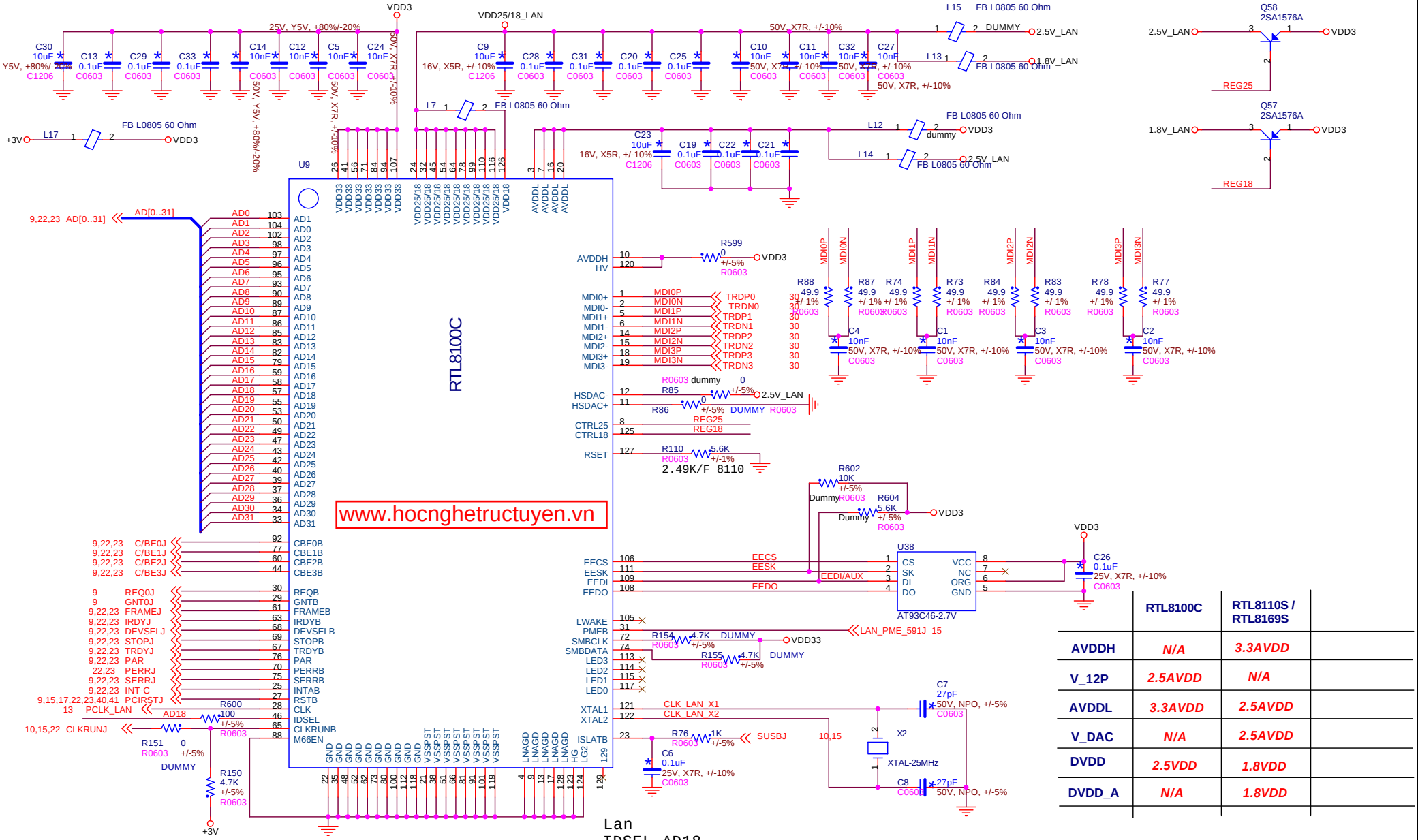

	RTL8100C	RTL8110S / RTL8169S	
AVDDH	N/A	3.3AVDD	
V_12P	2.5AVDD	N/A	
AVDDL	3.3AVDD	2.5AVDD	
V_DAC	N/A	2.5AVDD	
DVDD	2.5VDD	1.8VDD	
DVDD_A	N/A	1.8VDD	

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Title: RTL8100

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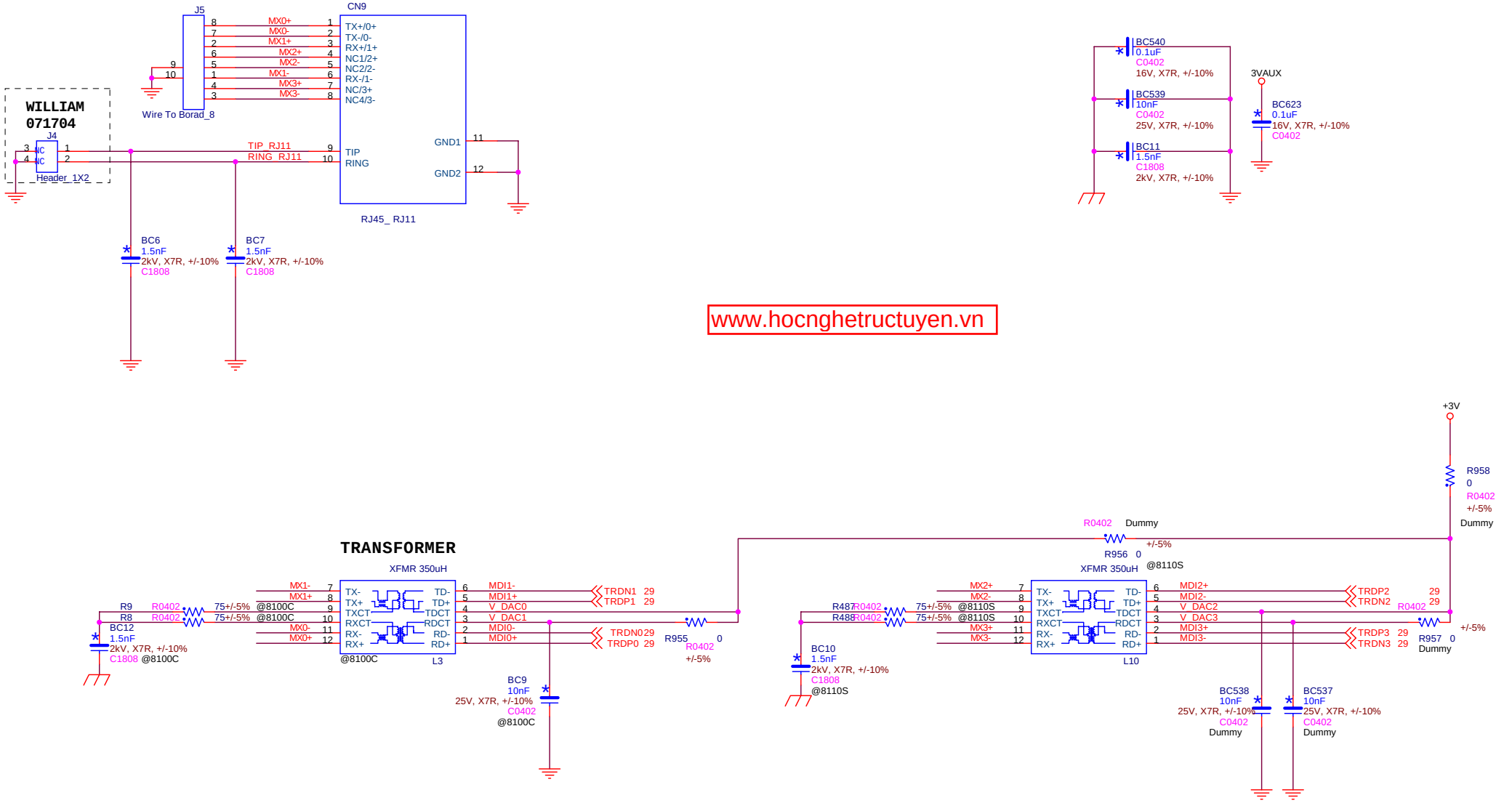

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Title: RJ45&TRANSFORMER

Document Number: 661S03

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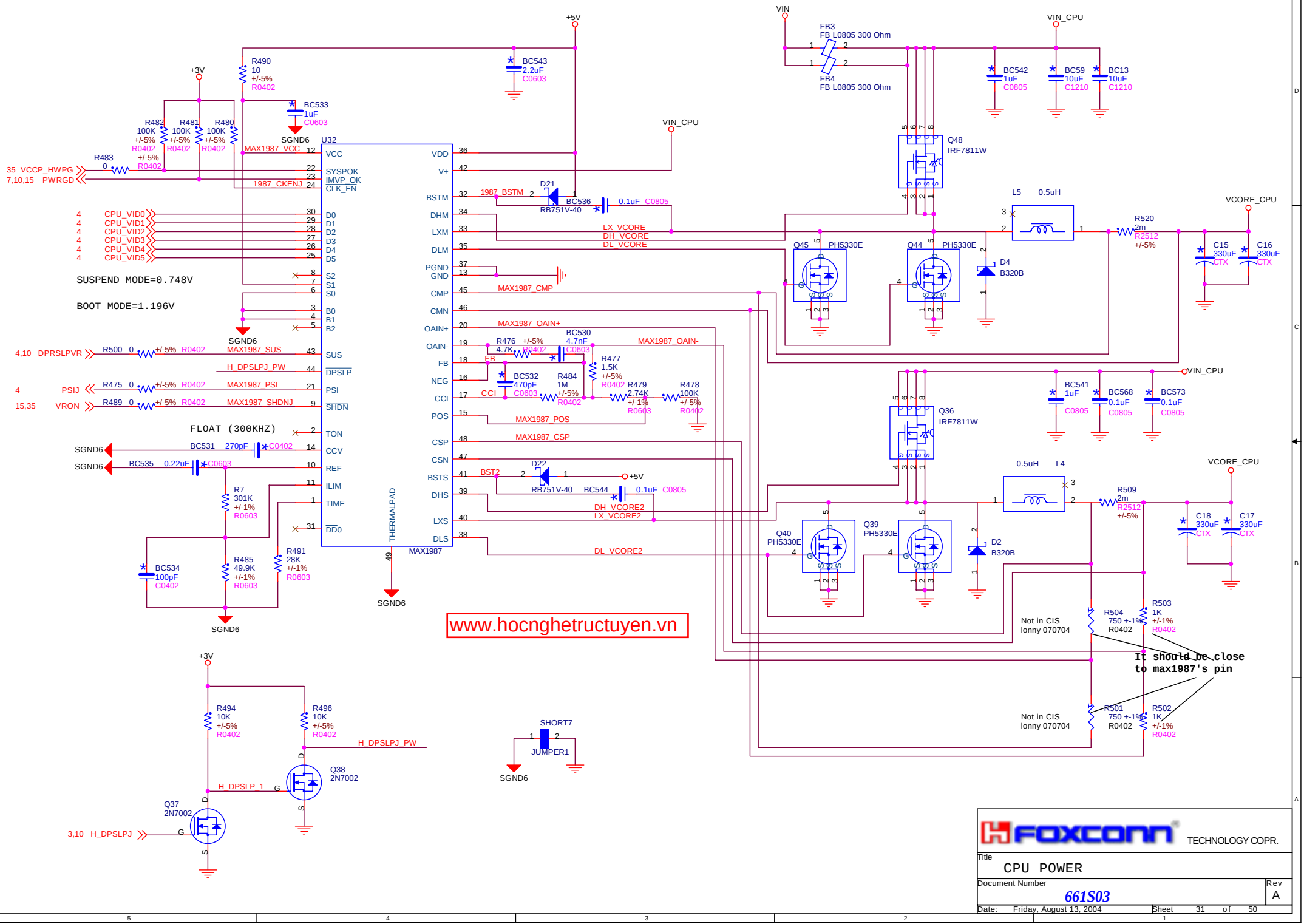
U32
MAX1987
THERMALPAD
SUSPEND MODE=0.748V
BOOT MODE=1.196V
FLOAT (300KHZ)
www.hocnghetructuyen.vn
Not in CIS
lonny 070704
It should be close
to max1987's pin
JUMPER1
SHORT7
FOXCONN
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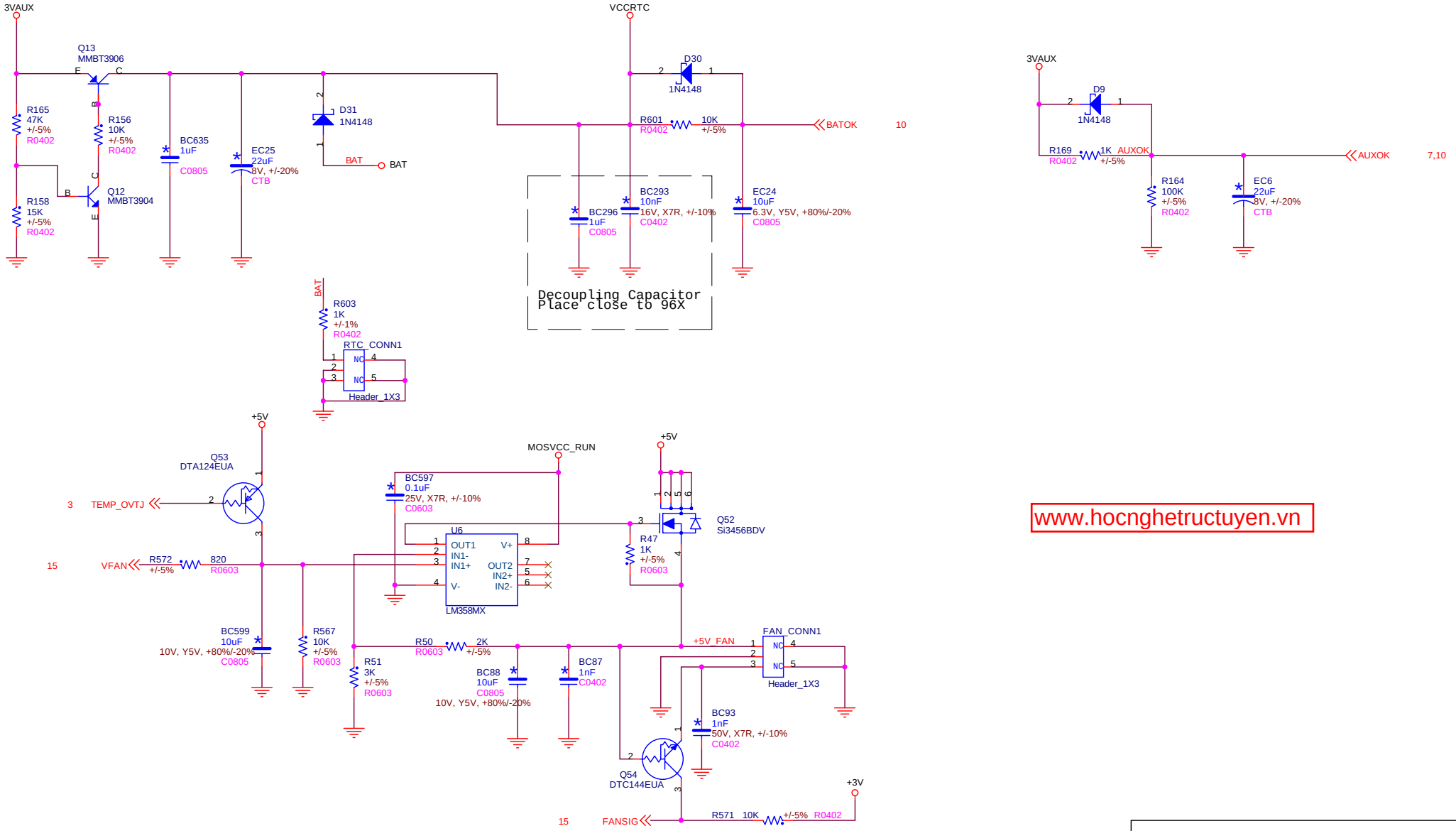
RTC

NOTE!
1.The VCCRTC is 3V
2.Decoupling capacitor must be close to 652 RTCVDD pin.
3.RTC circuit must strictly follow SiS's recommended design
  SiS is not responsible for RTC problems from foreign designs.



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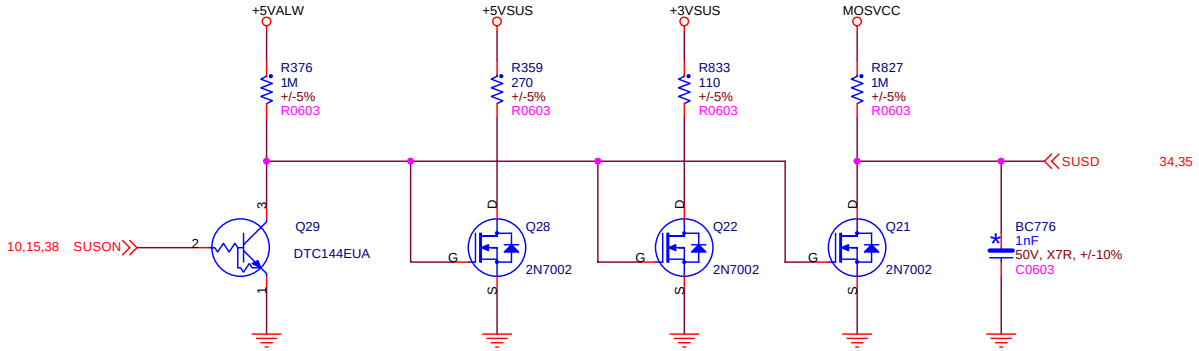

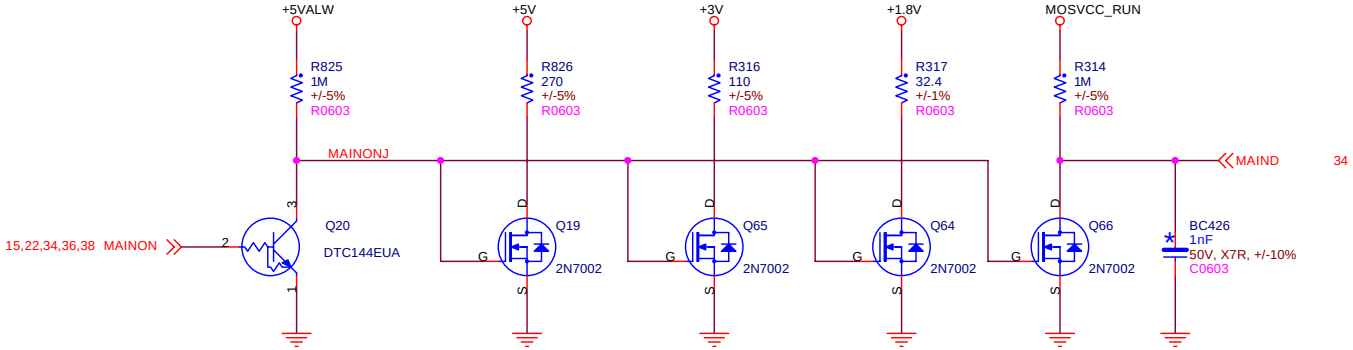

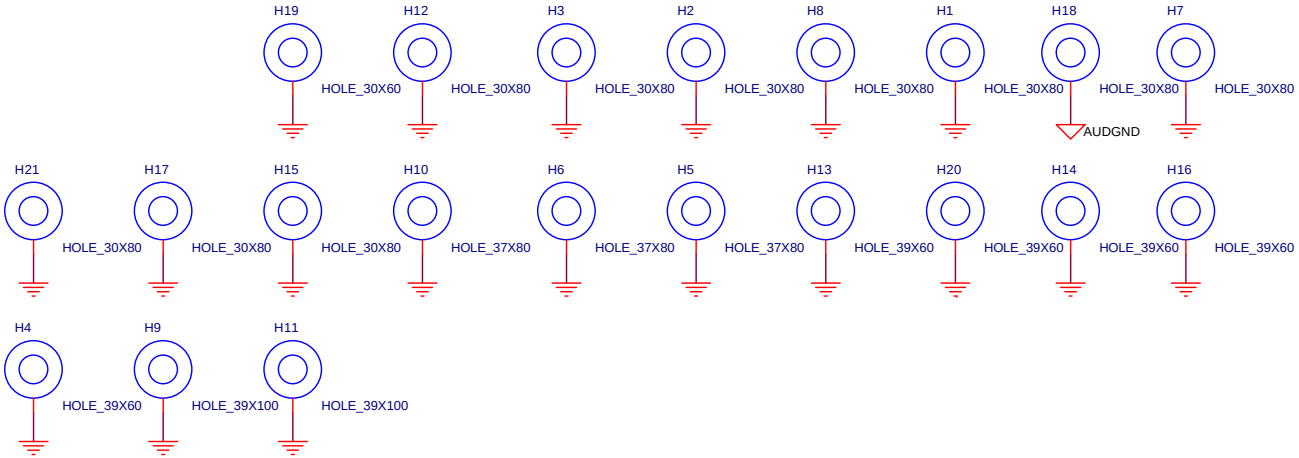

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Title: Discharge

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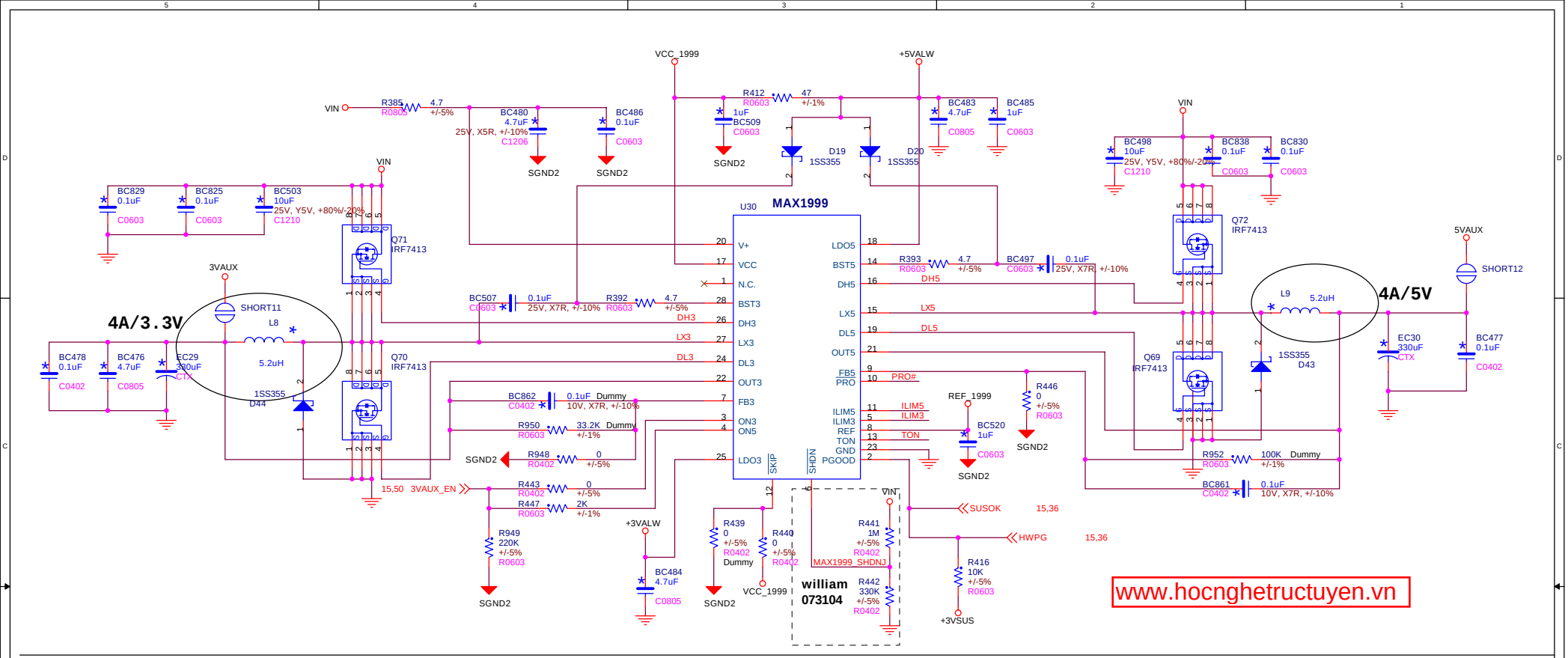
VCC_1999
+5VALW
VIN
U30
MAX1999
4A/3.3V
4A/5V
3VAUX
5VAUX
SHORT11
SHORT12
L8
5.2uH
L9
5.2uH
Q70
IRF7413
Q71
IRF7413
Q72
IRF7413
Q69
IRF7413
D44
1SS355
D43
1SS355
D19
1SS355
D20
1SS355
R385
4.7
+/-5%
R0805
BC480
4.7uF
25V, X5R, +/-10%
C1206
BC486
0.1uF
C0603
BC509
1uF
C0603
R412
R0603
47
+/-1%
BC483
4.7uF
C0805
BC485
1uF
C0603
BC829
0.1uF
C0603
BC825
0.1uF
C0603
BC503
10uF
25V, Y5V, +80%/-20%
C1210
BC498
10uF
25V, Y5V, +80%/-20%
C1210
BC838
0.1uF
C0603
BC830
0.1uF
C0603
BC478
0.1uF
C0402
BC476
4.7uF
C0805
EC29
330uF
CTX
EC30
330uF
CTX
BC477
0.1uF
C0402
BC507
0.1uF
25V, X7R, +/-10%
R392
4.7
+/-5%
R0603
DH3
LX3
DL3
BC862
0.1uF Dummy
10V, X7R, +/-10%
R950
R0603
33.2K Dummy
+/-1%
R948
R0402
0
+/-5%
R443
R0402
0
+/-5%
R447
R0603
2K
+/-1%
R949
220K
+/-5%
R0603
BC484
4.7uF
C0805
R439
0
+/-5%
R0402
Dummy
R440
0
+/-5%
R0402
R441
1M
+/-5%
R0402
MAX1999_SHDNJ
R442
330K
+/-5%
R0402
william
073104
R416
10K
+/-5%
R0603
+3VSUS
BC520
1uF
C0603
REF_1999
R446
0
+/-5%
R0603
TON
ILIM3
ILIM5
PRO#
SUSOK
HWPG
15,36
R393
R0603
4.7
+/-5%
DH5
LX5
DL5
BC497
0.1uF
25V, X7R, +/-10%
R952
R0603
100K Dummy
+/-1%
BC861
C0402
0.1uF
10V, X7R, +/-10%
15,50 3VAUX_EN
SGND2
MOSVCC
Q31
Si2301DS
MOSVCC_RUN
R391
R0603
0
+/-5%
BC502
1uF
C0805
R414
200K
R0603
+/-5%
R413
100
R0402
+/-5%
Q32
2N7002
R394
R0402
0
+/-5%
MAINON
15,22,33,36,38
U28
MAX1683
BC493
4.7uF
C0805
BC481
4.7uF
C0805
BC488
4.7uF
C1206
S4,10V
SHORT14
JUMPER1
R444
60.4K
+/-1%
R0603
R951
60.4K
+/-1%
R0603
R426
0
+/-5%
R0402
Dummy
R937
0
+/-5%
R0402
Dummy
R445
15K
+/-1%
R0603
R931
15K
+/-1%
R0603
R427
0
+/-5%
R0402
R938
0
+/-5%
R0402
+3V
+3VSUS
3VAUX
+5V
+5VSUS
5VAUX
33,35
SUSD
33
MAIND
Q25
Q67
BC445
0.1uF
16V, X7R, +/-10%
C0402
BC778
0.1uF
16V, X7R, +/-10%
C0402
Si9936BDY
BC774
0.1uF
16V, X7R, +/-10%
C0402
BC773
0.1uF
16V, X7R, +/-10%
C0402
Si9936BDY
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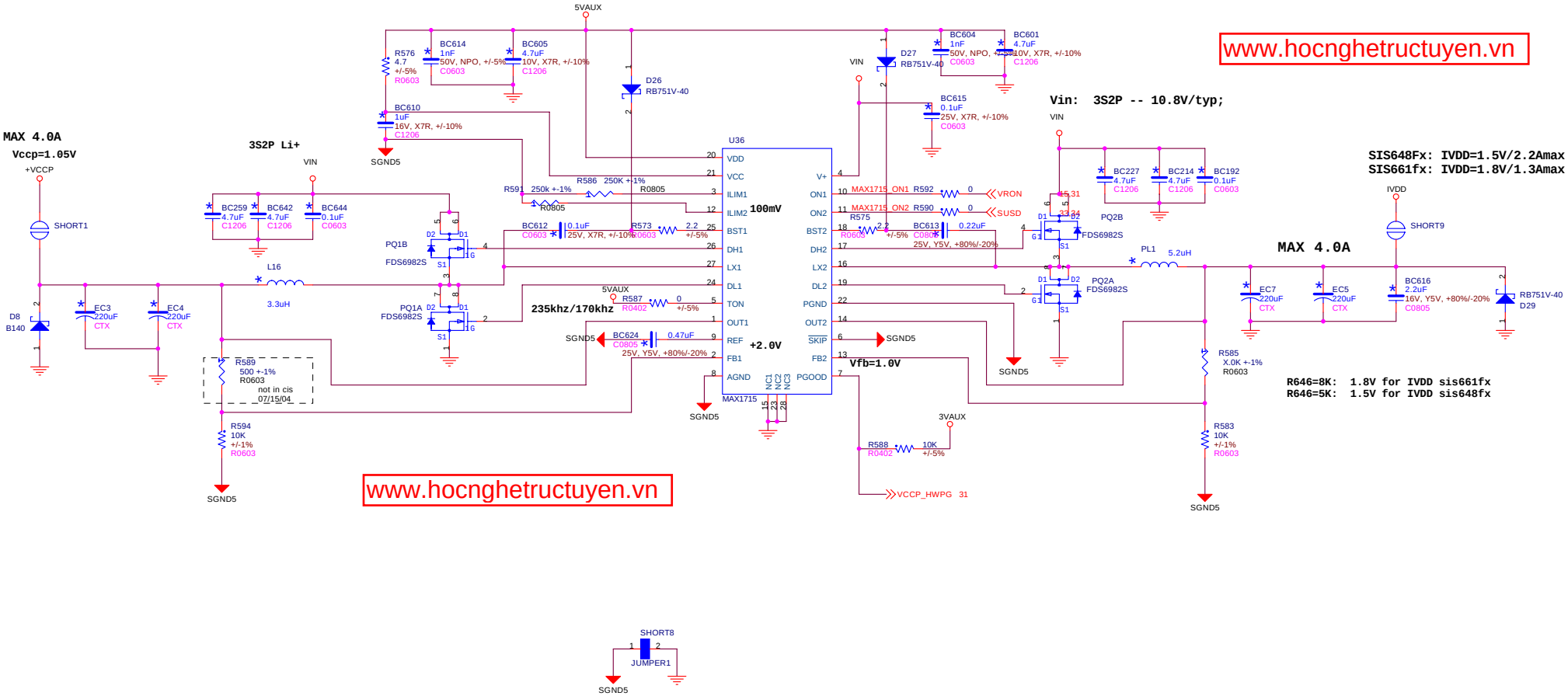

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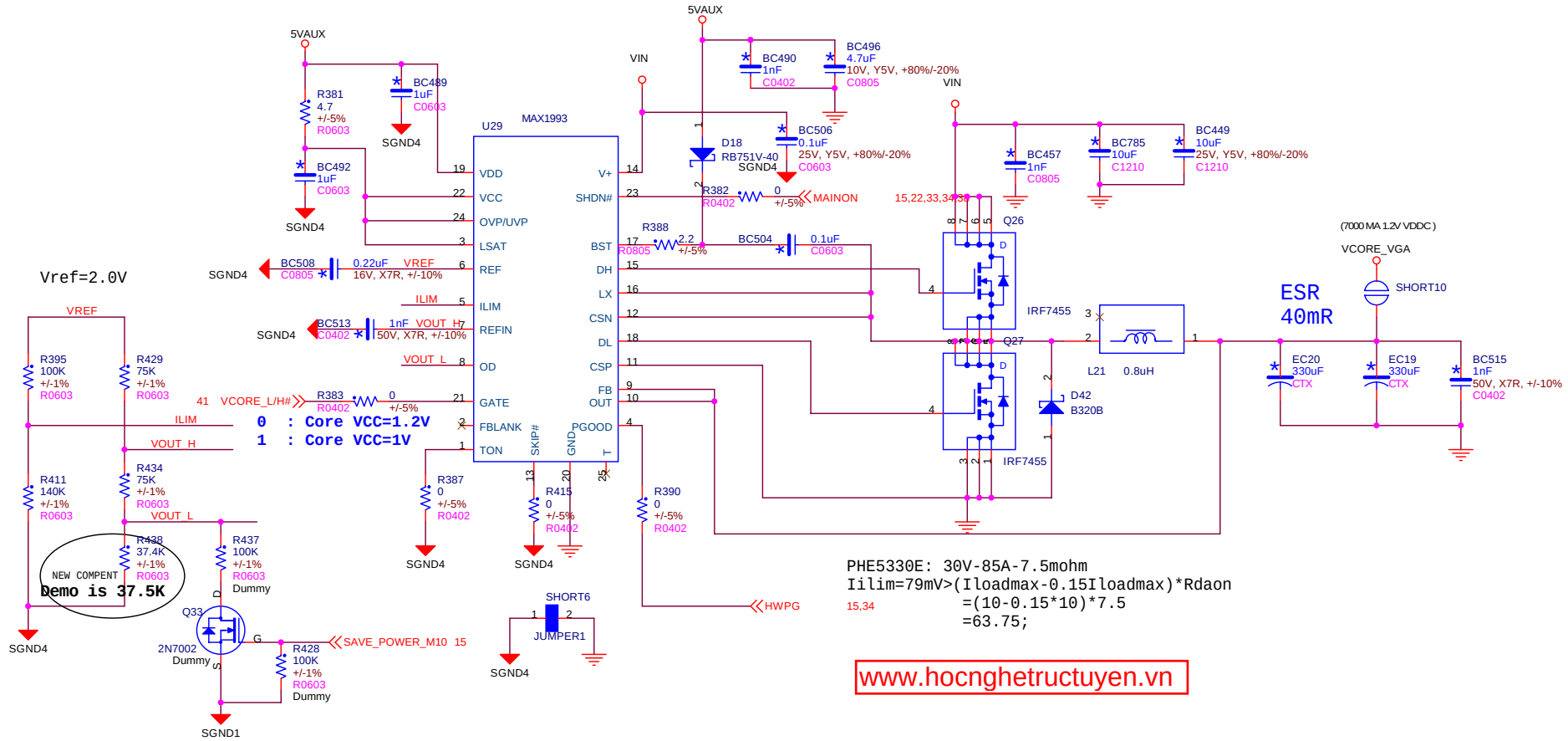

Title	VCORE VGA
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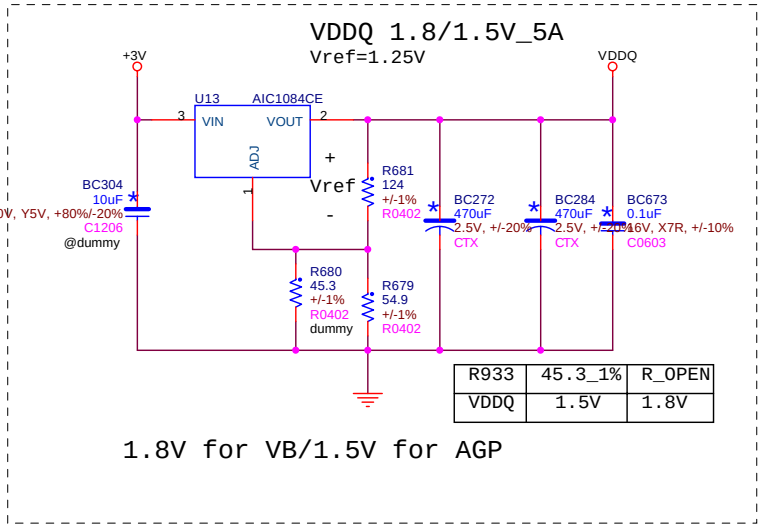
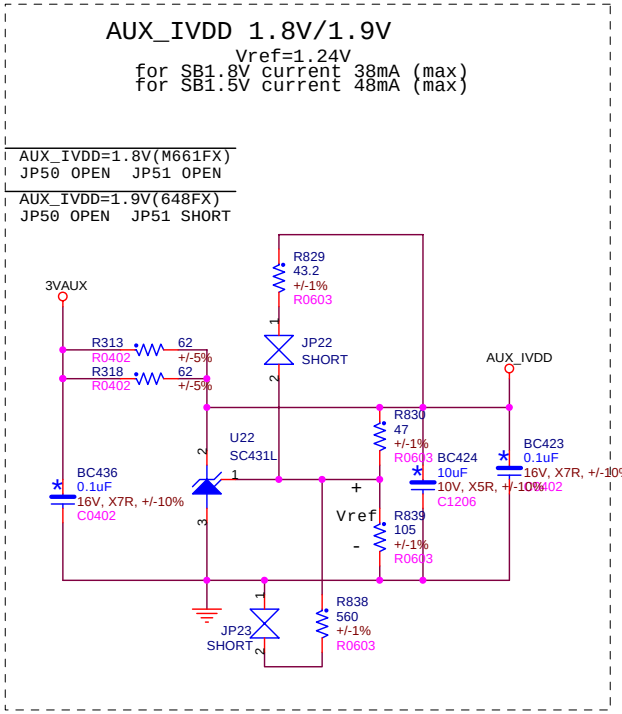
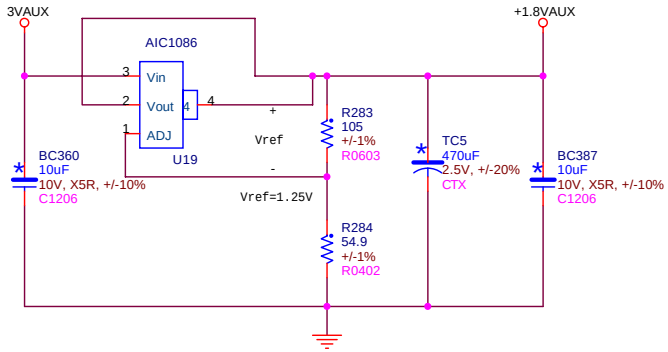
VDDQ
M661FX+302LV is 1.8V ; 648FX+M10 is 1.5V
lonny 070804

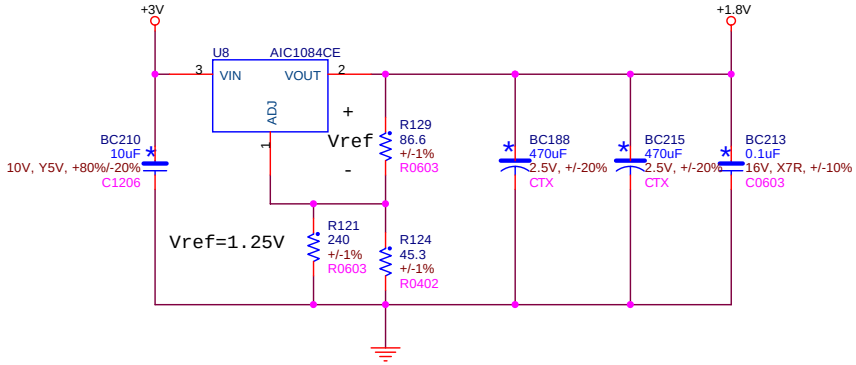


VDDQ Sis consumption Spec
Current is 281.3mA(Only AGP8X)
Lonny 070804



AUX_IVDD Sis consumption Spec
Current is 493mA
Lonny 070804





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Title

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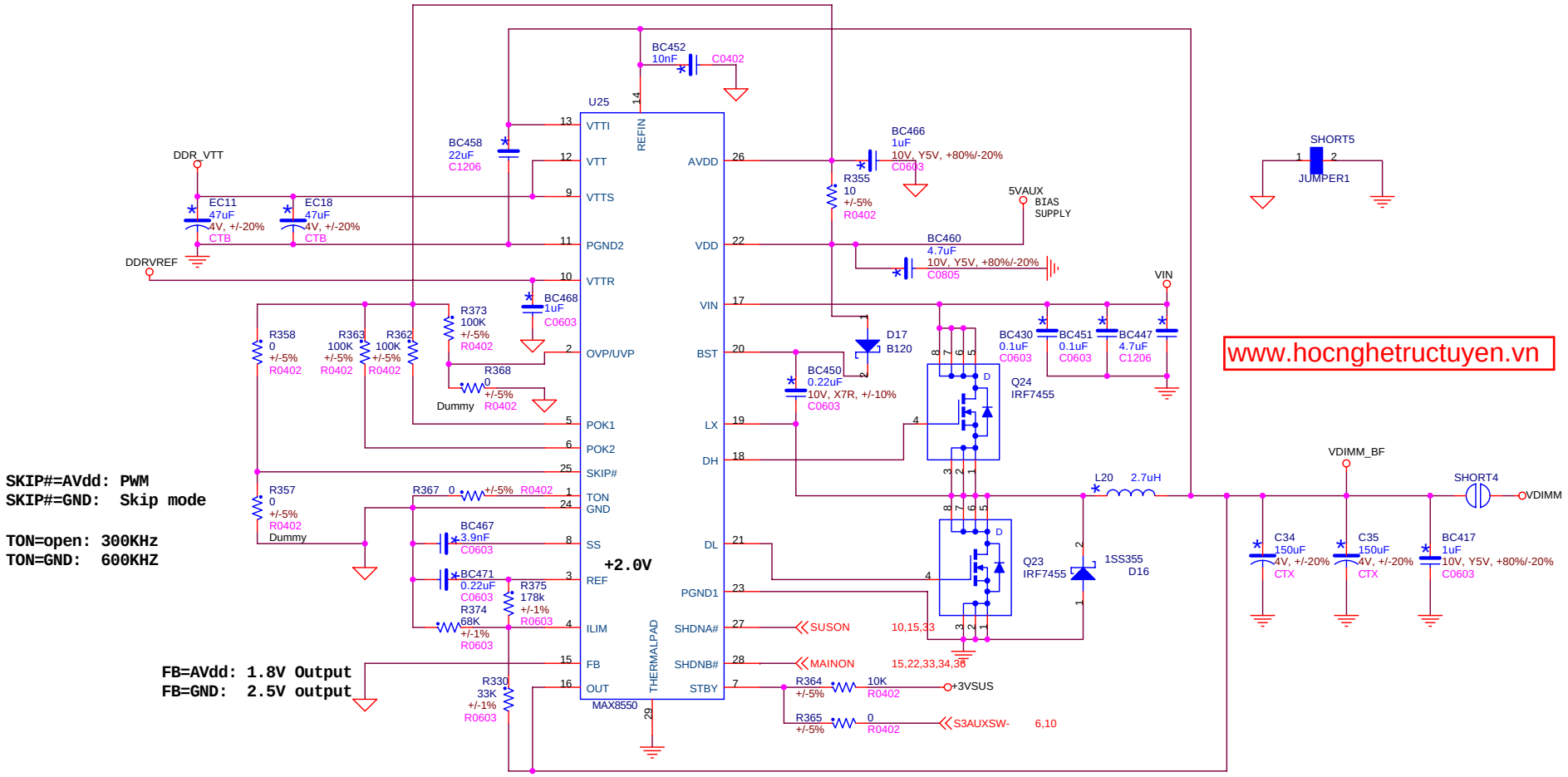

SKIP#=AVdd: PWM
SKIP#=GND: Skip mode

TON=open: 300KHz
TON=GND: 600KHZ

FB=AVdd: 1.8V Output
FB=GND: 2.5V output

Vilim(min)=10*Ioutmax*(1-LIR/2)*Rdsonlow25c*1.25
=10*12*0.85*5*1.25
=637.5MV

Vilim_rating=637.5*1.15=733.125MV
R4=(2V-0.3*Vilim_rating)/10=178Kohm;

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Title: VDIMM&VTT_MEM

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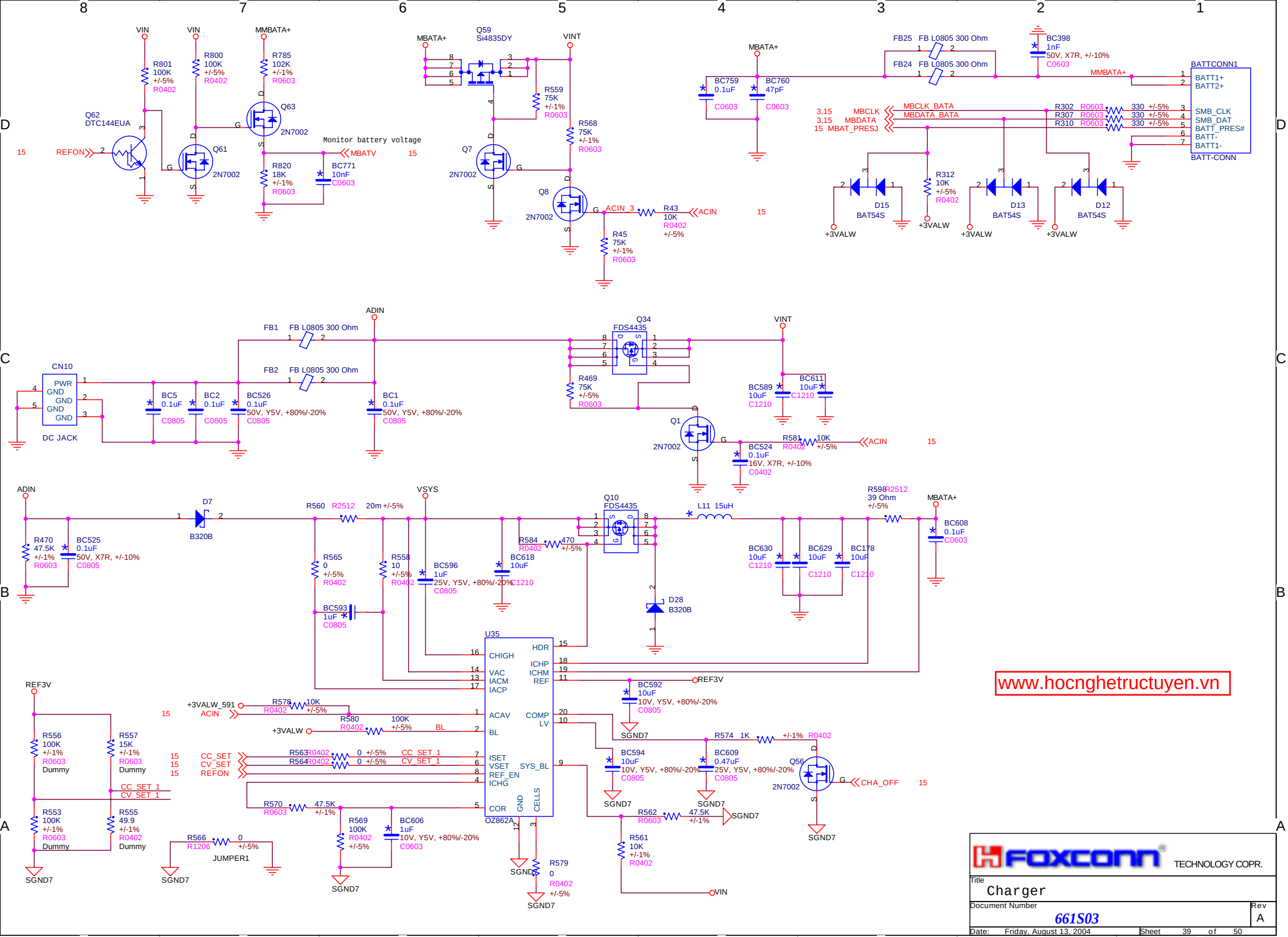
VIN
R801 100K +/-5% R0402
R800 100K +/-5% R0402
MMBATA+
R785 102K +/-1% R0603
Q62 DTC144EUA
Q63 2N7002
Q61 2N7002
REFON
Monitor battery voltage
MBATV
R820 18K +/-1% R0603
BC771 10nF C0603
MBATA+
Q59 Si4835DY
VINT
R559 75K +/-1% R0603
R568 75K +/-1% R0603
Q7 2N7002
Q8 2N7002
ACIN_3
R43 10K R0402 +/-5%
ACIN
R45 75K +/-1% R0603
BC759 0.1uF C0603
BC760 47pF C0603
FB25 FB L0805 300 Ohm
FB24 FB L0805 300 Ohm
BC398 1nF 50V, X7R, +/-10% C0603
BATTCONN1
BATT1+
BATT2+
SMB_CLK
SMB_DAT
BATT_PRES#
BATT-
BATT1-
BATT-CONN
MBCLK_BATA
MBDATA_BATA
MBCLK
MBDATA
MBAT_PRESJ
R302 R0603 330 +/-5%
R307 R0603 330 +/-5%
R310 R0603 330 +/-5%
R312 10K +/-5% R0402
D15 BAT54S
D13 BAT54S
D12 BAT54S
+3VALW
ADIN
FB1 FB L0805 300 Ohm
FB2 FB L0805 300 Ohm
CN10
PWR
GND
DC JACK
BC5 0.1uF C0805
BC2 0.1uF C0805
BC526 0.1uF 50V, Y5V, +80%/-20% C0805
BC1 0.1uF 50V, Y5V, +80%/-20% C0805
Q34 FDS4435
R469 75K +/-5% R0603
BC589 10uF C1210
BC611 10uF C1210
Q1 2N7002
BC524 0.1uF 16V, X7R, +/-10% C0402
R581 R0402 10K +/-5%
R470 47.5K +/-1% R0603
BC525 0.1uF 50V, X7R, +/-10% C0805
D7 B320B
VSYS
R560 R2512 20m +/-5%
R565 0 +/-5% R0402
R558 10 +/-5% R0402
BC596 1uF 25V, Y5V, +80%/-20% C0805
BC593 1uF C0805
BC618 10uF C1210
Q10 FDS4435
R584 R0402 470 +/-5%
L11 15uH
D28 B320B
R598 R2512 39 Ohm +/-5%
MBATA+
BC608 0.1uF C0603
BC630 10uF C1210
BC629 10uF C1210
BC178 10uF C1210
U35
OZ862A
CHIGH
VAC
IACM
IACP
ACAV
BL
ISET
VSET
REF_EN
ICHG
COR
HDR
ICHP
ICHM
REF
COMP
LV
SYS_BL
GND
CELLS
REF3V
BC592 10uF 10V, Y5V, +80%/-20% C0805
+3VALW_591
R578 10K R0402 +/-5%
R580 100K R0402 +/-5%
BL
R563 R0402 0 +/-5% CC_SET_1
R564 R0402 0 +/-5% CV_SET_1
CC_SET
CV_SET
REFON
R570 47.5K R0603 +/-1%
R569 100K R0402 +/-5%
BC606 1uF 10V, Y5V, +80%/-20% C0603
R566 R1206 0 +/-5%
JUMPER1
R579 0 R0402 +/-5%
R574 1K +/-1% R0402
BC594 10uF 10V, Y5V, +80%/-20% C0805
BC609 0.47uF 25V, Y5V, +80%/-20% C0805
Q56 2N7002
CHA_OFF
R562 R0603 47.5K +/-1%
R561 10K +/-1% R0402
VIN
R556 100K +/-1% R0603 Dummy
R557 15K +/-1% R0603 Dummy
R553 100K +/-1% R0603 Dummy
R555 49.9 +/-1% R0402 Dummy
SGND7
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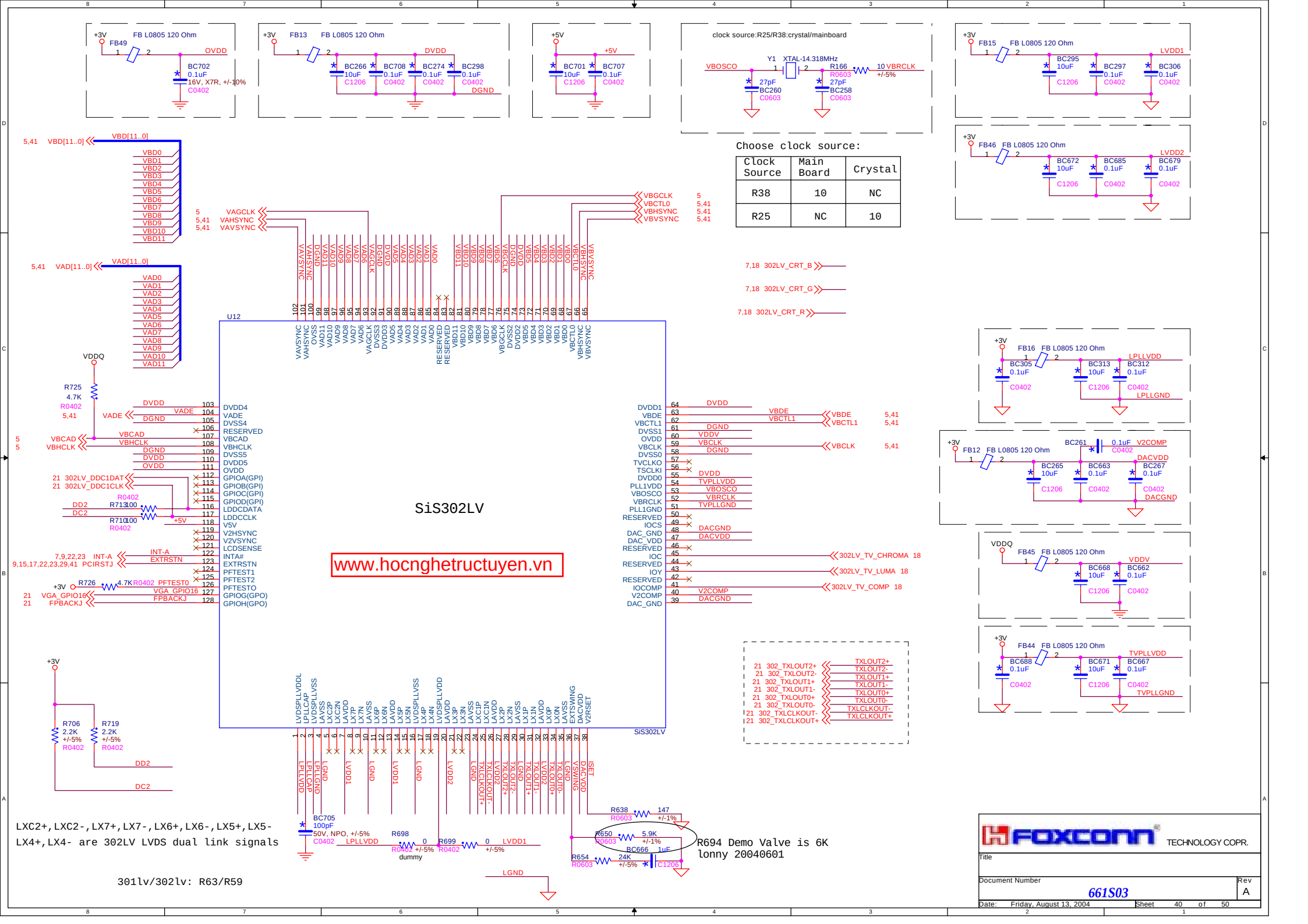
SiS302LV
U12
www.hocnghetructuyen.vn
clock source:R25/R38:crystal/mainboard
Choose clock source:
Clock Source | Main Board | Crystal
R38 | 10 | NC
R25 | NC | 10
LXC2+,LXC2-,LX7+,LX7-,LX6+,LX6-,LX5+,LX5-
LX4+,LX4- are 302LV LVDS dual link signals
301lv/302lv: R63/R59
R694 Demo Valve is 6K
lonny 20040601
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NOTE:

M9CSP32/64 AND M9+CSP32/64
AND M10CSP32 ARE 31MM X 31MM PACKAGES
M10CSP64 IS 35MM X 31MM PACKAGE

FOR ALL GPIO AND ZV_DATA SIGNALS
THAT ARE ALSO CONFIGURATION STRAPS
ENSURE CORRECT PULL UP/DOWN ARE MAINTAINED
DURING POWER ON RESET CONFIGURATION
SEE DATA BOOK

DVO IS CONFIGURED FOR ZVPORT (DVOMODE = GND)
ON THIS DESIGN
IT CAN ALSO BE DDR EXTERNAL TMDS (DVOMODE = 1.8V)
SEE DATA BOOK

UNUSED GPIO,DDC OR ZV_LCDDATA CAN BE
USED FOR PANEL OR MEMORY ID

IF DVO IS CONFIGURED FOR 12 BIT EXT DDR TMDS
ANY UNUSED LCDDATA PULLUP STRAPPING
MUST BE TO +1.8V

M9 <> M10
CONNECT DBI_LO/DBI_HI
TO AGP CONN FOR AGP3.0 ON M10
OR TO VDDP FOR AGP2.0 ON M10
OR TO VDDP FOR M9

M9 <> M10
CONNECT AGP_DET#
TO VDDP FOR M9 OR
TO 1.5V PU OR TO AGP CONN WITH 1.5V PU FOR M10

THIS DESIGN SHOWS DAC2 CONFIGURED FOR TV OUT
DAC2 CAN ALSO BE CONFIGURED FOR SECONDARY CRT
MUX LOGIC IS REQUIRED FOR DAC2 AS BOTH TVOUT AND SECONDARY CRT

REMOVE TESTEN PULL DOWN
FOR OPTIONAL TEST MODE ENABLE
REFER TO DATA BOOK
FOR JTAG AND SCAN SIGNAL SOURCES

M9 <> M10
PULL-UP TEST_YCLK/MCLK
TO BE COMPATIBLE WITH M9

M9 <> M10
CONNECT RSTB_MSK TO GND OR TO AGP CONN FOR M10
CONNECT RSTB_MSK TO GND FOR M9

M9 <> M10
CONNECT VREFG TO VDDC FOR M9
CONNECT VREFG TO VOLTAGE DIVIDER FOR M10

PULL UP AUXWIN
IF NOT USED

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Title: M9/M10 CORE_A
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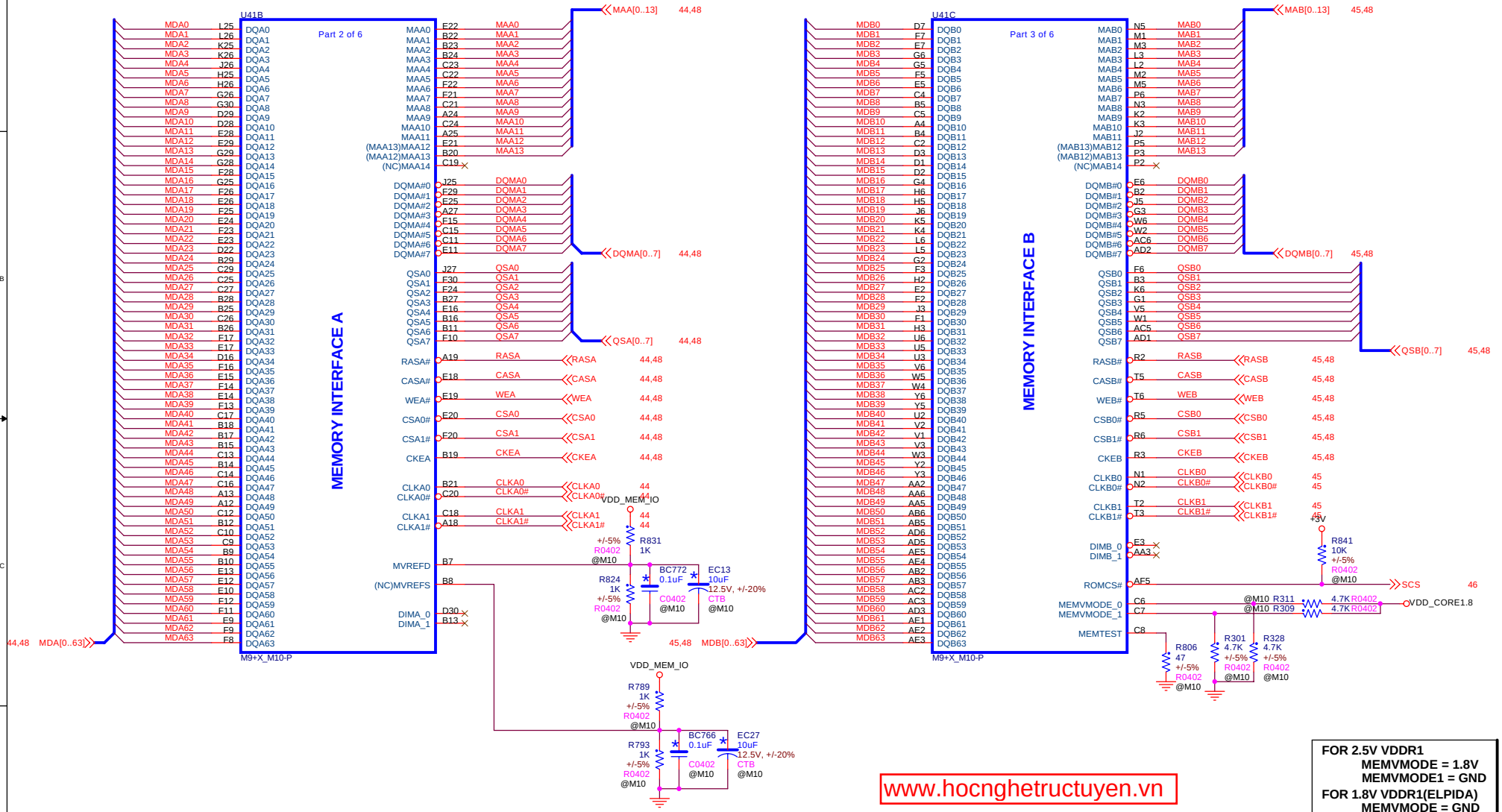
M9 <> M10
EXTERNAL MEMORY CAN BE CONNECTED TO CHANNEL B ON M9CSP32 AND M9+CSP32
INTERNAL MEMORY IS CONNECTED TO CHANNEL A WITH SIGNALS AVAILABLE FOR TESTING ONLY ON M9CSP32 AND M9+CSP32

ALL CHANNEL A AND B MEMORY SIGNALS ARE GROUNDS ON M9CSP64,M9+CSP64 AND M10CSP64
SO ENSURE THEY ARE NOT CONNECTED TO GROUND ON THE BOARD IF M10CSP32 OR M9+CSP32 IS AN OPTION

NO EXTERNAL MEMORY CAN BE CONNECTED TO CHANNEL A OR B ON M10CSP32 OR M10CSP64
CHANNEL B MEMORY HAS BYTES 2 AND 3 SWAPPED AND SIGNALS ARE AVAILABLE FOR TESTING ONLY ON M10CSP32



MVREF DIVIDER RESISTORS AND DECOUPLING CAPS MUST BE PLACED AS CLOSE AS POSSIBLE TO THE ASIC MVREF BALLS

IT IS IMPORTANT TO HAVE NO MEMORY SIGNAL TRACE STUBS FROM THE UNUSED CHANNELS

FOR 2.5V VDDR1
MEMVMODE = 1.8V
MEMVMODE1 = GND
FOR 1.8V VDDR1(ELPIDA)
MEMVMODE = GND
MEMVMODE1 = 1.8V
SEE DESIGN GUIDE

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Title: M9/M10-2
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M9+X<>M10
VDDR1(R4) IS CLKBFB ON M9+X AND IS A NC

M9+X<>M10
VDDR1(D19) IS CLKAFB ON M9+X AND IS A NC

M9+X<>M10
M9+X IS LVDDR_18_25 AND CONNECTS TO 1.8V
M10-P IS LVDDR_25 AND CONNECTS TO 2.5V

DIODE SUPPLIES POWER
TO VDDC RAIL
WHEN VDDC IS OFF AND +3.3V IS ON

ADD DECOUPLING CAPS AS REQUIRED

ADD DECOUPLING CAPS AS REQUIRED

M9+X<>M10
M9+X IS VDDC 18 AND CONNECTS TO 1.8V
M10-P IS VDDC15 AND CONNECTS TO 1.5V

STRAP VDDR4 TO 1.8V FOR EXT TMDS
STRAP VDDR4 TO 3.3V FOR VIP OR ZV_PORT
ALSO SEE DVOMODE STRAPS

ADD DECOUPLING CAPS AS REQUIRED

ADD ASIC DECOUPLING FOR ALL POWER AS REQUIRED
PLACED CLOSE TO THE POWER/GND PINS
WITH AS MANY AS POSSIBLE PLACED UNDER THE ASIC

M10-P (708 BGA)
M9+X (708 BGA)
CENTER ARRAY

IO POWER

CORE GND

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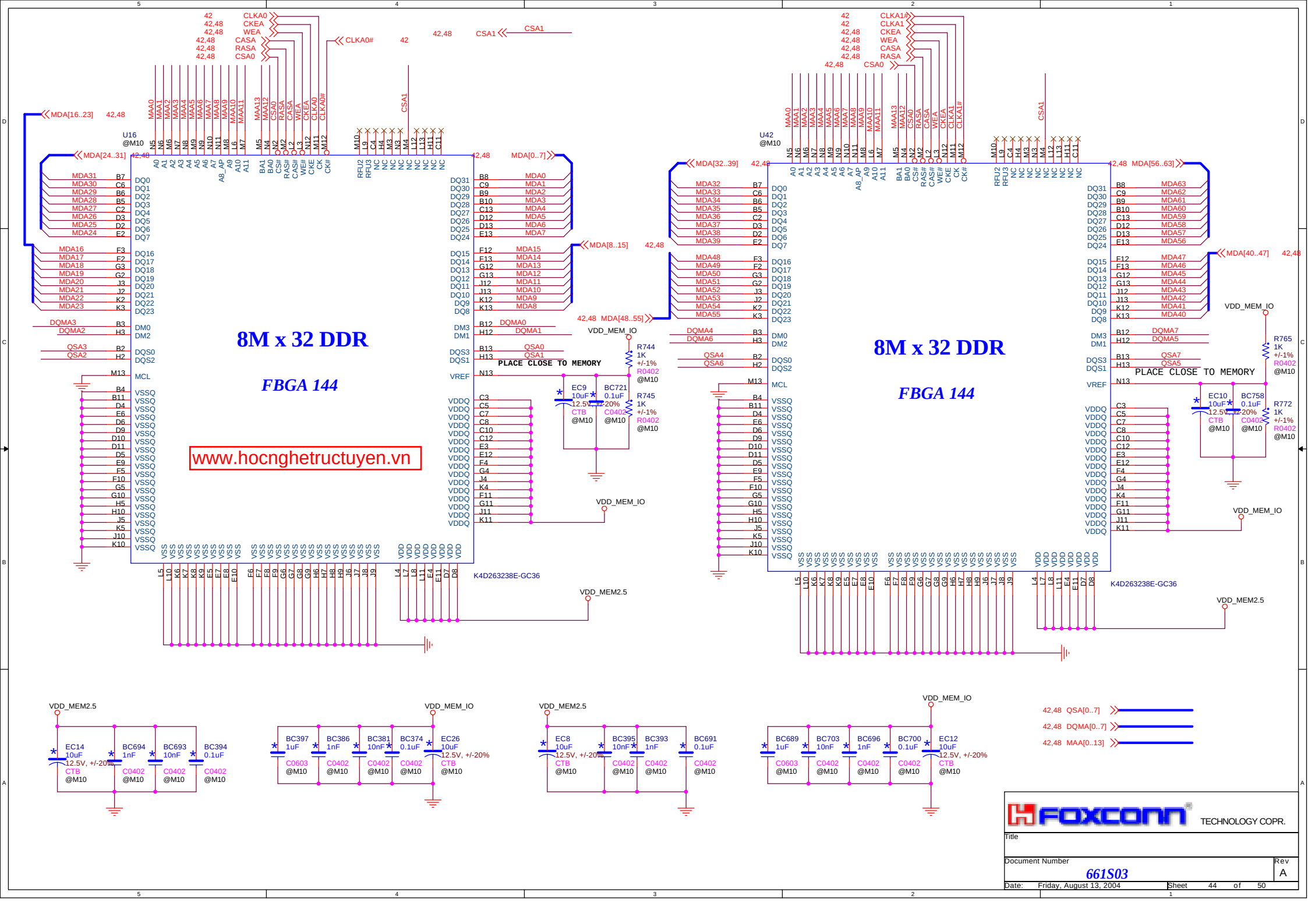

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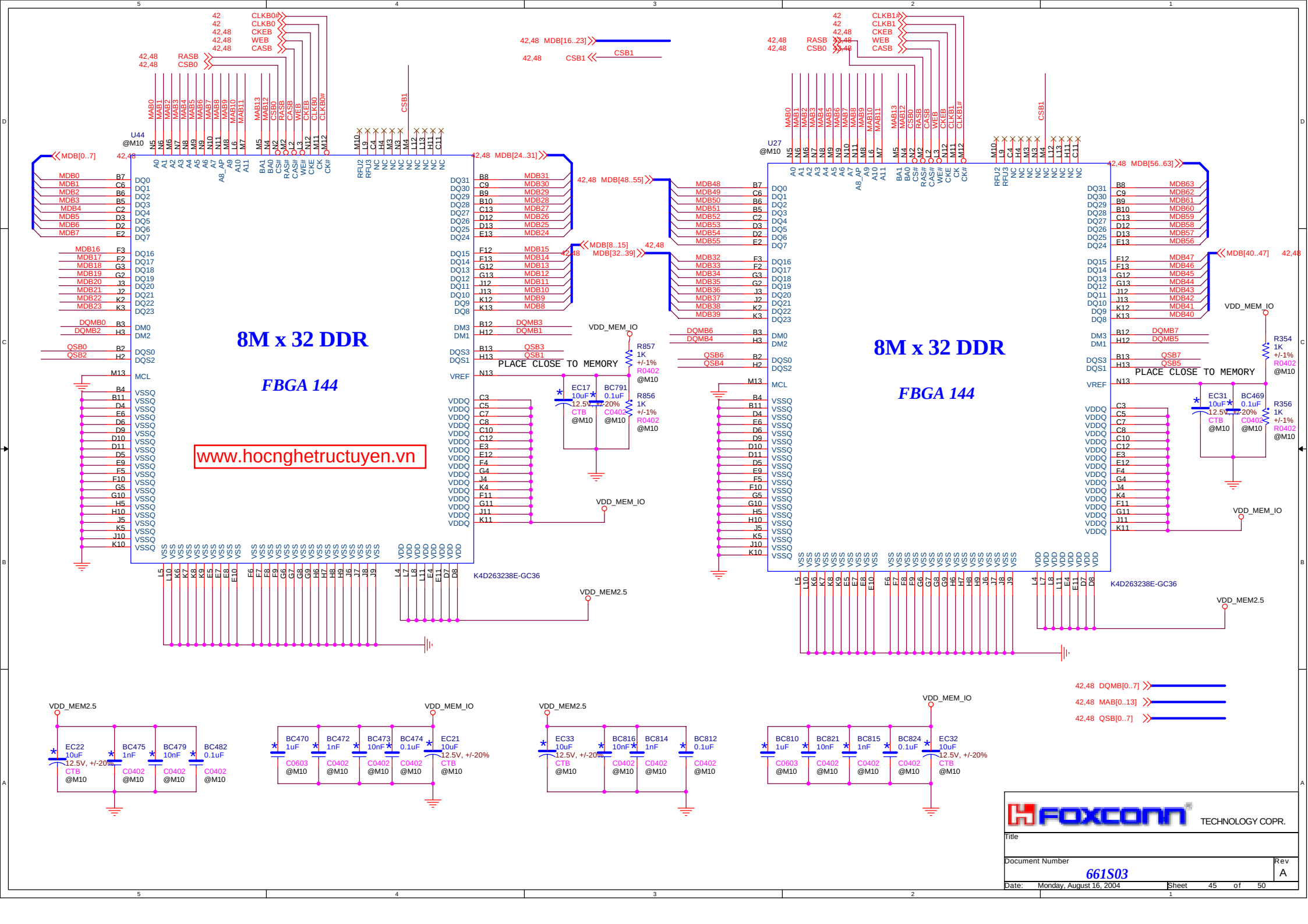
8M x 32 DDR
FBGA 144
U44
@M10
U27
@M10
K4D263238E-GC36
PLACE CLOSE TO MEMORY
VDD_MEM_IO
VDD_MEM2.5
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R857 1K +/-1% R0402 @M10
R856 1K +/-1% R0402 @M10
R354 1K +/-1% R0402 @M10
R356 1K +/-1% R0402 @M10
EC17 10uF 12.5V, +/-20% CTB @M10
BC791 0.1uF C0402 @M10
EC31 10uF 12.5V, +/-20% CTB @M10
BC469 0.1uF C0402 @M10
EC22 10uF 12.5V, +/-20% CTB @M10
BC475 1nF C0402 @M10
BC479 10nF C0402 @M10
BC482 0.1uF C0402 @M10
BC470 1uF C0603 @M10
BC472 1nF C0402 @M10
BC473 10nF C0402 @M10
BC474 0.1uF C0402 @M10
EC21 10uF 12.5V, +/-20% CTB @M10
EC33 10uF 12.5V, +/-20% CTB @M10
BC816 10nF C0402 @M10
BC814 1nF C0402 @M10
BC812 0.1uF C0402 @M10
BC810 1uF C0603 @M10
BC821 10nF C0402 @M10
BC815 1nF C0402 @M10
BC824 0.1uF C0402 @M10
EC32 10uF 12.5V, +/-20% CTB @M10
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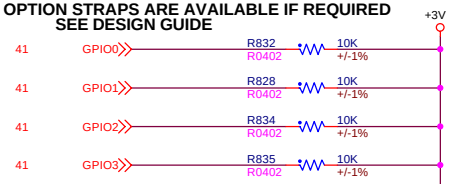
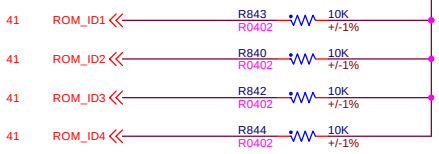
OTHER OPTION STRAPS ARE AVAILABLE IF REQUIRED
SEE DESIGN GUIDE



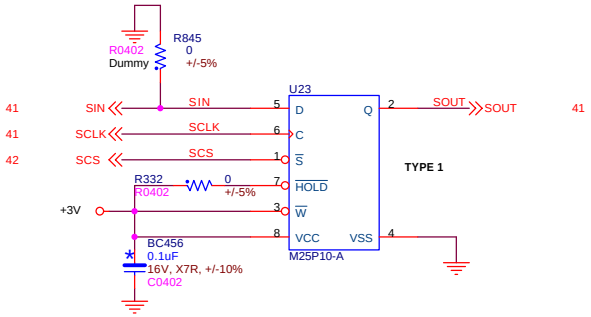
GPIO1	GPIO0	AGP 1X CLOCK FEEDBACK PHASE ADJUST WITH RESPECT TO REFCLK
DNI	DNI	REFCLK SLIGHTLY EARLIER THAN FEEDBACK (DEFAULT)

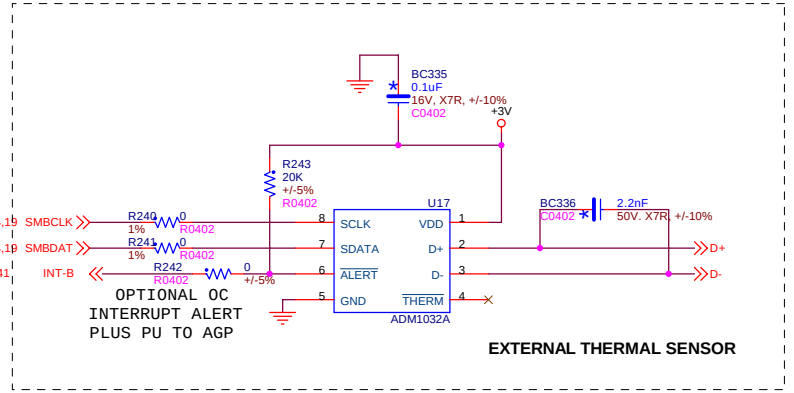
GPIO3	GPIO2	CLOCK PHASE ADJUSTMENT BETWEEN X1 AND X2 CLK
DNI	DNI	0 TAP DELAY (DEFAULT)



ROM_ID4	ROM_ID3	ROM_ID2	ROM_ID1	ROM ID CONFIG
DNI	DNI	DNI	DNI	NO ROM (DEFAULT)
10K	DNI	DNI	10K	SERIAL AT25F1024 (ATMEL) ROM
10K	DNI	DNI	DNI	SERIAL AT2545DB011 (ATMEL) ROM
10K	DNI	10K	10K	SERIAL M25P10 (ST) ROM
10K	10K	DNI	DNI	SERIAL M25P05 (ST) ROM
10K	DNI	DNI	10K	SERIAL SST45LF010 (SST) ROM
10K	10K	10K	DNI	SERIAL SST25VF010 (SST) ROM
10K	10K	10K	10K	SERIAL NX25F011B (NEXFLASH) ROM

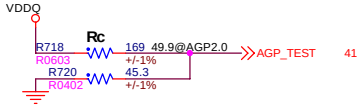
OPTIONAL SERIAL FLASH EEPROM
FOR VIDEO BIOS OUTSIDE SYSTEM BIOS





AGP_TEST RESISTOR SELECTION

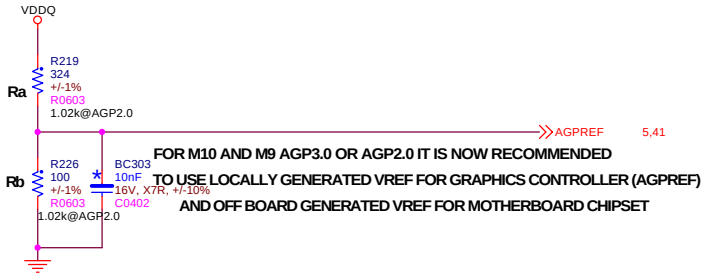
AGP MODE	Rc
AGP 2.0 (4X)	49.9R 1%
AGP 3.0 (8X)	169R 1%



M9 <> M10
ON M9 AGPTEST IS PULLED DOWN
ON M9+ AND M10 AGPTEST IS PULLED UP TO VDDP

AGPREF/VREFGC RESISTOR SELECTION

AGP MODE	Ra	Rb
AGP 2.0 (4X) .75V	1.02K 1%	1.02K 1%
AGP 3.0 (8X) .35V	324R 1%	100R 1%



FOR M10 AND M9 AGP3.0 OR AGP2.0 IT IS NOW RECOMMENDED
TO USE LOCALLY GENERATED VREF FOR GRAPHICS CONTROLLER (AGPREF)
AND OFF BOARD GENERATED VREF FOR MOTHERBOARD CHIPSET

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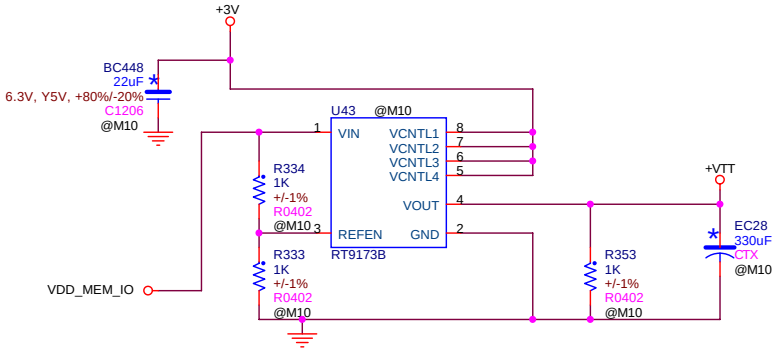

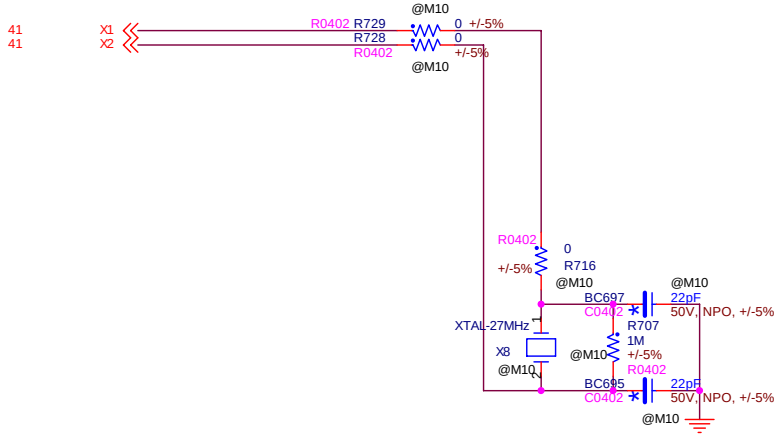

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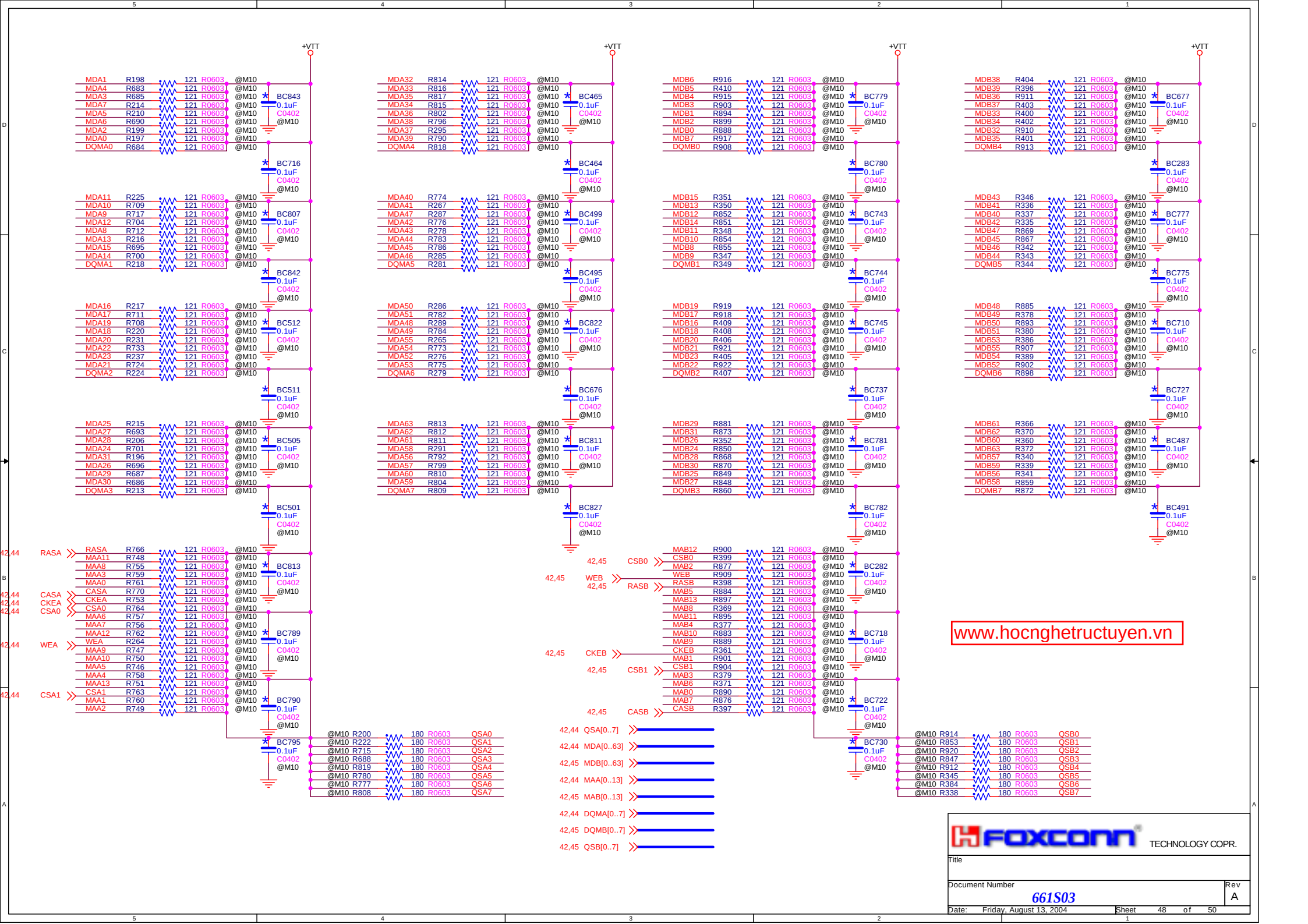
+VTT
MDA1 R198 121 R0603 @M10
MDA4 R683 121 R0603 @M10
MDA3 R685 121 R0603 @M10
MDA7 R214 121 R0603 @M10
MDA5 R210 121 R0603 @M10
MDA6 R690 121 R0603 @M10
MDA2 R199 121 R0603 @M10
MDA0 R197 121 R0603 @M10
DQMA0 R684 121 R0603 @M10
BC843 0.1uF C0402 @M10
BC716 0.1uF C0402 @M10
MDA11 R225 121 R0603 @M10
MDA10 R709 121 R0603 @M10
MDA9 R717 121 R0603 @M10
MDA12 R704 121 R0603 @M10
MDA8 R712 121 R0603 @M10
MDA13 R216 121 R0603 @M10
MDA15 R695 121 R0603 @M10
MDA14 R700 121 R0603 @M10
DQMA1 R218 121 R0603 @M10
BC807 0.1uF C0402 @M10
BC842 0.1uF C0402 @M10
MDA16 R217 121 R0603 @M10
MDA17 R711 121 R0603 @M10
MDA19 R708 121 R0603 @M10
MDA18 R220 121 R0603 @M10
MDA20 R231 121 R0603 @M10
MDA22 R733 121 R0603 @M10
MDA23 R237 121 R0603 @M10
MDA21 R724 121 R0603 @M10
DQMA2 R224 121 R0603 @M10
BC512 0.1uF C0402 @M10
BC511 0.1uF C0402 @M10
MDA25 R215 121 R0603 @M10
MDA27 R693 121 R0603 @M10
MDA28 R206 121 R0603 @M10
MDA24 R701 121 R0603 @M10
MDA31 R196 121 R0603 @M10
MDA26 R696 121 R0603 @M10
MDA29 R687 121 R0603 @M10
MDA30 R686 121 R0603 @M10
DQMA3 R213 121 R0603 @M10
BC505 0.1uF C0402 @M10
BC501 0.1uF C0402 @M10
42,44 RASA
RASA R766 121 R0603 @M10
MAA11 R748 121 R0603 @M10
MAA8 R755 121 R0603 @M10
MAA3 R759 121 R0603 @M10
MAA0 R761 121 R0603 @M10
42,44 CASA
42,44 CKEA
42,44 CSA0
CASA R770 121 R0603 @M10
CKEA R753 121 R0603 @M10
CSA0 R764 121 R0603 @M10
MAA6 R757 121 R0603 @M10
MAA7 R756 121 R0603 @M10
MAA12 R762 121 R0603 @M10
42,44 WEA
WEA R264 121 R0603 @M10
MAA9 R747 121 R0603 @M10
MAA10 R750 121 R0603 @M10
MAA5 R746 121 R0603 @M10
MAA4 R758 121 R0603 @M10
MAA13 R751 121 R0603 @M10
42,44 CSA1
CSA1 R763 121 R0603 @M10
MAA1 R760 121 R0603 @M10
MAA2 R749 121 R0603 @M10
BC813 0.1uF C0402 @M10
BC789 0.1uF C0402 @M10
BC790 0.1uF C0402 @M10
BC795 0.1uF C0402 @M10
@M10 R200 180 R0603 QSA0
@M10 R222 180 R0603 QSA1
@M10 R715 180 R0603 QSA2
@M10 R688 180 R0603 QSA3
@M10 R819 180 R0603 QSA4
@M10 R780 180 R0603 QSA5
@M10 R777 180 R0603 QSA6
@M10 R808 180 R0603 QSA7
MDA32 R814 121 R0603 @M10
MDA33 R816 121 R0603 @M10
MDA35 R817 121 R0603 @M10
MDA34 R815 121 R0603 @M10
MDA36 R802 121 R0603 @M10
MDA38 R796 121 R0603 @M10
MDA37 R295 121 R0603 @M10
MDA39 R790 121 R0603 @M10
DQMA4 R818 121 R0603 @M10
BC465 0.1uF C0402 @M10
BC464 0.1uF C0402 @M10
MDA40 R774 121 R0603 @M10
MDA41 R267 121 R0603 @M10
MDA47 R287 121 R0603 @M10
MDA42 R776 121 R0603 @M10
MDA43 R278 121 R0603 @M10
MDA44 R783 121 R0603 @M10
MDA45 R786 121 R0603 @M10
MDA46 R285 121 R0603 @M10
DQMA5 R281 121 R0603 @M10
BC499 0.1uF C0402 @M10
BC495 0.1uF C0402 @M10
MDA50 R286 121 R0603 @M10
MDA51 R782 121 R0603 @M10
MDA48 R289 121 R0603 @M10
MDA49 R784 121 R0603 @M10
MDA55 R265 121 R0603 @M10
MDA54 R773 121 R0603 @M10
MDA52 R276 121 R0603 @M10
MDA53 R775 121 R0603 @M10
DQMA6 R279 121 R0603 @M10
BC822 0.1uF C0402 @M10
BC676 0.1uF C0402 @M10
MDA63 R813 121 R0603 @M10
MDA62 R812 121 R0603 @M10
MDA61 R811 121 R0603 @M10
MDA58 R291 121 R0603 @M10
MDA56 R792 121 R0603 @M10
MDA57 R799 121 R0603 @M10
MDA60 R810 121 R0603 @M10
MDA59 R804 121 R0603 @M10
DQMA7 R809 121 R0603 @M10
BC811 0.1uF C0402 @M10
BC827 0.1uF C0402 @M10
42,45 CSB0
42,45 WEB
42,45 RASB
42,45 CKEB
42,45 CSB1
42,45 CASB
MAB12 R900 121 R0603 @M10
CSB0 R399 121 R0603 @M10
MAB2 R877 121 R0603 @M10
WEB R909 121 R0603 @M10
RASB R398 121 R0603 @M10
MAB5 R884 121 R0603 @M10
MAB13 R897 121 R0603 @M10
MAB8 R369 121 R0603 @M10
MAB11 R895 121 R0603 @M10
MAB4 R377 121 R0603 @M10
MAB10 R883 121 R0603 @M10
MAB9 R889 121 R0603 @M10
CKEB R361 121 R0603 @M10
MAB1 R901 121 R0603 @M10
CSB1 R904 121 R0603 @M10
MAB3 R379 121 R0603 @M10
MAB6 R371 121 R0603 @M10
MAB0 R890 121 R0603 @M10
MAB7 R876 121 R0603 @M10
CASB R397 121 R0603 @M10
BC282 0.1uF C0402 @M10
BC718 0.1uF C0402 @M10
BC722 0.1uF C0402 @M10
BC730 0.1uF C0402 @M10
42,44 QSA[0..7]
42,44 MDA[0..63]
42,45 MDB[0..63]
42,44 MAA[0..13]
42,45 MAB[0..13]
42,44 DQMA[0..7]
42,45 DQMB[0..7]
42,45 QSB[0..7]
MDB6 R916 121 R0603 @M10
MDB5 R410 121 R0603 @M10
MDB4 R915 121 R0603 @M10
MDB3 R903 121 R0603 @M10
MDB1 R894 121 R0603 @M10
MDB2 R899 121 R0603 @M10
MDB0 R888 121 R0603 @M10
MDB7 R917 121 R0603 @M10
DQMB0 R908 121 R0603 @M10
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BC780 0.1uF C0402 @M10
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DQMB1 R349 121 R0603 @M10
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MDB23 R405 121 R0603 @M10
MDB22 R922 121 R0603 @M10
DQMB2 R407 121 R0603 @M10
BC745 0.1uF C0402 @M10
BC737 0.1uF C0402 @M10
MDB29 R881 121 R0603 @M10
MDB31 R873 121 R0603 @M10
MDB26 R352 121 R0603 @M10
MDB24 R850 121 R0603 @M10
MDB28 R868 121 R0603 @M10
MDB30 R870 121 R0603 @M10
MDB25 R849 121 R0603 @M10
MDB27 R848 121 R0603 @M10
DQMB3 R860 121 R0603 @M10
BC781 0.1uF C0402 @M10
BC782 0.1uF C0402 @M10
@M10 R914 180 R0603 QSB0
@M10 R853 180 R0603 QSB1
@M10 R920 180 R0603 QSB2
@M10 R847 180 R0603 QSB3
@M10 R912 180 R0603 QSB4
@M10 R345 180 R0603 QSB5
@M10 R384 180 R0603 QSB6
@M10 R338 180 R0603 QSB7
MDB38 R404 121 R0603 @M10
MDB39 R396 121 R0603 @M10
MDB36 R911 121 R0603 @M10
MDB37 R403 121 R0603 @M10
MDB33 R400 121 R0603 @M10
MDB34 R402 121 R0603 @M10
MDB32 R910 121 R0603 @M10
MDB35 R401 121 R0603 @M10
DQMB4 R913 121 R0603 @M10
BC677 0.1uF C0402 @M10
BC283 0.1uF C0402 @M10
MDB43 R346 121 R0603 @M10
MDB41 R336 121 R0603 @M10
MDB40 R337 121 R0603 @M10
MDB42 R335 121 R0603 @M10
MDB47 R869 121 R0603 @M10
MDB45 R867 121 R0603 @M10
MDB46 R342 121 R0603 @M10
MDB44 R343 121 R0603 @M10
DQMB5 R344 121 R0603 @M10
BC777 0.1uF C0402 @M10
BC775 0.1uF C0402 @M10
MDB48 R885 121 R0603 @M10
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BC710 0.1uF C0402 @M10
BC727 0.1uF C0402 @M10
MDB61 R366 121 R0603 @M10
MDB62 R370 121 R0603 @M10
MDB60 R360 121 R0603 @M10
MDB63 R372 121 R0603 @M10
MDB57 R340 121 R0603 @M10
MDB59 R339 121 R0603 @M10
MDB56 R341 121 R0603 @M10
MDB58 R859 121 R0603 @M10
DQMB7 R872 121 R0603 @M10
BC487 0.1uF C0402 @M10
BC491 0.1uF C0402 @M10
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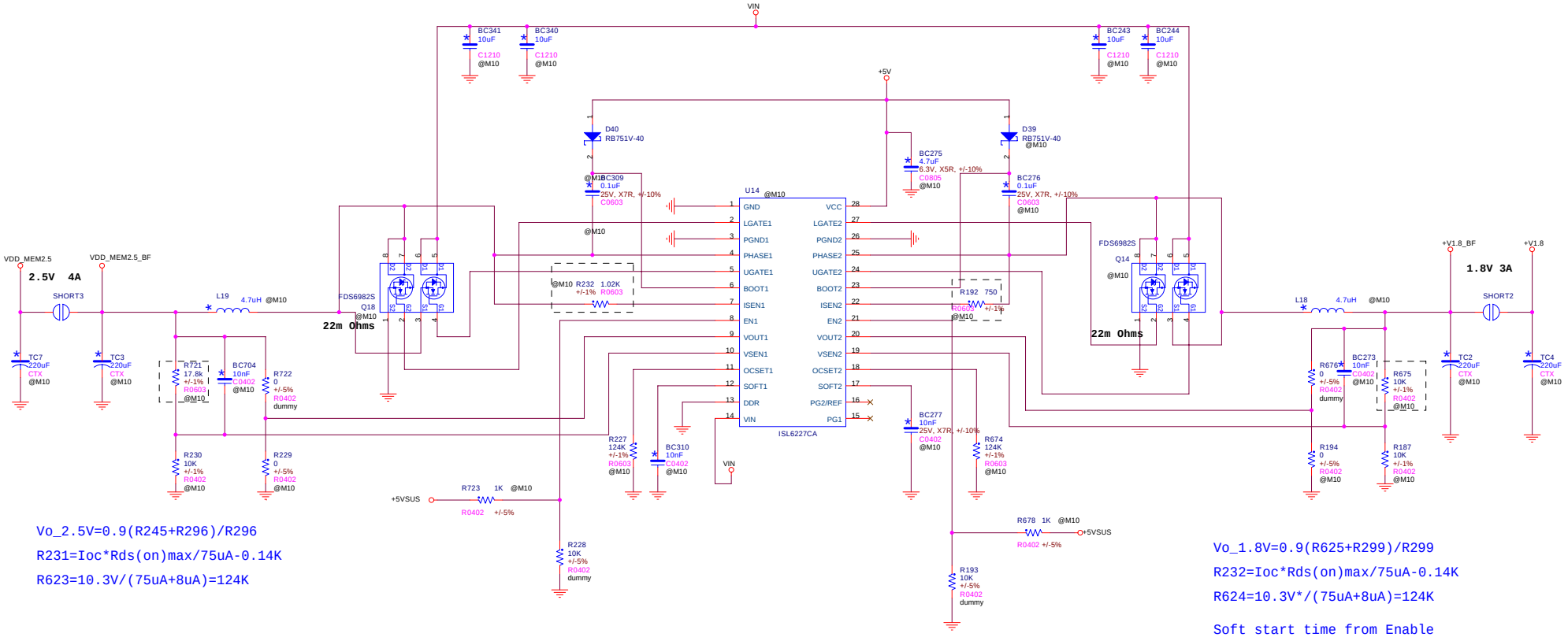

Vo_2.5V=0.9(R245+R296)/R296

R231=Ioc*Rds(on)max/75uA-0.14K

R623=10.3V/(75uA+8uA)=124K

Vo_1.8V=0.9(R625+R299)/R299

R232=Ioc*Rds(on)max/75uA-0.14K

R624=10.3V*/(75uA+8uA)=124K

Soft start time from Enable
to Power good indicate
Tsoft=1.5V*Csoft/5uA=3mS

DDR	EN1	EN2	PIN14	Phase
0	1	1	4.2V<VIN<24V	180 degree

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Title: 2.5V & 1.8V FOR M10

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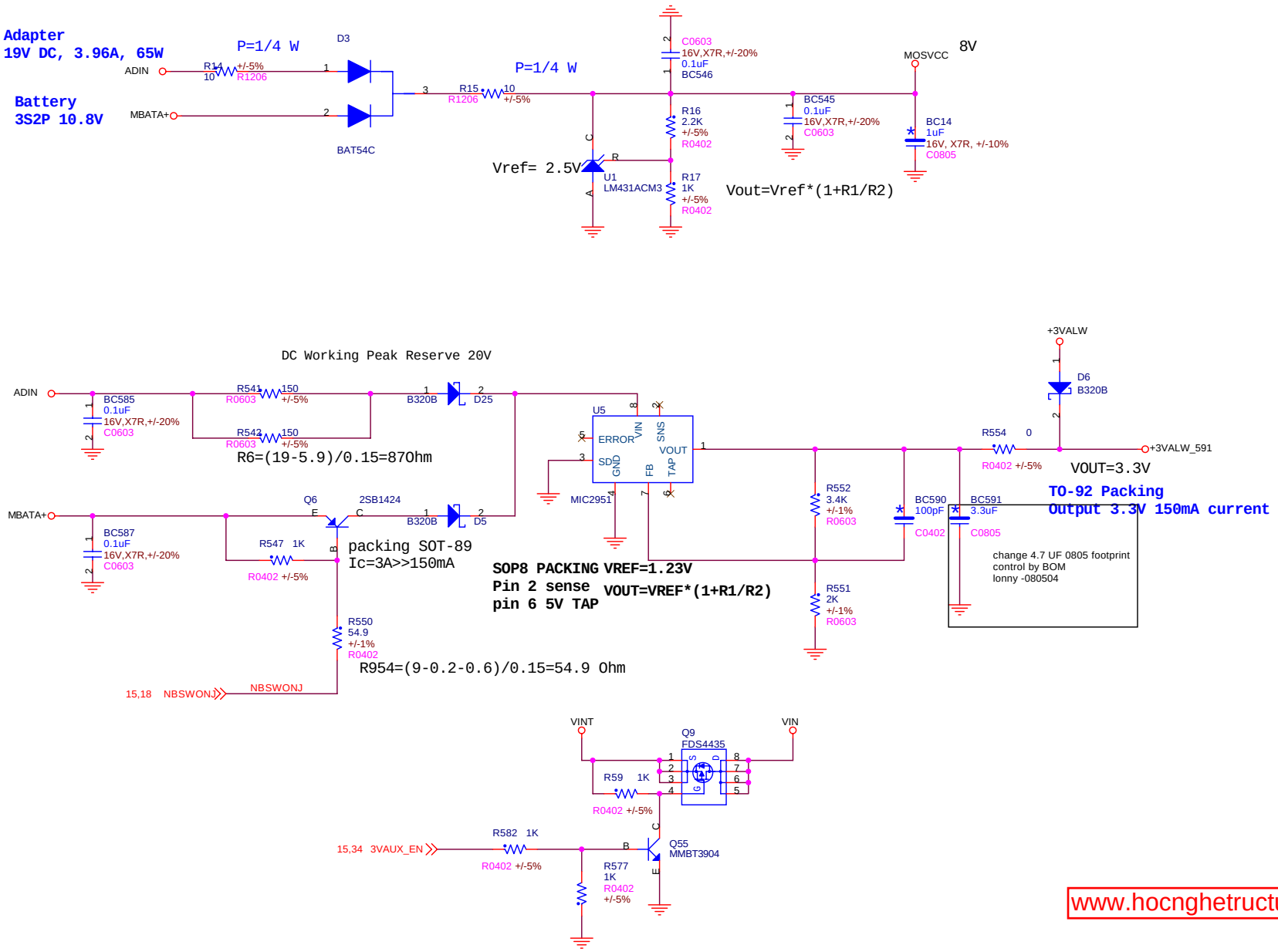

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Title: SAVE POWER

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