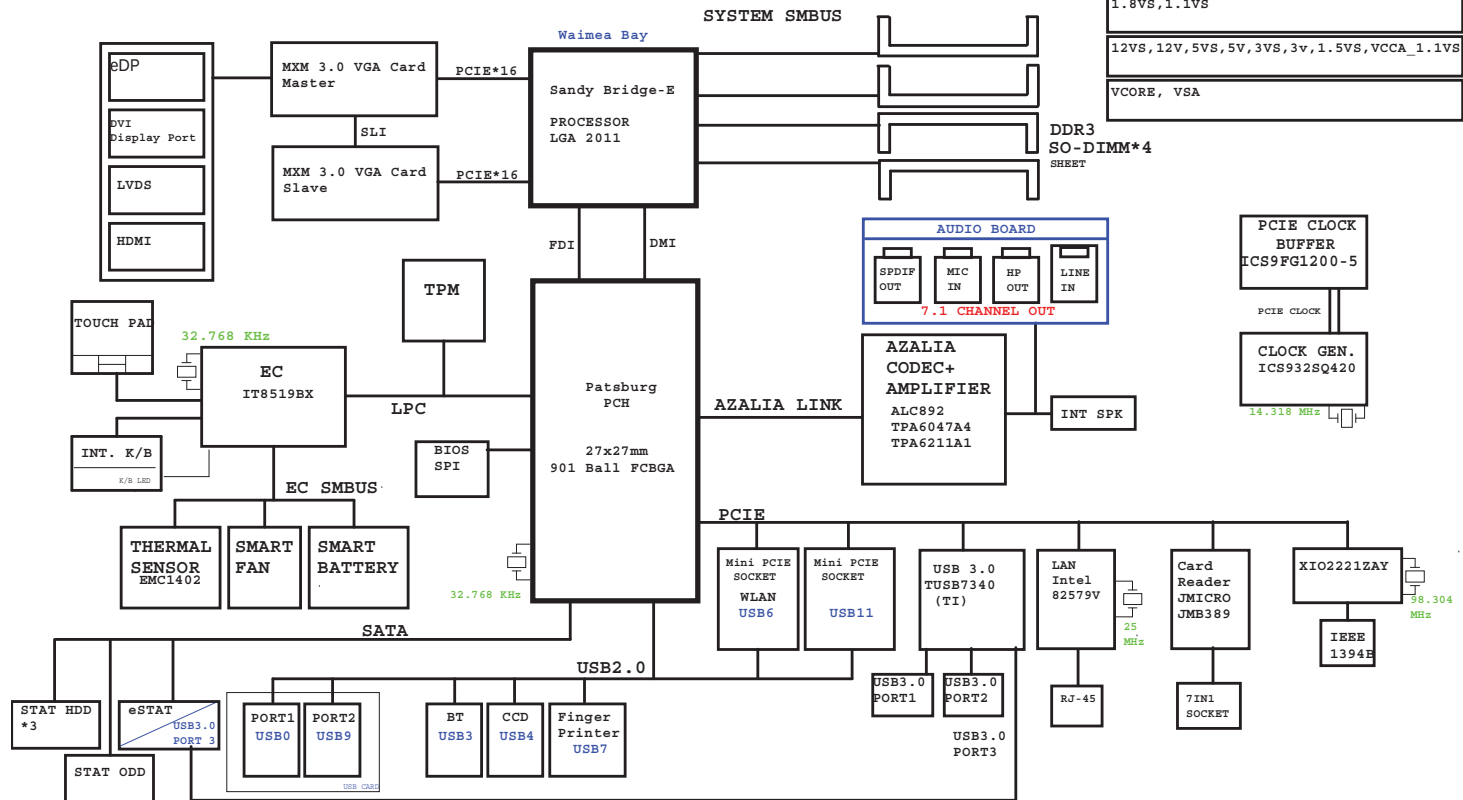


System Block Diagram

PCB 9 IN1 6-7P-P2709-003A *
 MAIN/B 6-71-P2700-D03A *
 TOUCH SENSOR/B 6-71-P2701-D02 *
 CLICK/B 6-71-P2702-D03 *
 USB/B 6-71-P2703-D03 *
 POWER LED/B 6-71-P2704-D02 *
 KB/B 6-71-P2707-D01 *
 AUDIO/B 6-71-P2708-D03 *
 FINGER SENSOR/B 6-71-P270F-D03 *
 SWITCH/B 6-71-P270S-D02 *

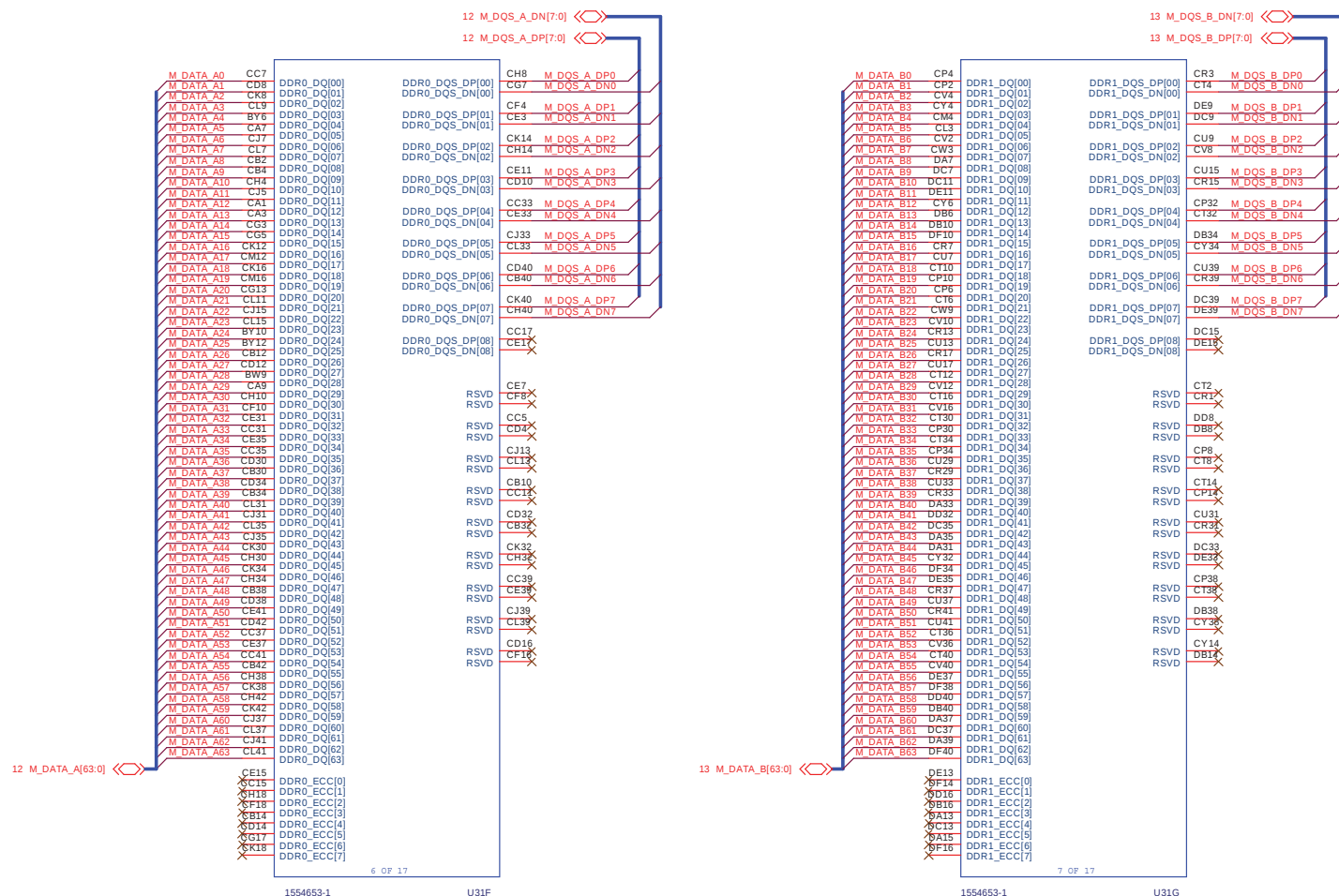
P270WMB-0D (K/B/DW083C)

P270WM Block Diagram



Sheet 1 of 63
System Block
Diagram

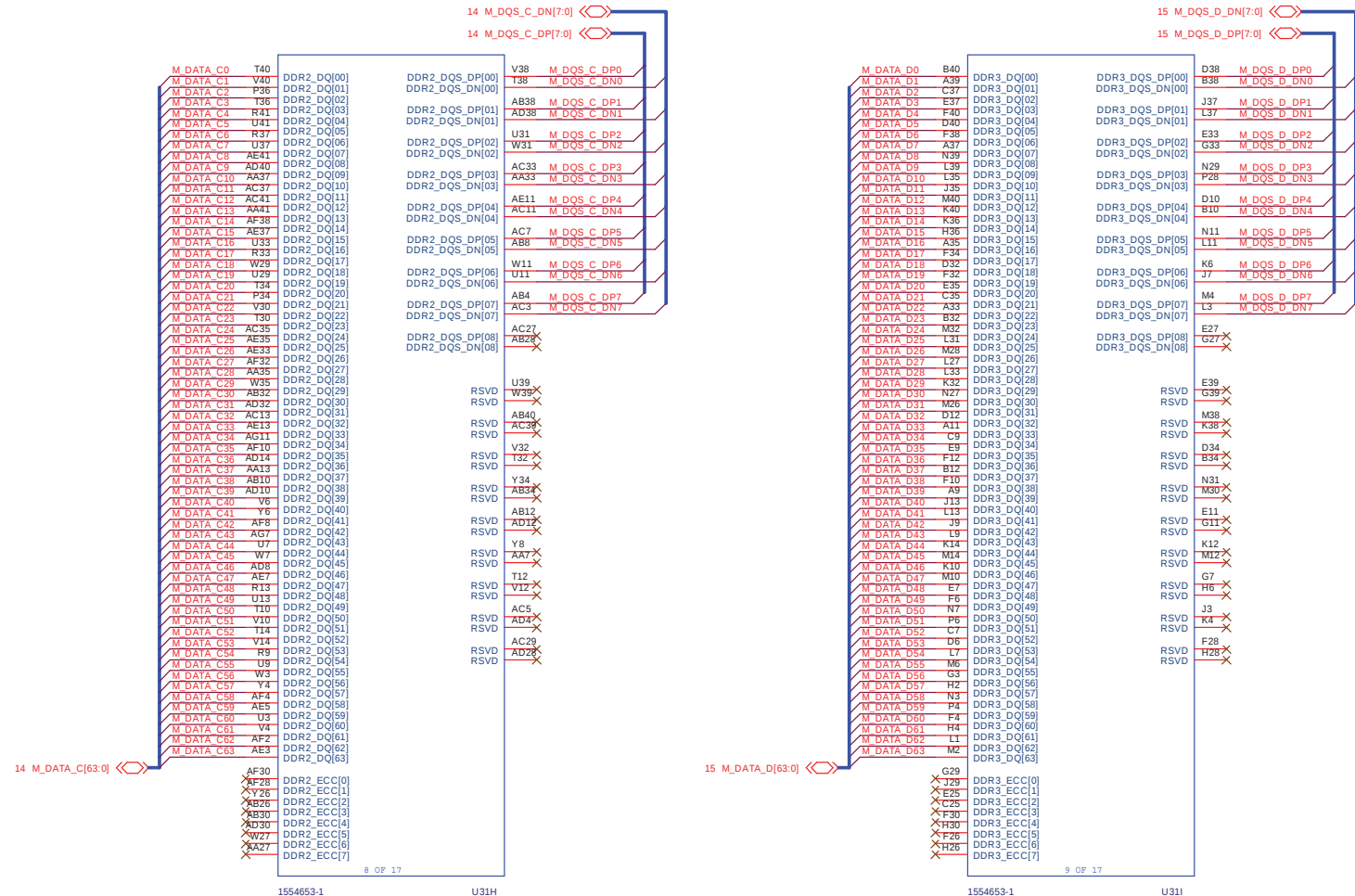
Sandy Bridge - DDR 0 & 1



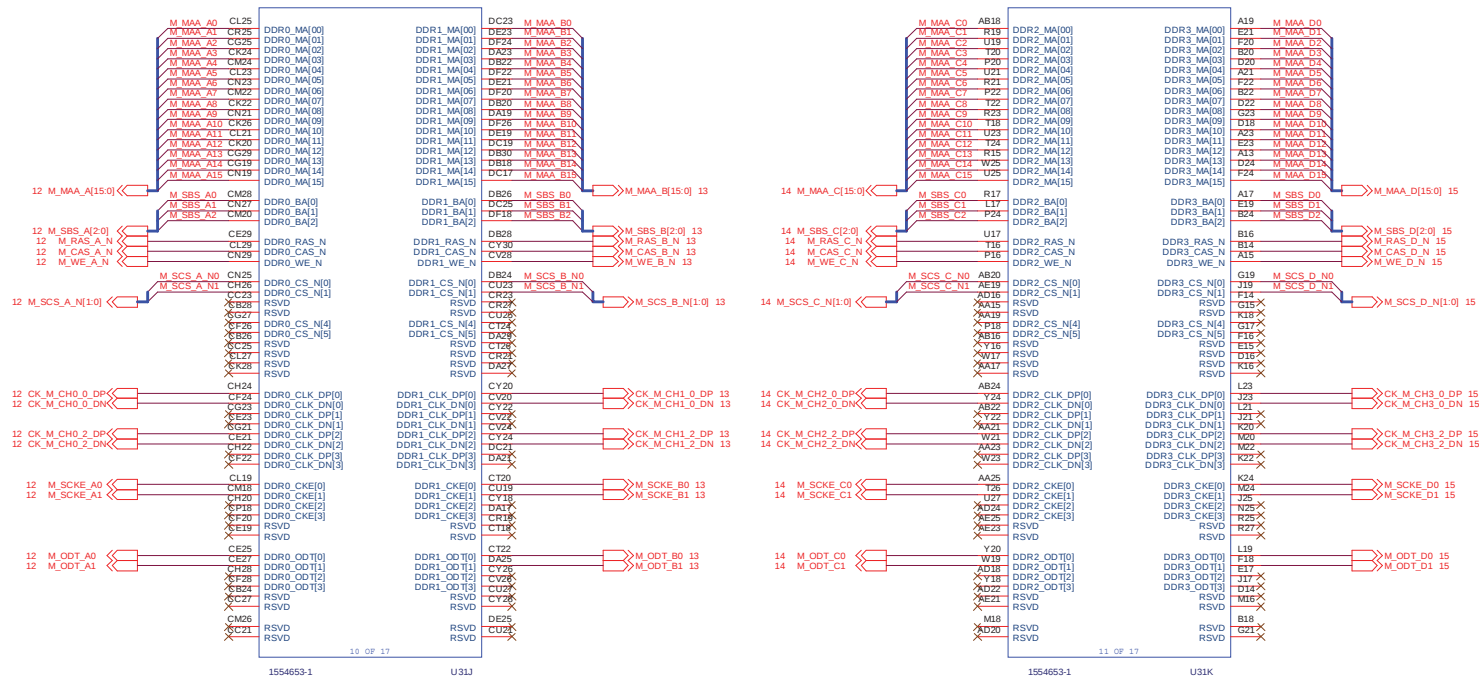
Sheet 2 of 63
Sandy Bridge -
DDR 0 & 1

Sandy Bridge - DDR 2 & 3

Sheet 3 of 63
Sandy Bridge -
DDR 2 & 3



Sandy Bridge - DDR Control

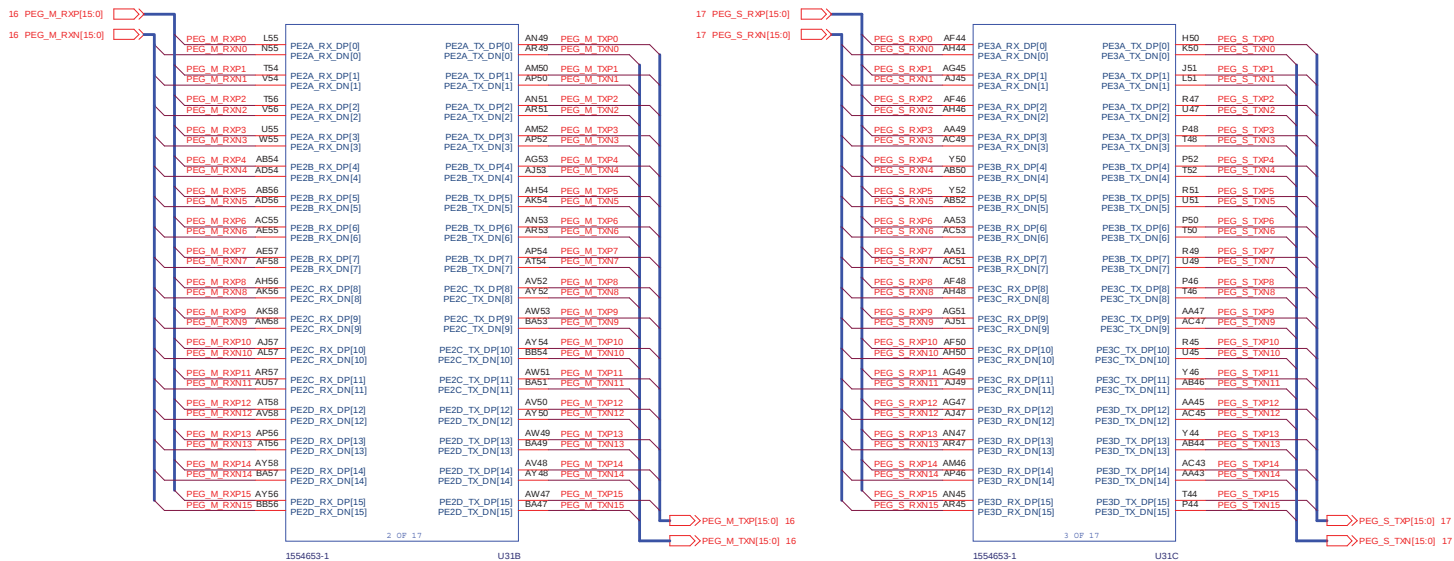


Sheet 4 of 63
Sandy Bridge -
DDR Control

B.Schematic Diagrams

Sandy Bridge - PEG

Sheet 7 of 63
Sandy Bridge -
PEG

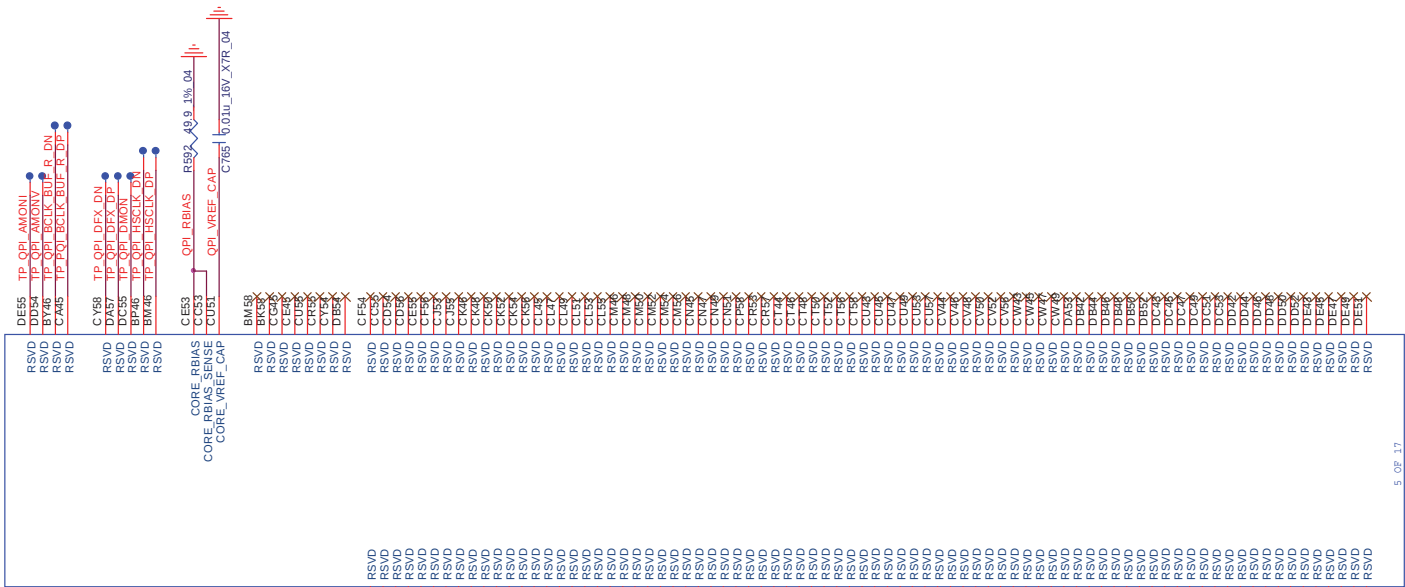


Sheet 8 of 63
Sandy Bridge -
N-Power



Sandy Bridge - QPI

Sheet 11 of 63
Sandy Bridge -
QPI



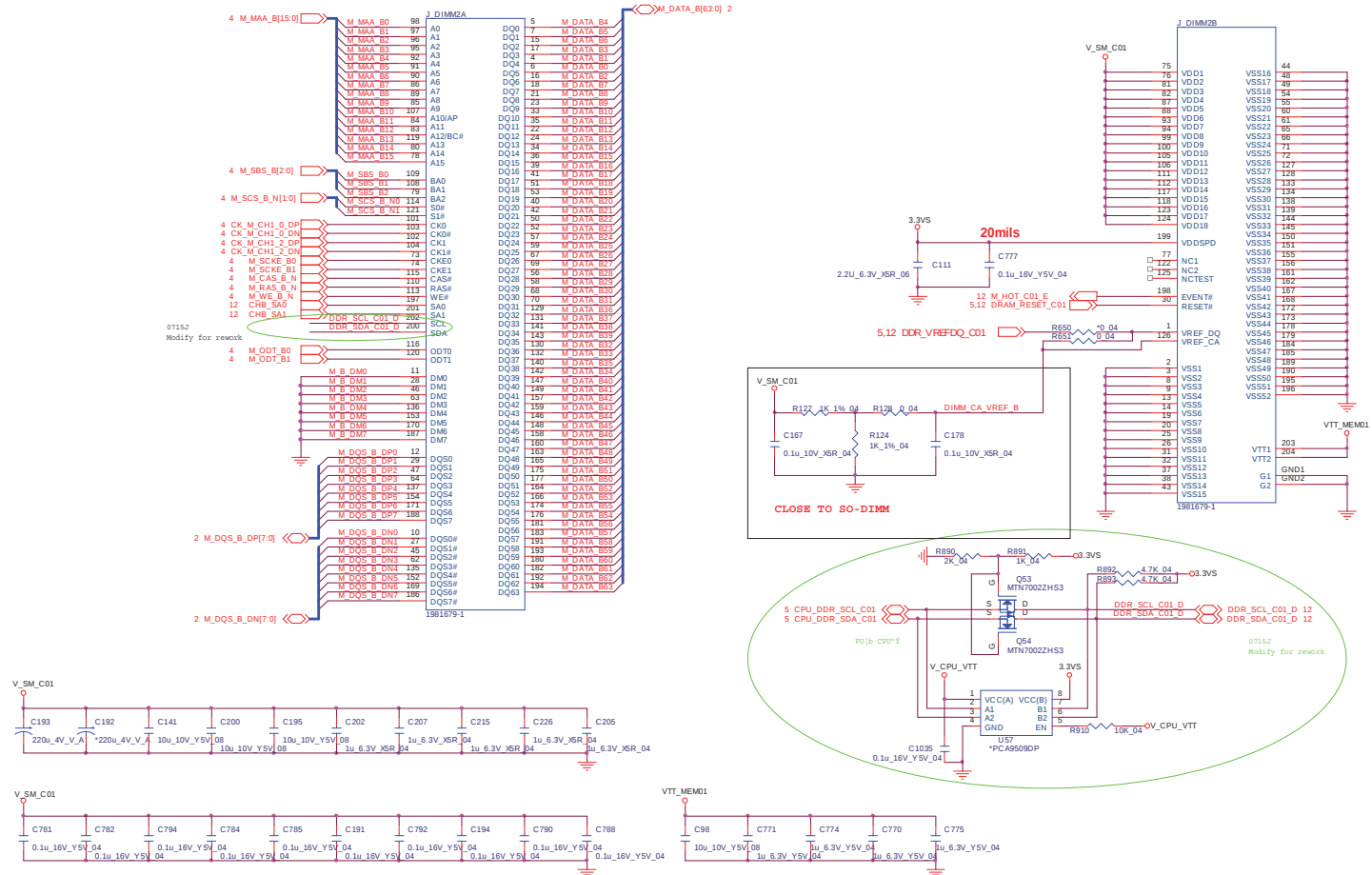
DDR3 CHB SO-DIMM 1

Channel B SO-DIMM 1

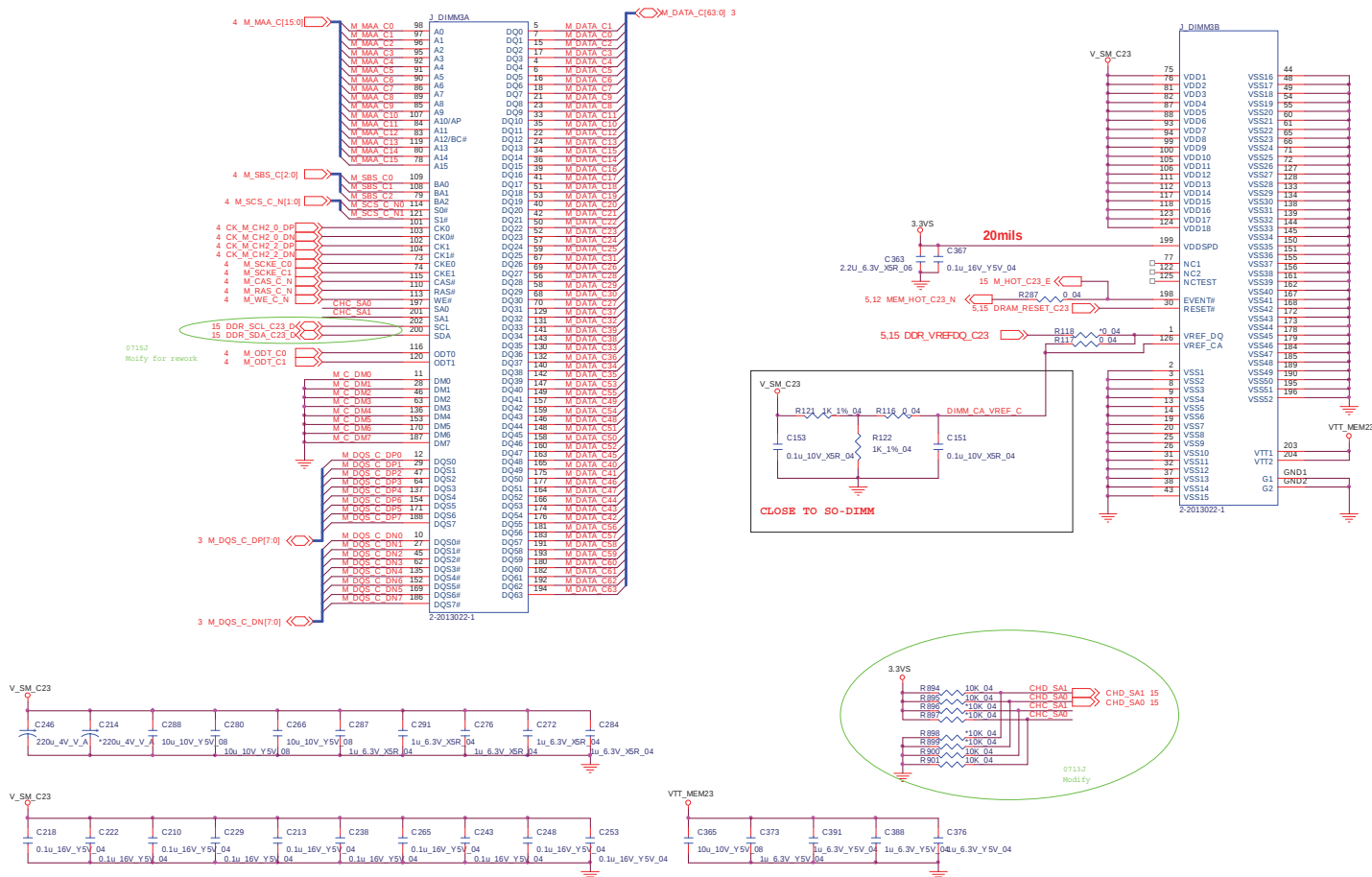
CHANGE TO STANDARD

Sheet 13 of 63
DDR3 CHB
SO-DIMM 1

B.Schematic Diagrams

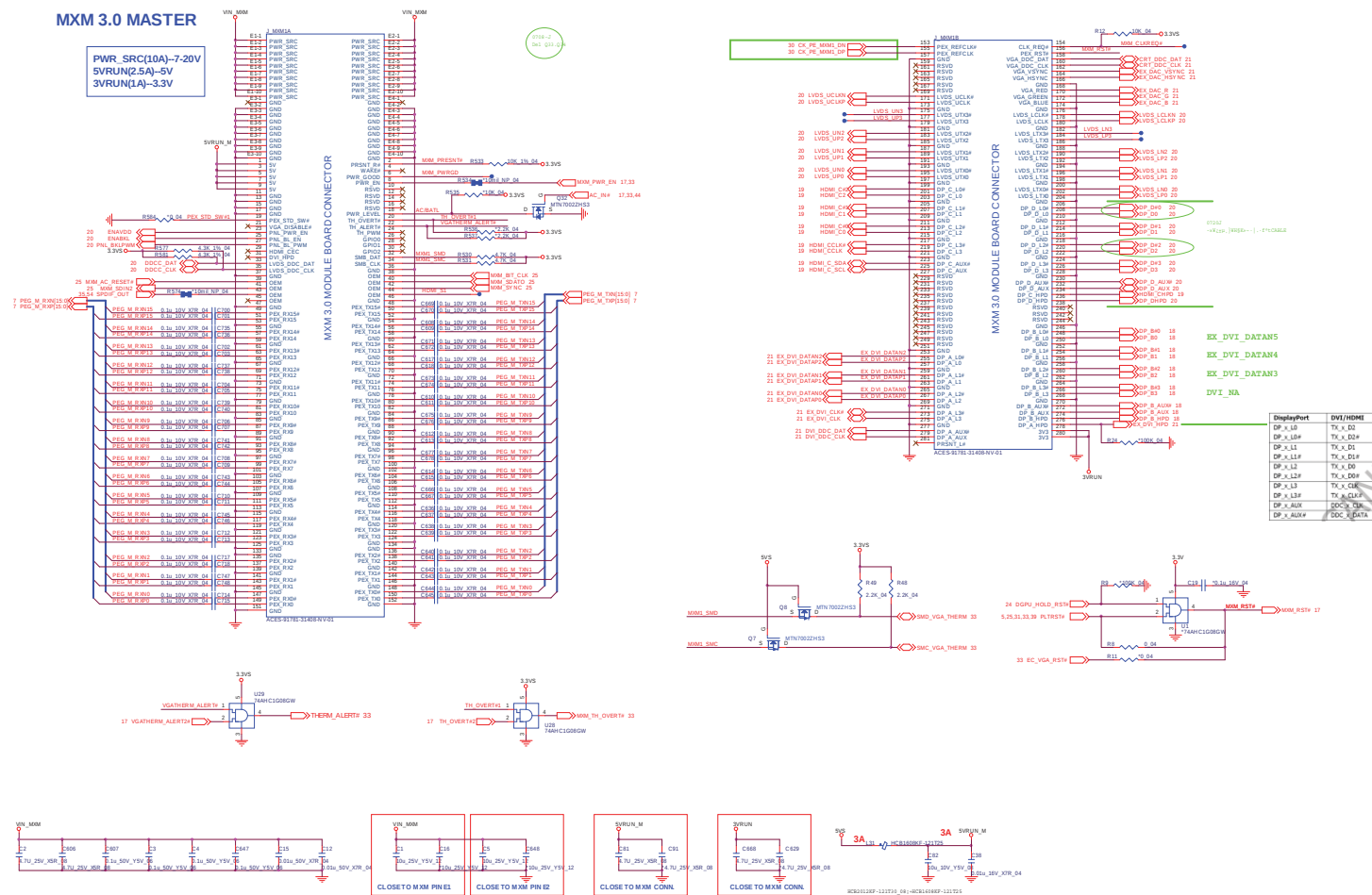


Channel C SO-DIMM 2



MXM 3.0 PCI-E MASTER

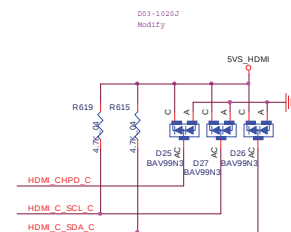
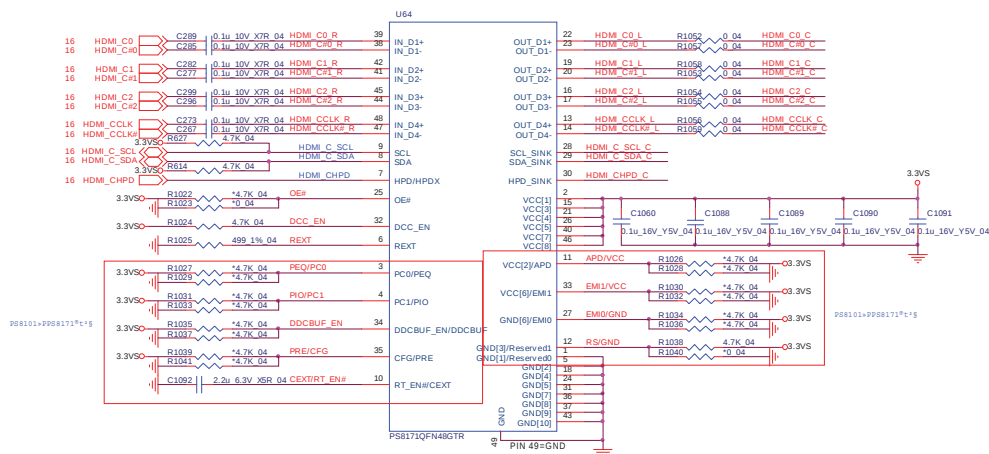
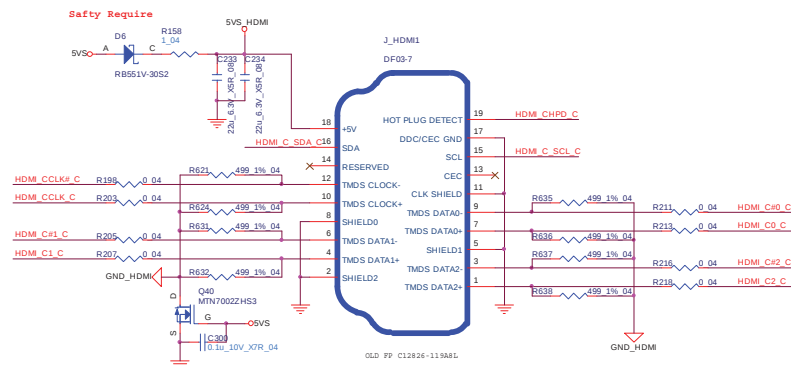
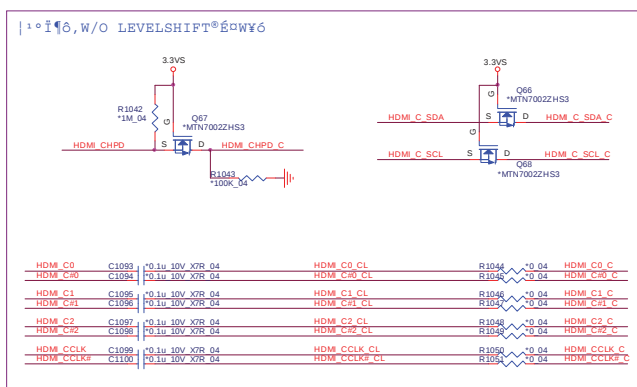
Sheet 16 of 63
MXM 3.0 PCI-E
MASTER



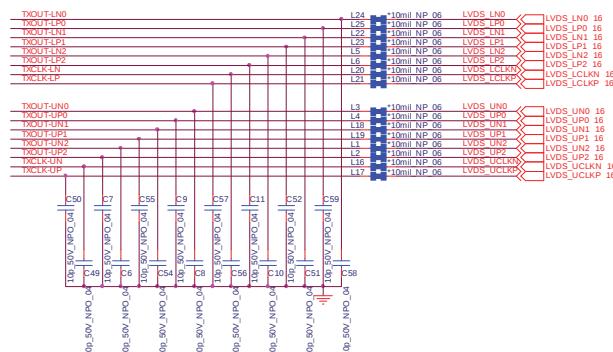
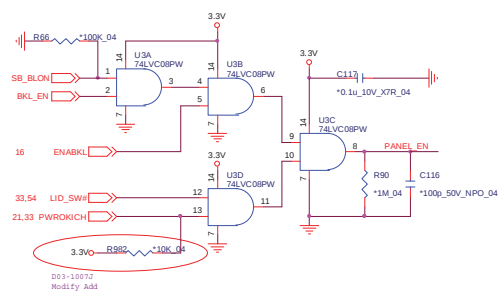
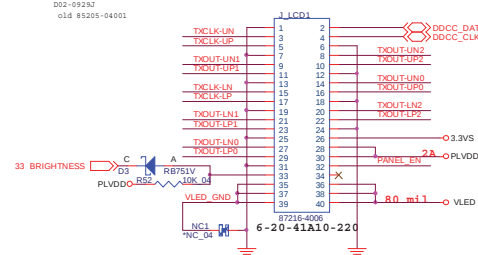
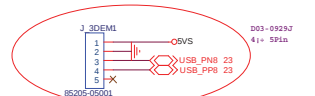
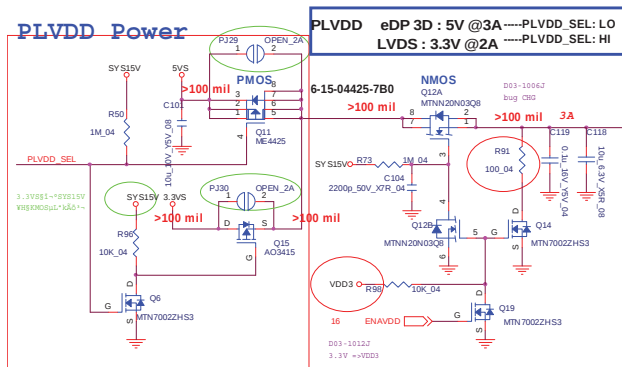
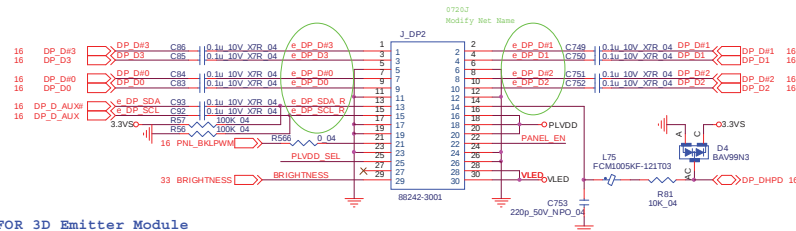
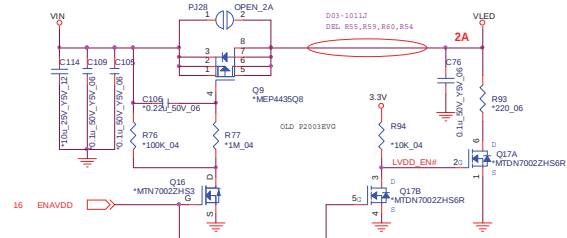
HDMI

<http://hobi-elektronika.net>

HDMI



B.Schematic Diagrams

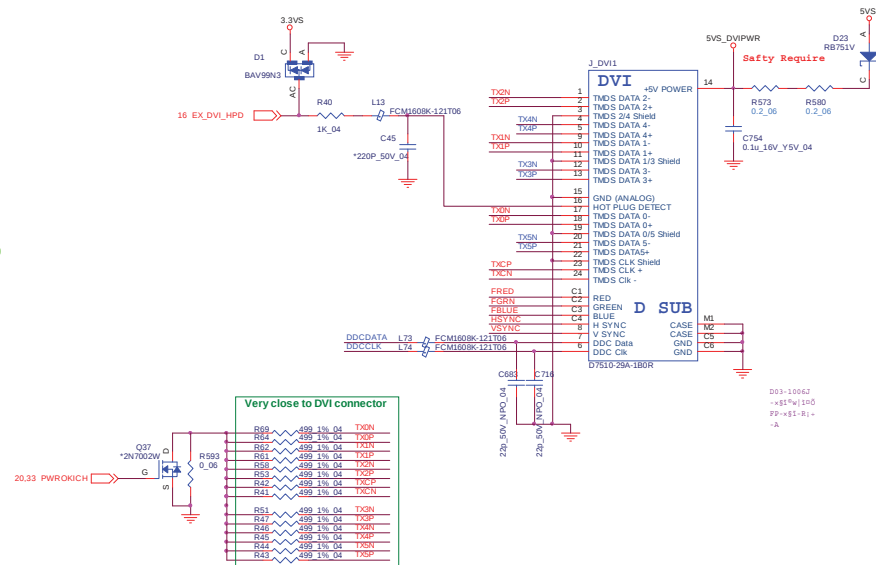
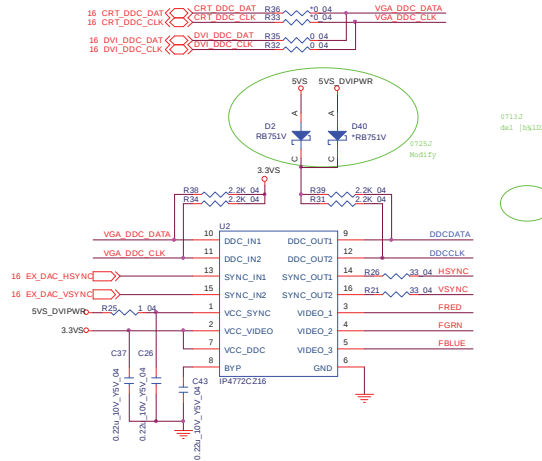
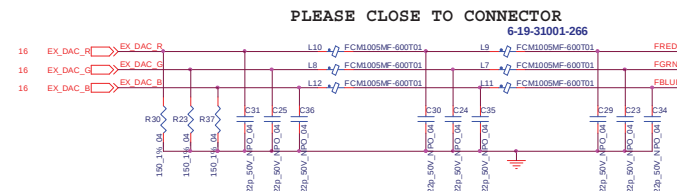
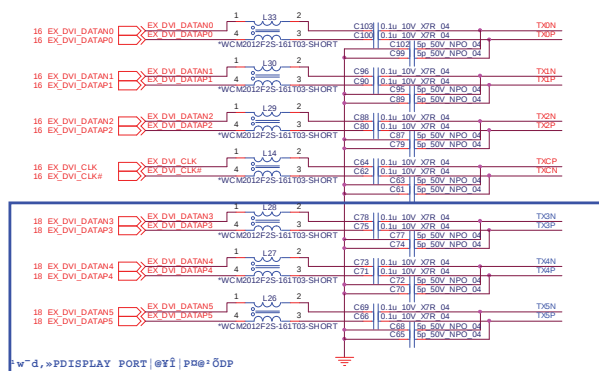


Sheet 20 of 63
LCD, eDP,
3D Emitter

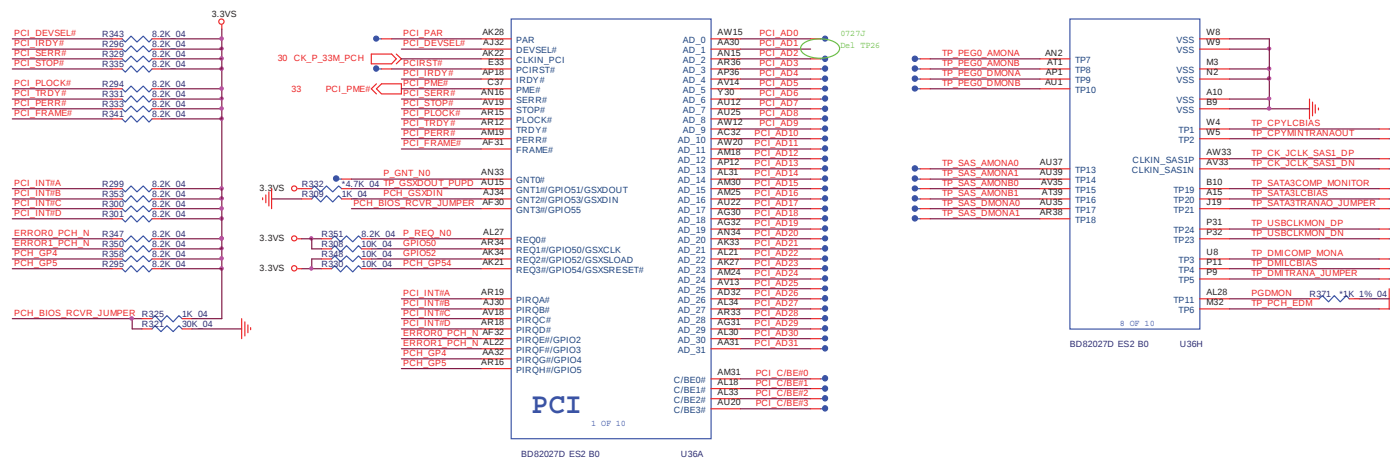
Schematic Diagrams

<http://hobi-elektronika.net>

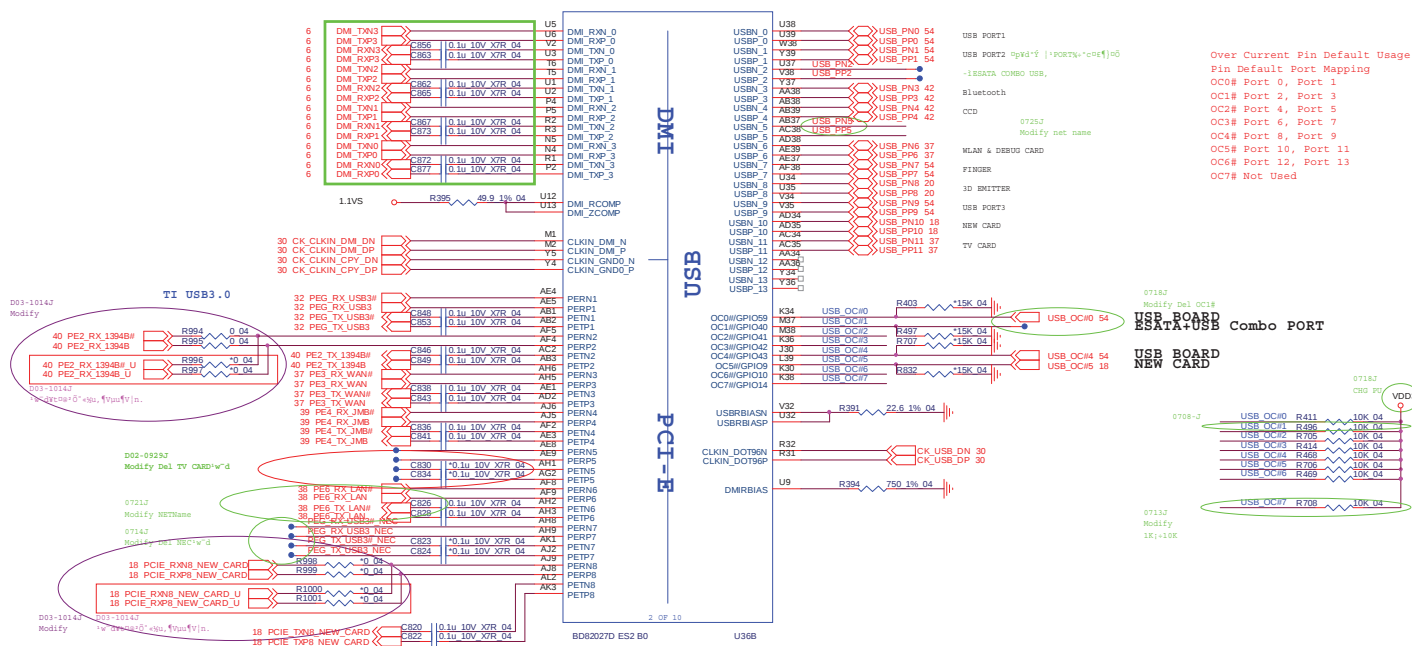
DVI

 Sheet 21 of 63
DVI


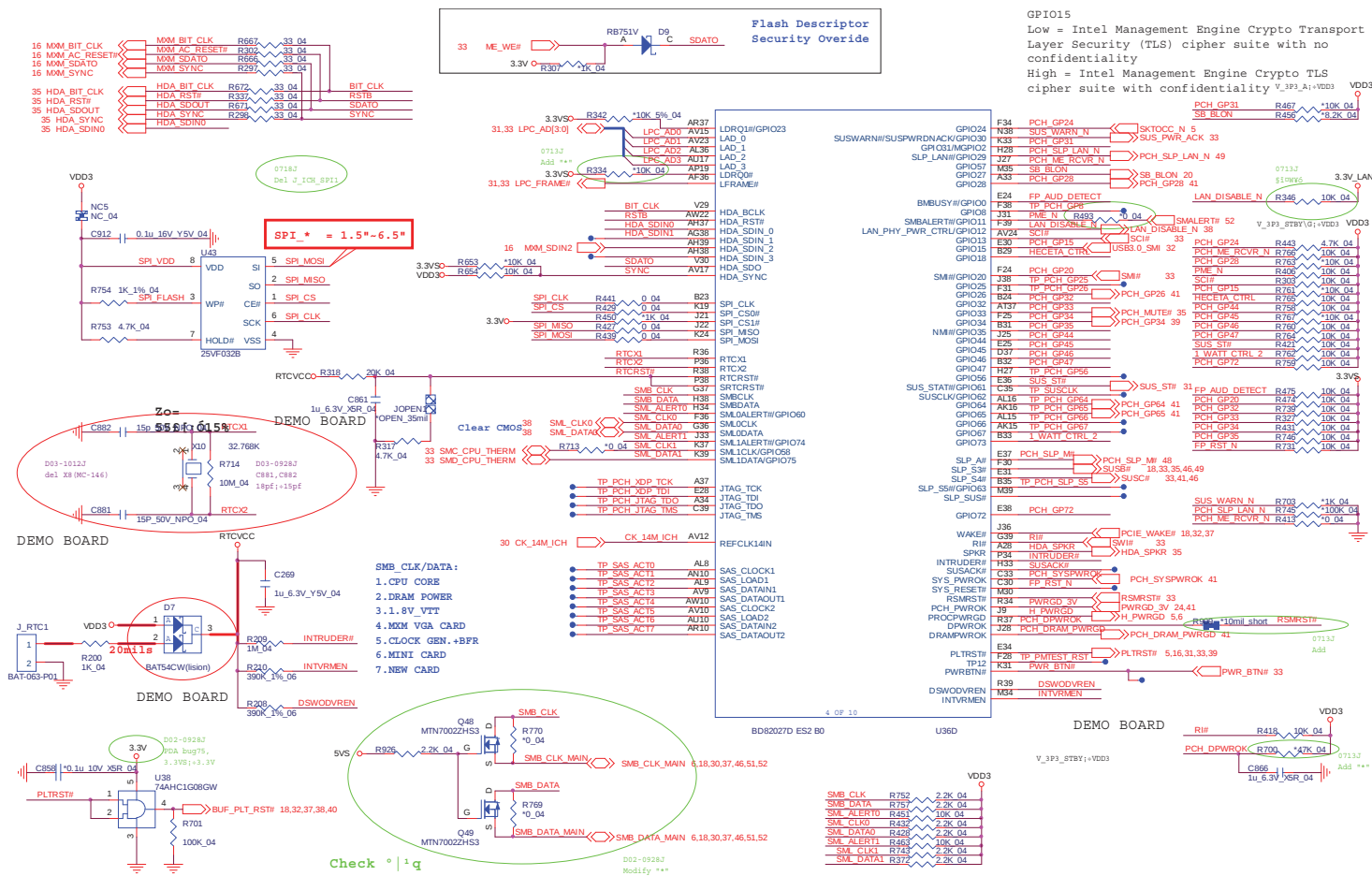
PCH PCI



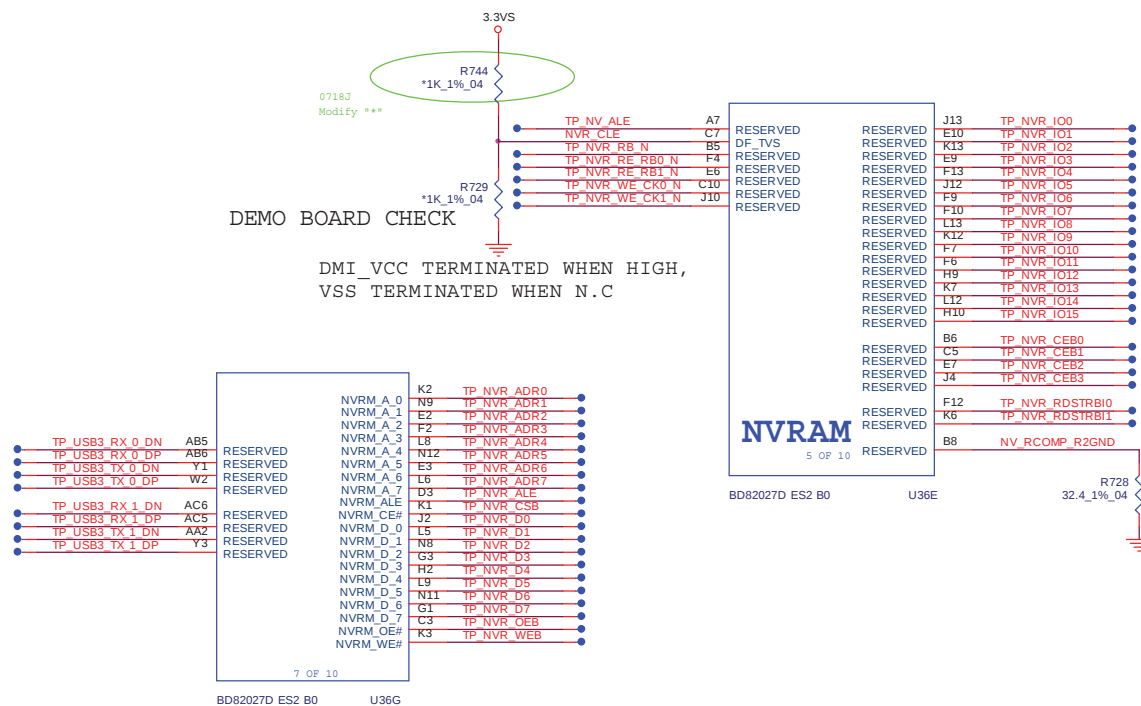
Sheet 22 of 63
PCH PCI



B - 26 PCH GPIO/HDA



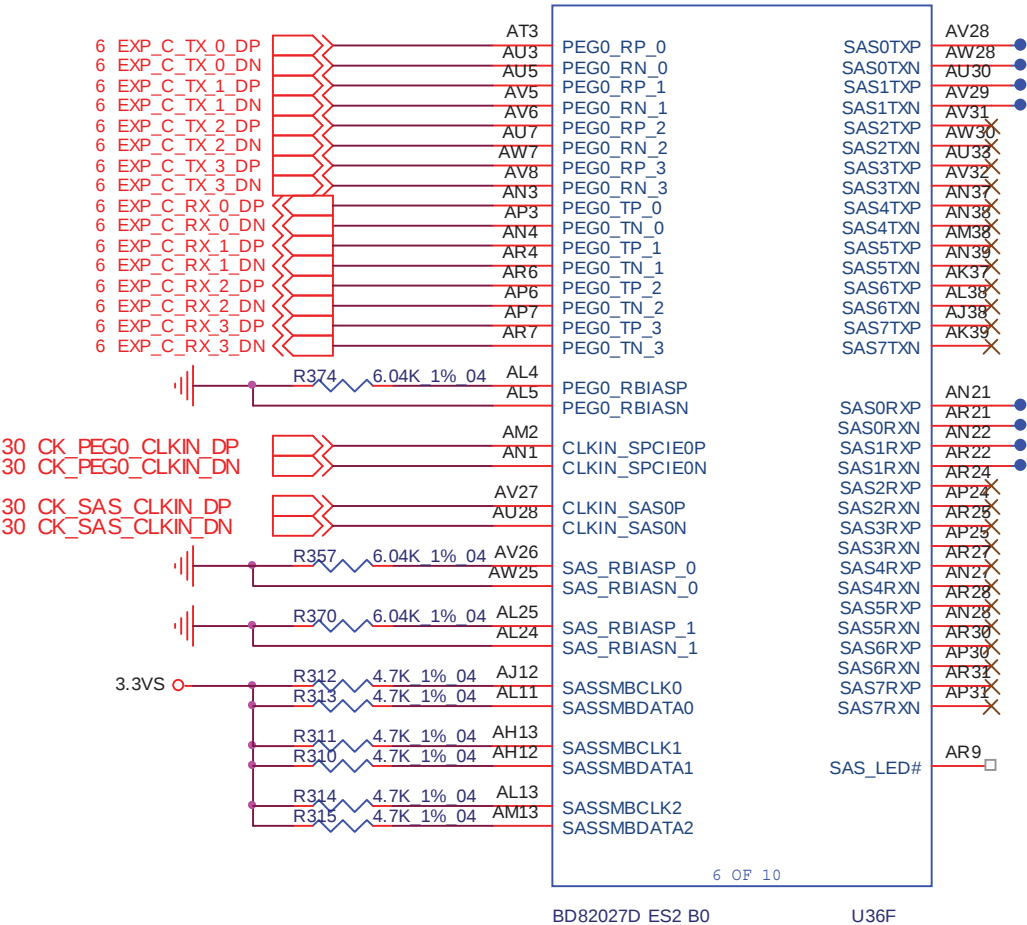
PCH NVRAM



Sheet 26 of 63
PCH NVRAM

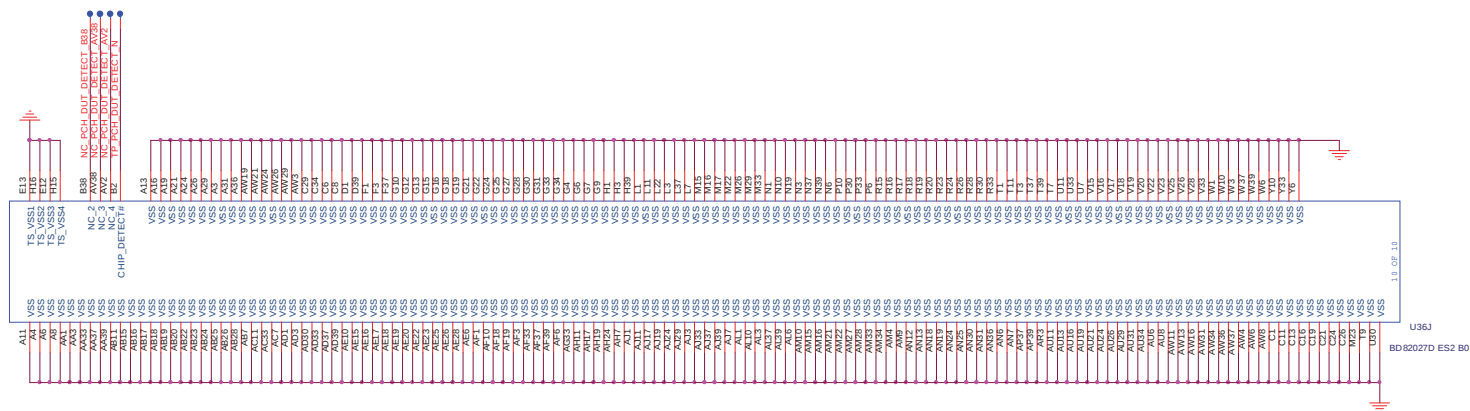
PCH SAS

Sheet 27 of 63
PCH SAS



PCH GND

Sheet 29 of 63
PCH GND



B.Schematic Diagrams

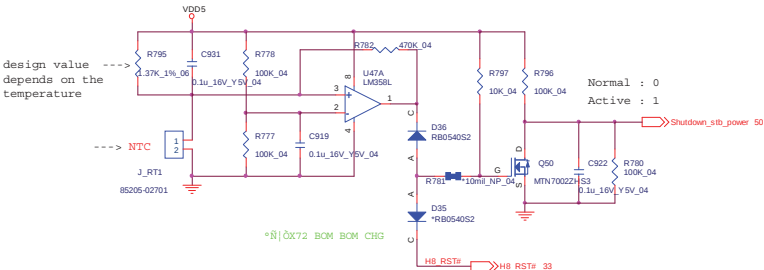
Sheet 30 of 63
Clock Generator,
Buffer

Schematic Diagrams

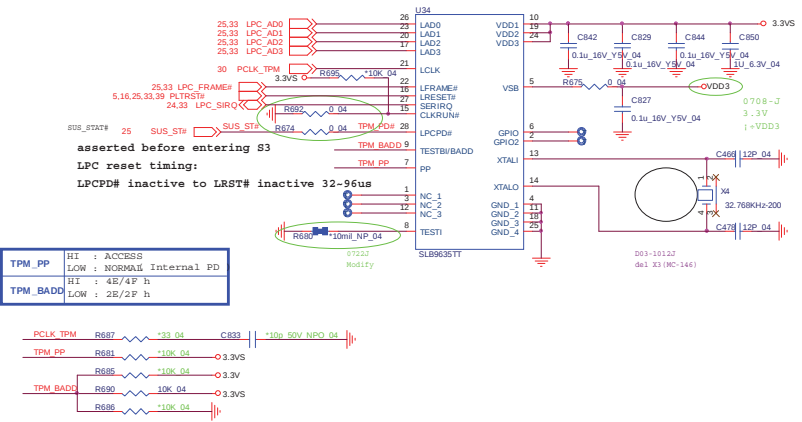
<http://hobi-elektronika.net>

TPM 1.2

Sheet 31 of 63
TPM 1.2



TPM 1.2



B.Schematic Diagrams



B.Schematic Diagrams

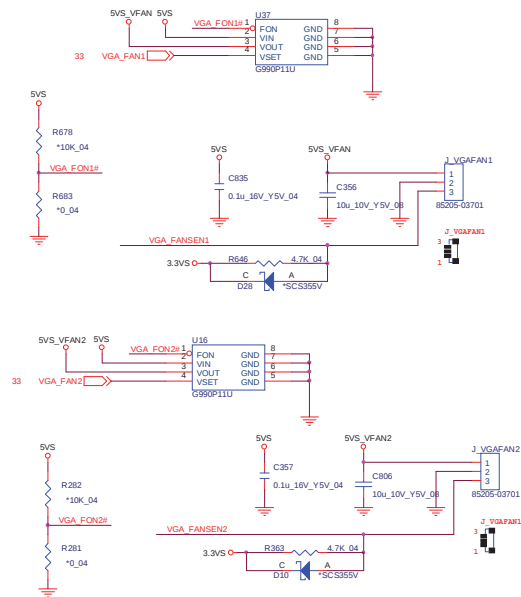
The diagram is a complex schematic for the IT8519 P2P ITE8513E. It features several key sections:

- Top Section:** Power supply and ground connections, including VDD0, VDD3, and various voltage dividers and decoupling capacitors.
- Left Section:** K/B MATRIX and K/B WIRESET# connections, including a table for K/B MATRIX and various pin connections.
- Center Section:** FLASH, GPIO, EXT GPIO, WAKE UP, PSM/COUNTER, WAKE UP, GP INTERRUPT, UART, and CLOCK blocks. These blocks contain numerous internal connections and component values.
- Right Section:** Various peripheral connections, including CPU_FAN, VGA_FAN2, VGA_FAN1, SYS_FAN, and various temperature and current sensors.
- Bottom Section:** A section for the AC LCD BRIGHTNESS, including a table for BRIGHTNESS and various pin connections.
- Annotations:** Numerous red and blue lines and text annotations throughout the diagram, indicating specific modifications, component values, and pin connections. Some annotations are in red, while others are in blue.
- Inset Diagram:** A small inset in the top right corner shows a 'LAYOUT' of the board with dimensions and a 'BOPORT' label.

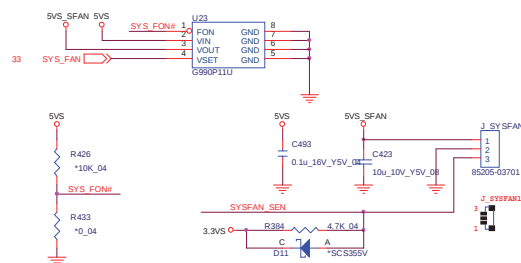
The diagram is a highly detailed and complex schematic, likely intended for use by a PCB designer or a hardware engineer. It provides a comprehensive view of the internal connections and component values for the IT8519 P2P ITE8513E.

Fan Control

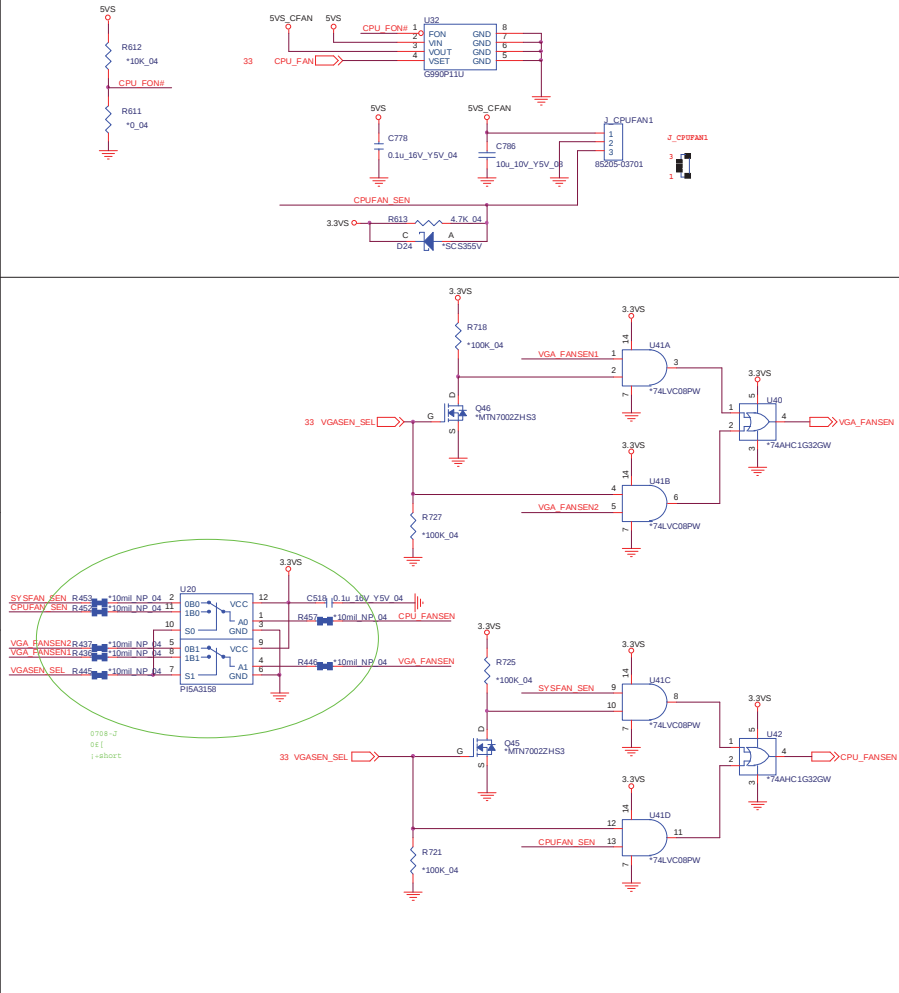
VGA FAN CONTROL



SYS FAN CONTROL



CPU FAN CONTROL



Sheet 34 of 63
Fan Control

Support 7.1 channel

BluRay content protection

Layout note:
Headphone^{OT}, 1/2u^{1/2}e > 10mils
1/2u^{1/2}e phone jack 1/2u^{1/2}e
1/2u^{1/2}e NY 1/2u^{1/2}e
R/L 1/2u^{1/2}e 1/2u^{1/2}e GND YB 1/2u^{1/2}e 1/2u^{1/2}e 1/2u^{1/2}e

Layout Note:
Very close to CODEC

Layout Note:
U43 pin 1 ~ pin 11 and pin 47
are Digital signals.
The others are Analog signals.

Layout Note:

(1) MIC1-L (U31.21) (2) MIC1-R (U31.22)
(3) LINE-L (U31.23) (4) LINE-R (U31.24)

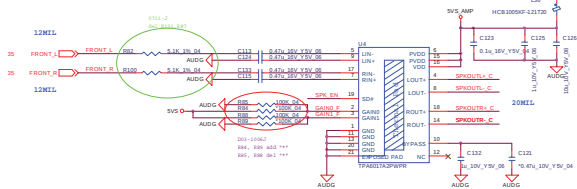
ⓈⓅⓂⓃⓄⓇ ⓀⓁⓊⓉ ⓆⓈⓈⓇ ⓌⓇⓂⓇⓈⓇⓈⓇⓇⓇ
+SVS & +VIN plane.

Layout note:
GND and AUDG space is
60mils ~ 100mils

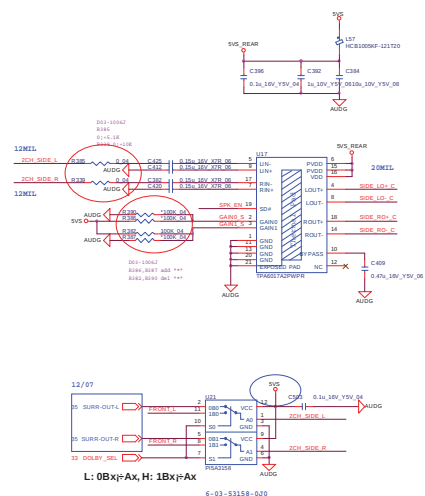
Audio AMP

Sheet 36 of 63
Audio AMP

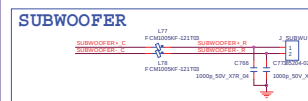
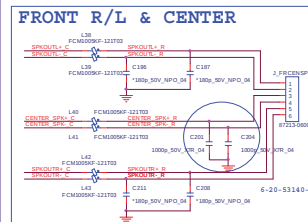
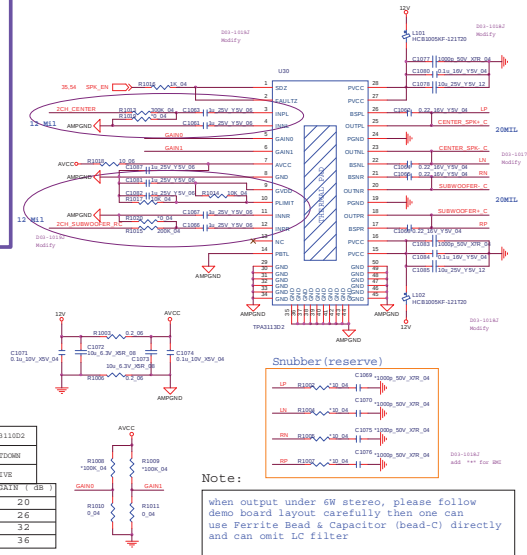
FRONT R/L 1.5W 8ohm



SURR R/L 1W 8ohm



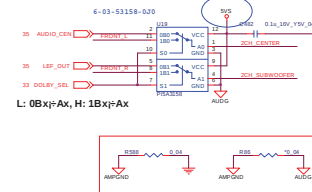
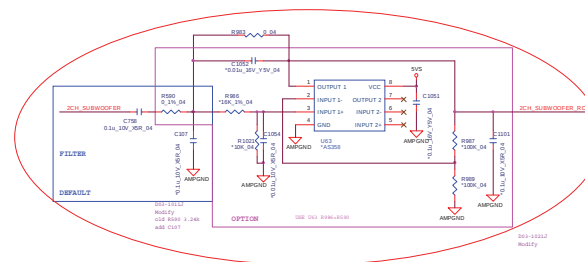
CENTER 1.5W 4ohm/ SUBWOOFER 2W 4ohm



D03A Change

SHUTDOWN	TPA31102
1 (W-0.4V)	SHUTDOWN
4 (W-0.4V)	ACTIVE
GAIN1	GAIN2
0	0
1	0
0	1
1	1

Note:
when output under 6W stereo, please follow
demo board layout carefully then one can
use Ferrite Bead & Capacitor (bead-C) directly
and can omit LC filter

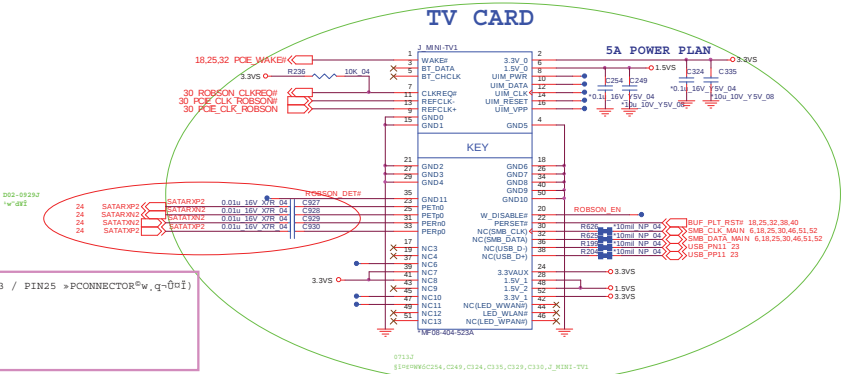
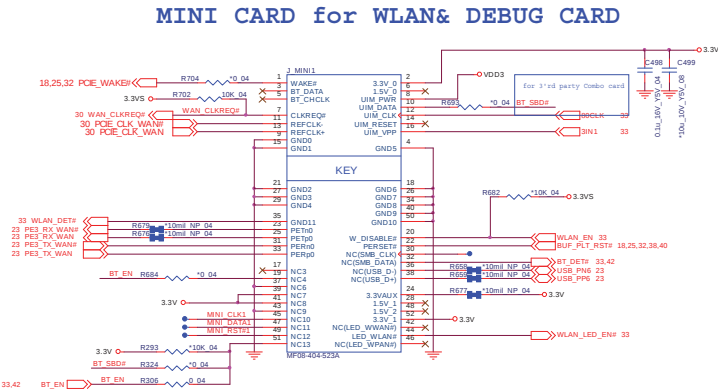


Schematic Diagrams

<http://hobi-elektronika.net>

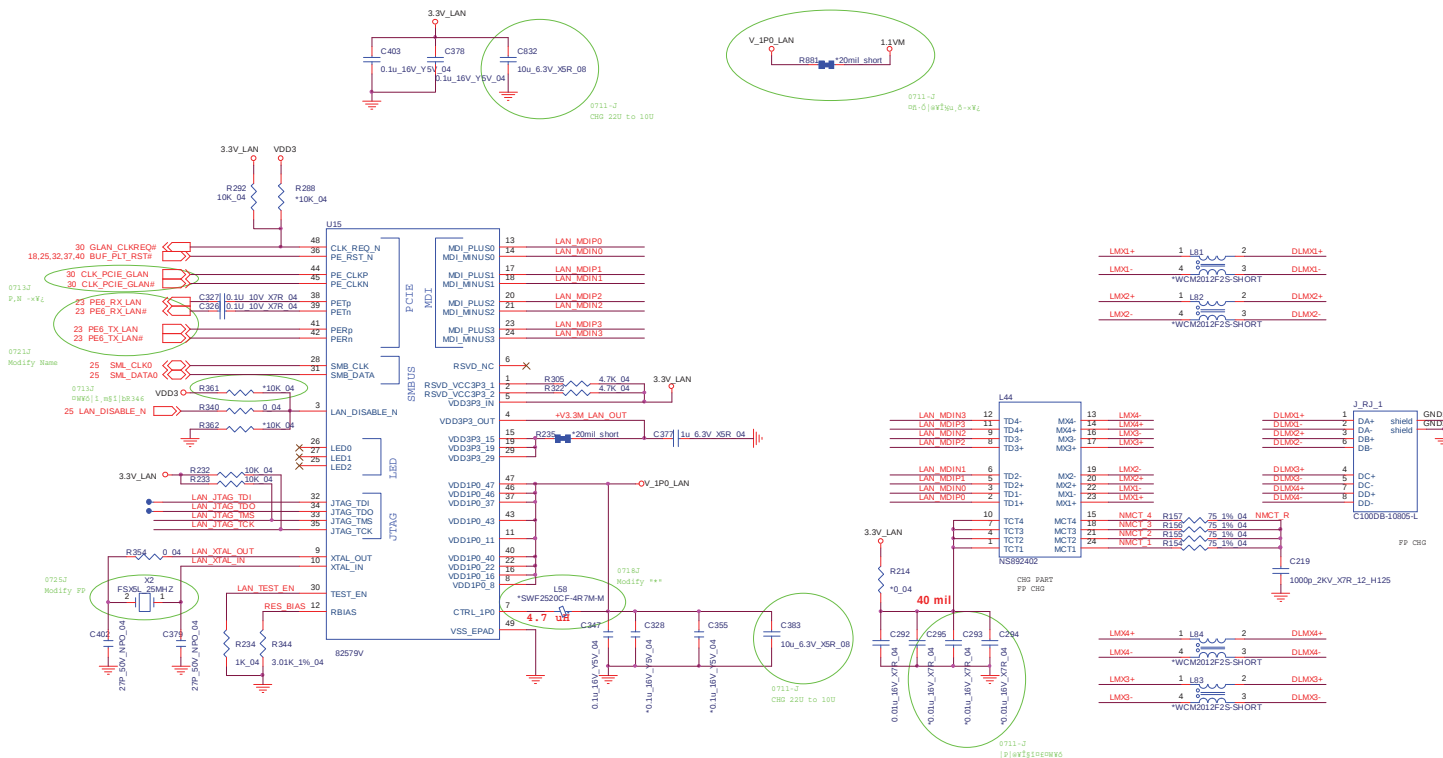
WLAN, TV Card

Sheet 37 of 63
WLAN, TV Card



LAN PHY Intel 82579V

Sheet 38 of 63
LAN PHY Intel
82579V

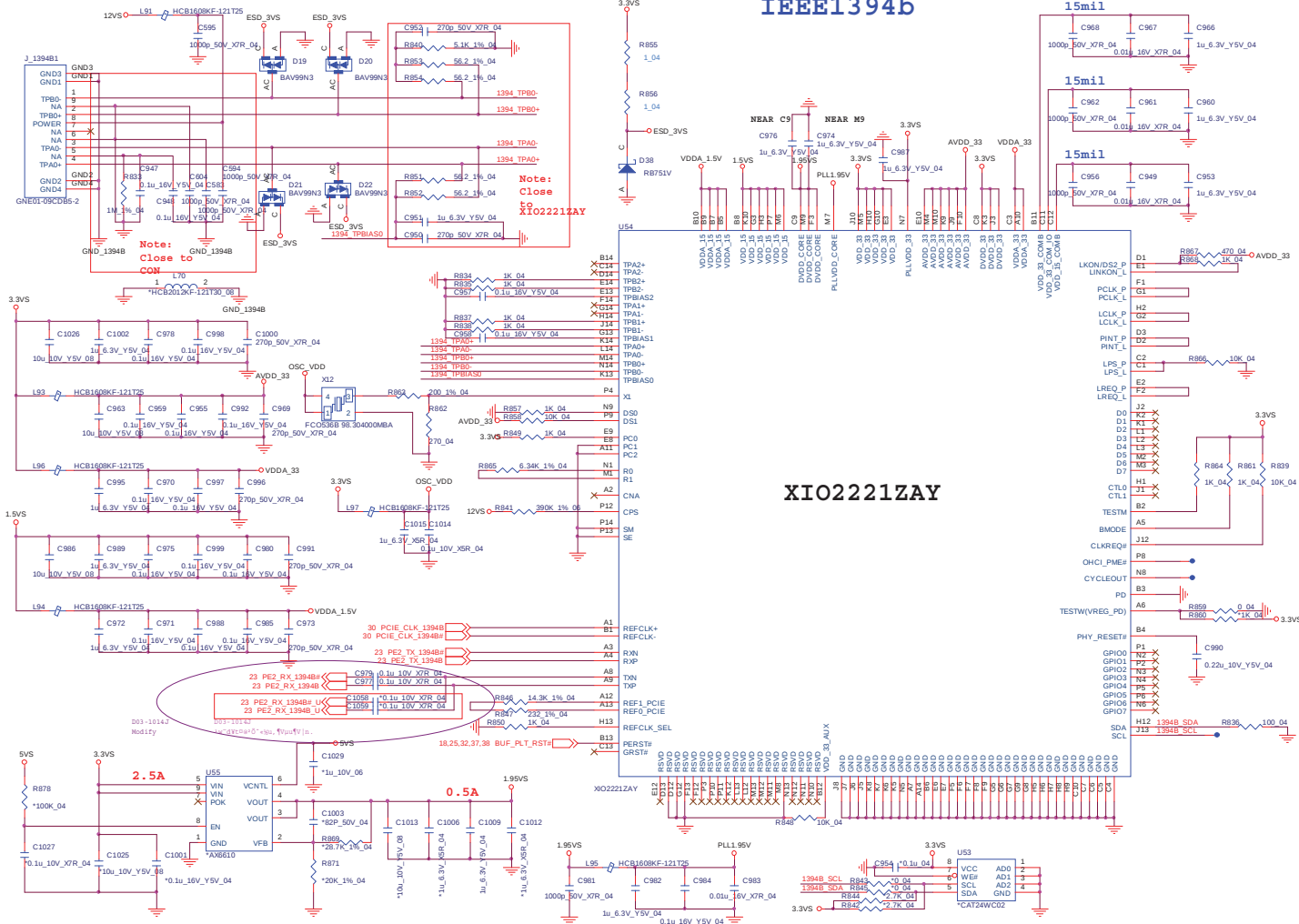


1.05Vdc POWER OPTIONS

Shared with PCH's 1.05V SVR ¹	Internal SRV
STUFF: R? NO STUFF: R?	STUFF: R? NO STUFF: R?

*NOTE: 1.05Vdc can be shared from PCH's 1.05V SVR (typically the ME rail). When sharing, make sure both +3.3V_LAN & 1.05Vdc rails are remained powered on during ALL Sx states, as required to support WOL.

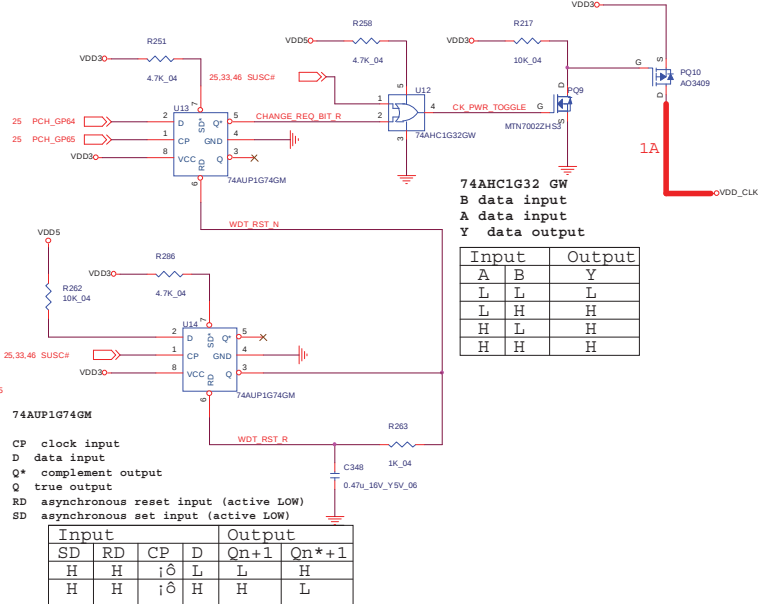
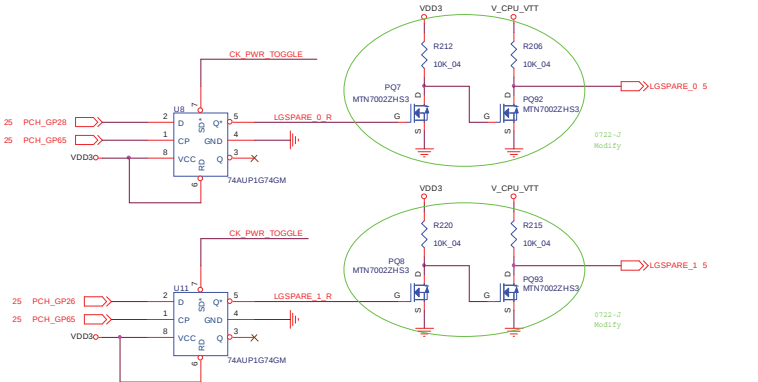
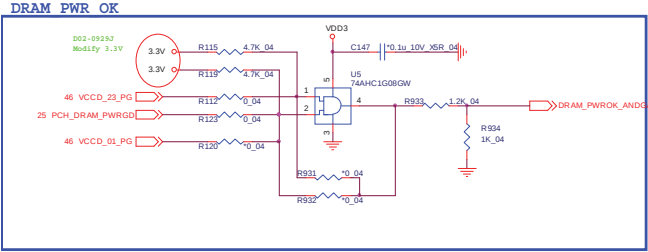
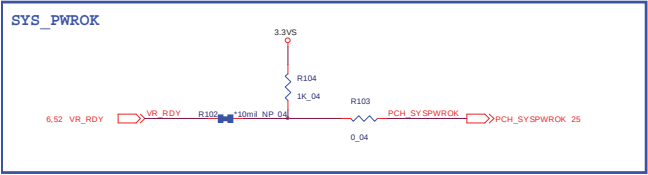
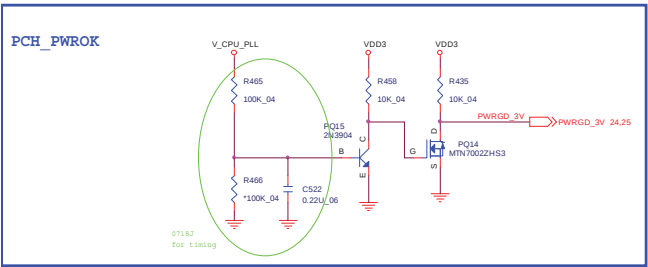
IEEE 1394



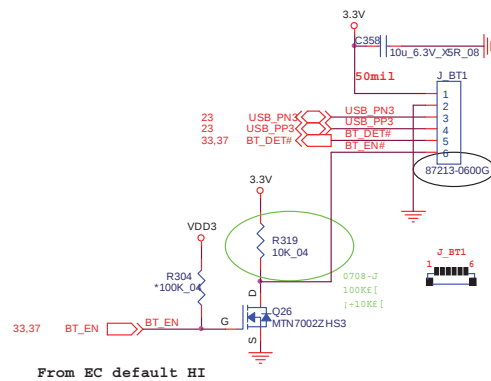
Sheet 40 of 63
IEEE 1394

POWER SYSTEM

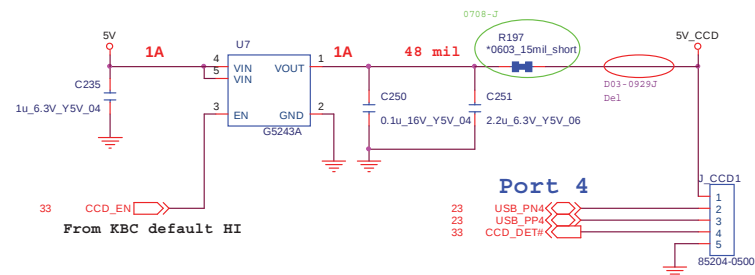
Sheet 41 of 63
POWER SYSTEM



Bluetooth



Sheet 42 of 63
BT, CCD

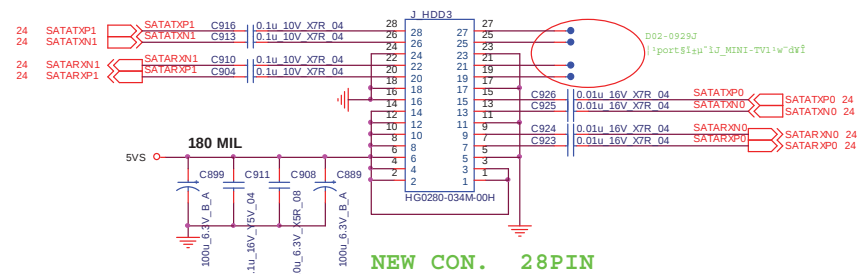


Schematic Diagrams

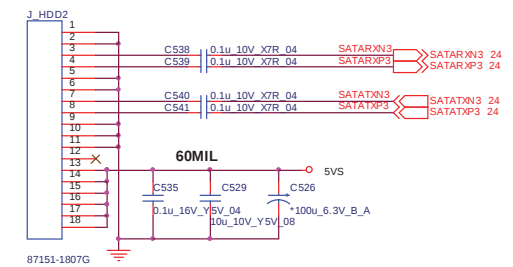
<http://hobi-elektronika.net>

HDD, ODD

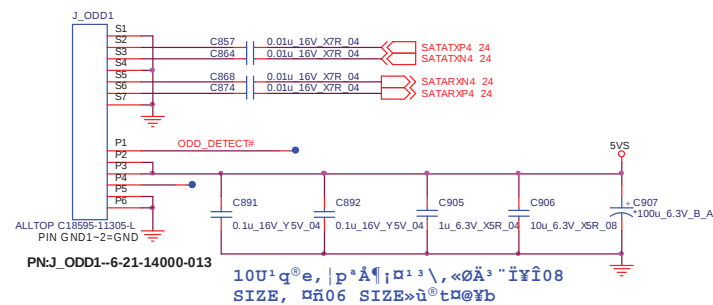
SATA HDD 1~3



SATA HDD 4



SATA ODD

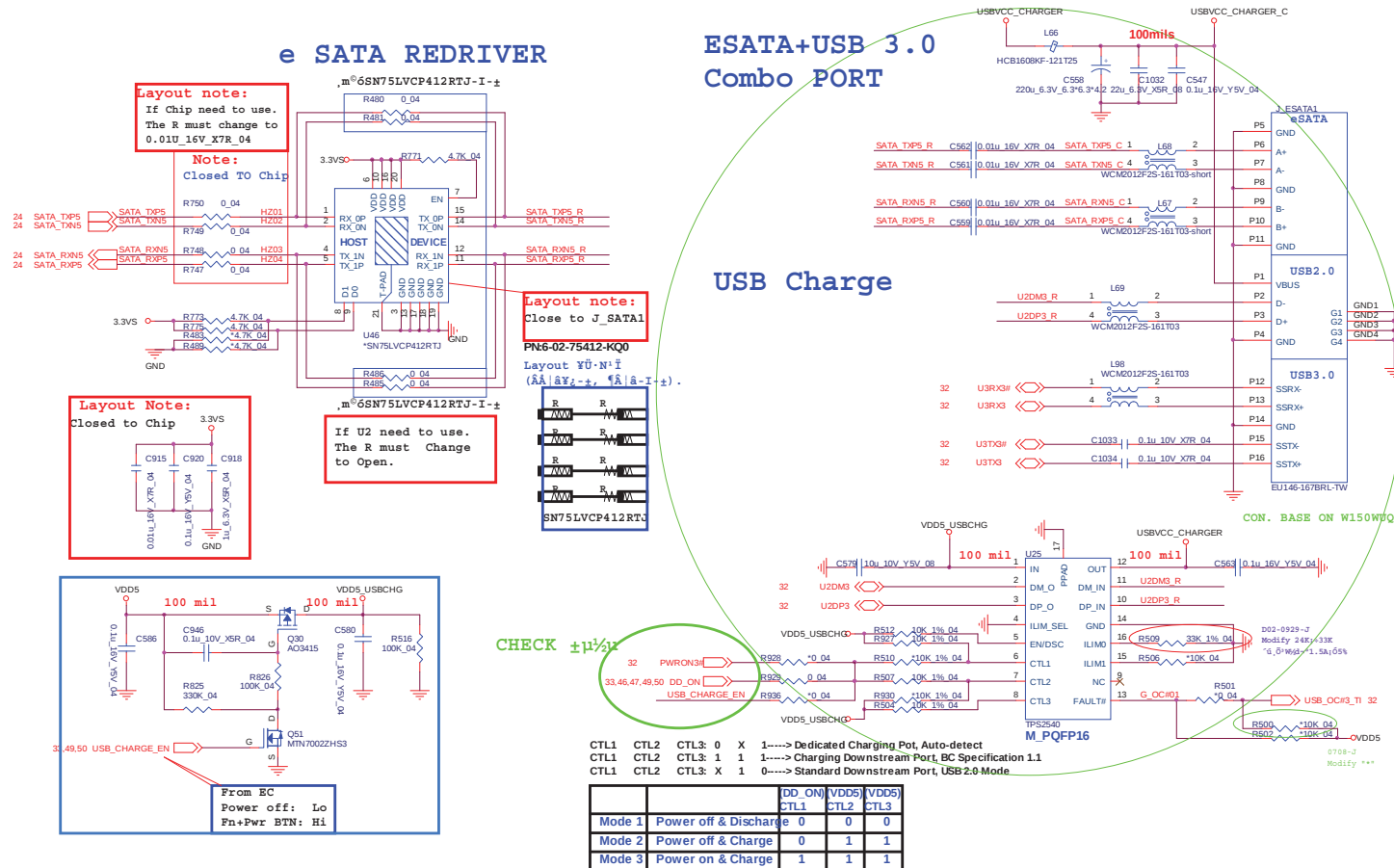


Sheet 43 of 63
HDD, ODD

Schematic Diagrams

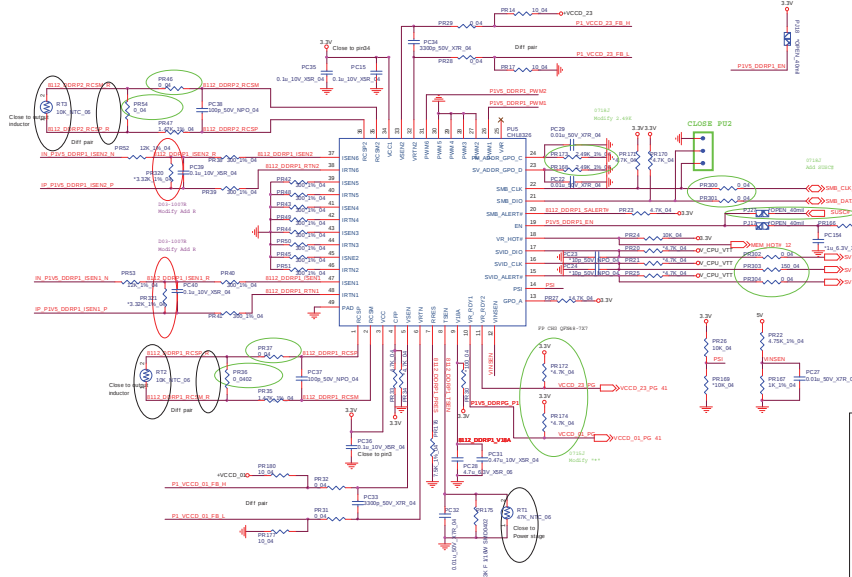
<http://hobi-elektronika.net>

eSATA+USB, USB Charge

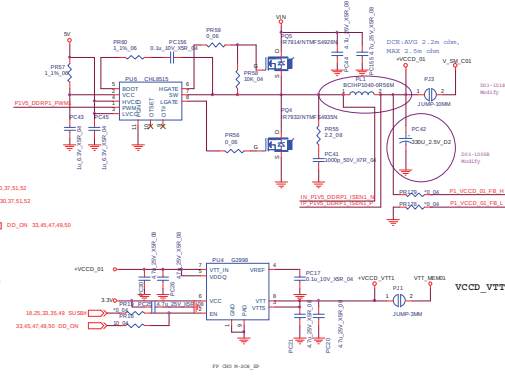
 Sheet 45 of 63
 eSATA+USB,
 USB Charge


Power V_SM, VTT MEM

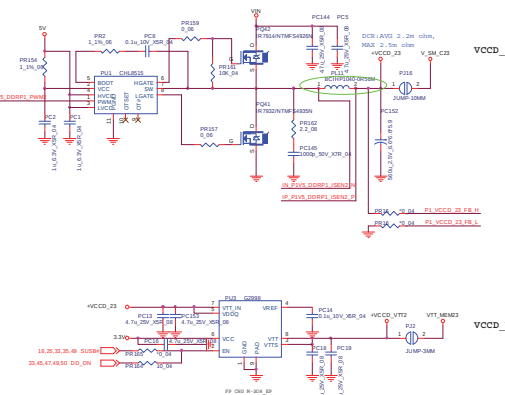
V_SM_C01/23, VTT_MEM01/23



P1V5_VCCD_01_Phase 1



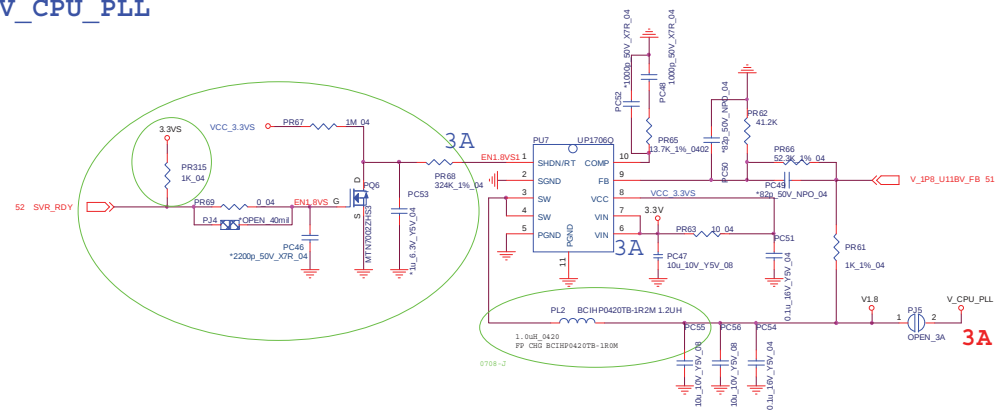
P1V5_VCCD_23_Phase 2



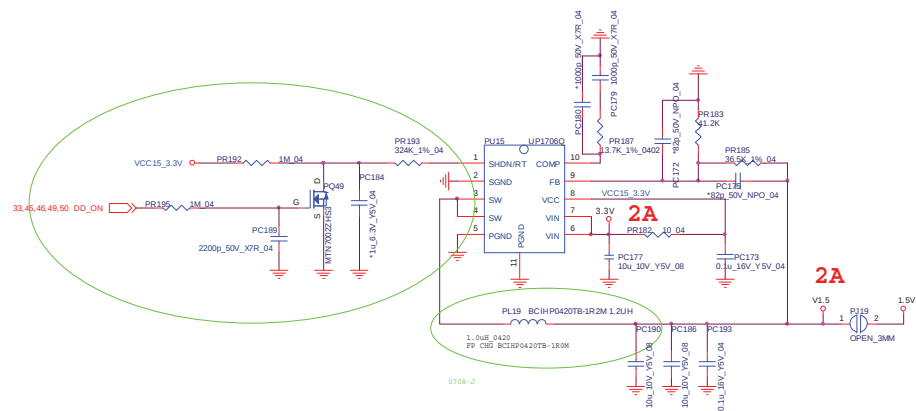
Sheet 46 of 63
Power V_SM, VTT
MEM

Power CPU_PLL, 1.05V

V CPU PLL



1.5V



B.Schematic Diagrams

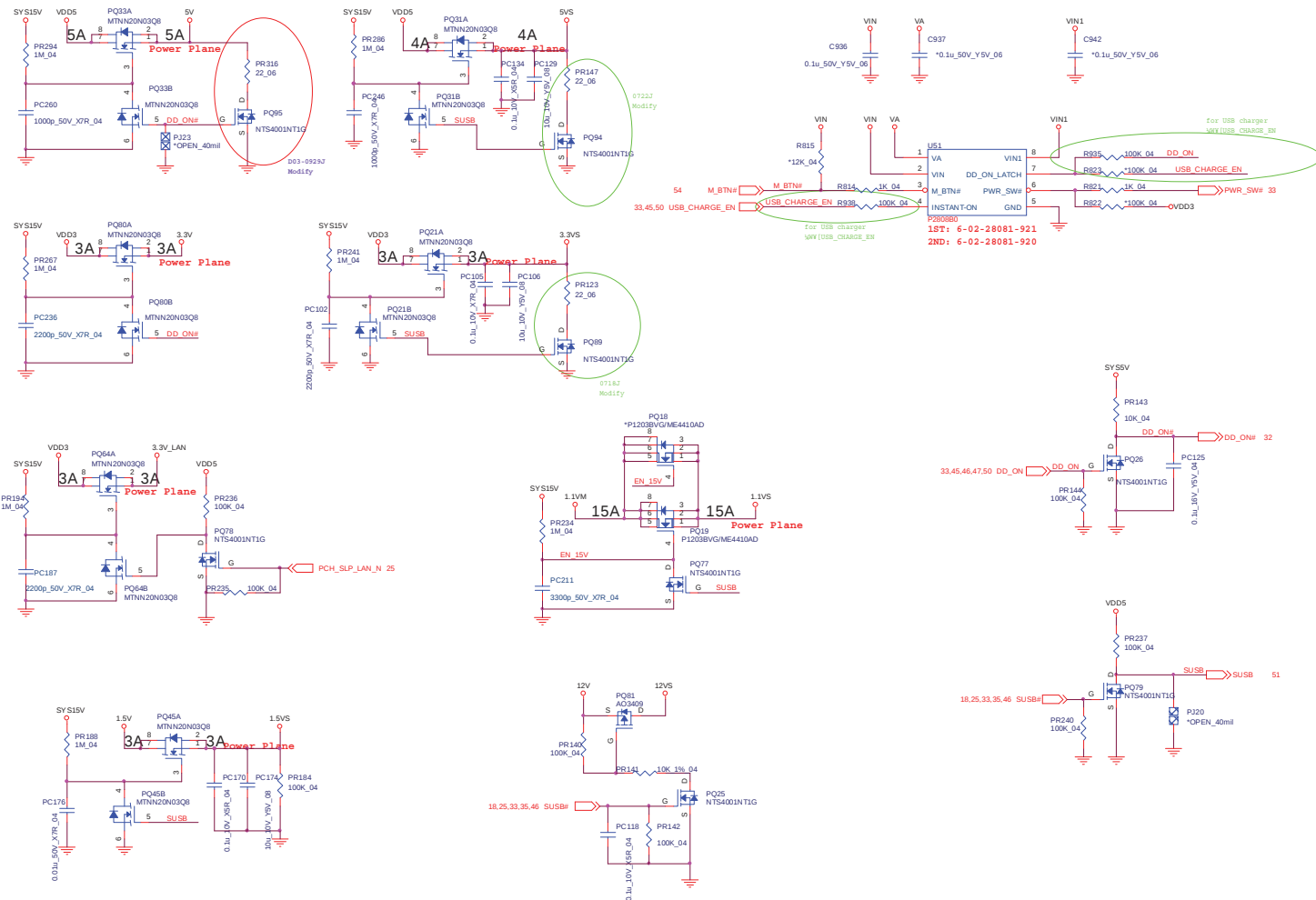
Sheet 48 of 63
Power 12V, 1.1VM

Power 12V, 1.1VM B - 49

Schematic Diagrams

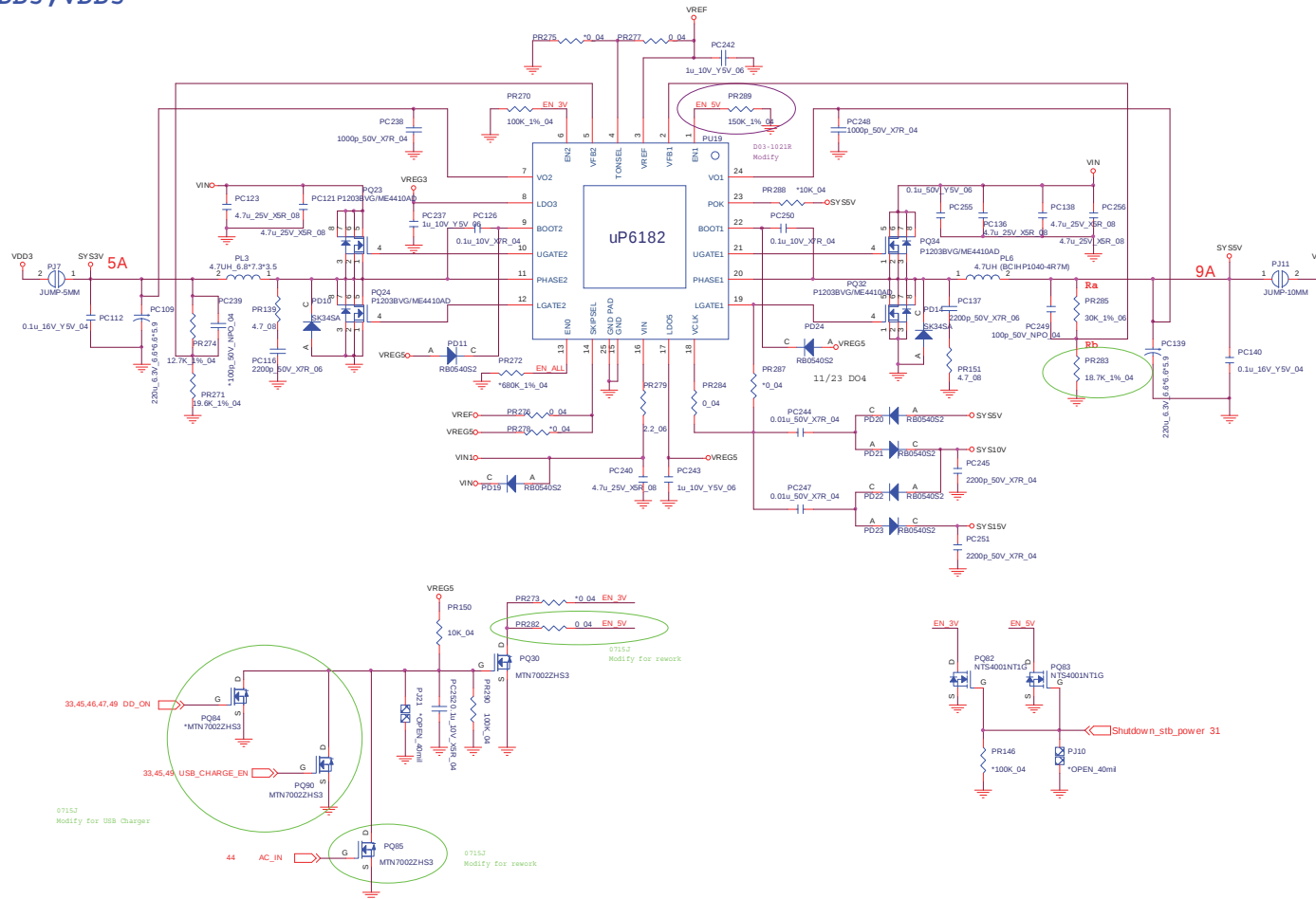
<http://hobi-elektronika.net>

Power Switch

 Sheet 49 of 63
 Power Switch


Power VDD3/ VDD5

VDD3, VDD5

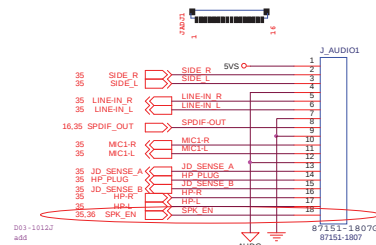


Sheet 50 of 63
Power VDD3/ VDD5

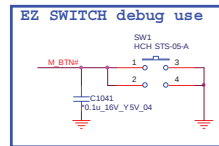
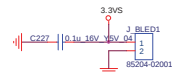
[illegible]

DAUGHTER CON

PHONE JACK BOARD

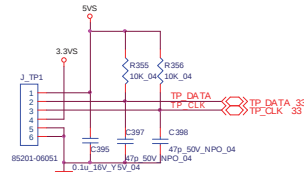


BLACK LED CON

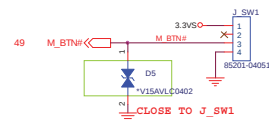


D03-09267
R/R light control Move page55

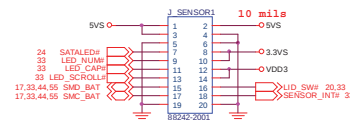
CLICK BOARD



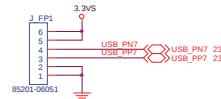
SWITCH BOARD



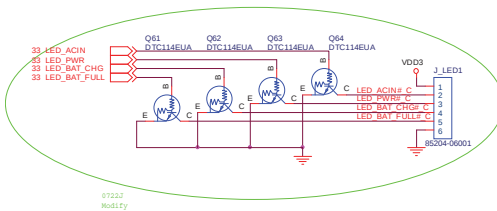
TOUCH SENSOR



FINGERPRINT



POWER LED BOARD



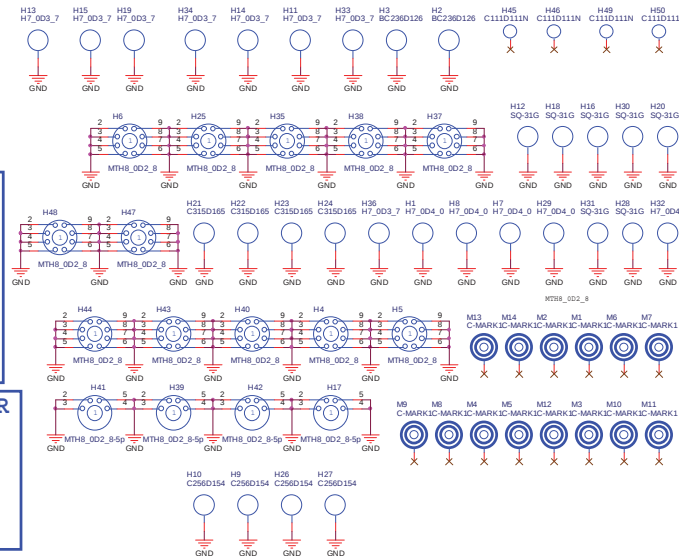
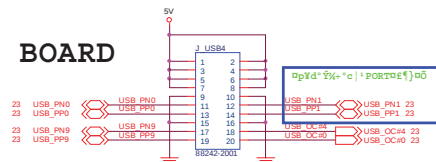
TV TUNER

D03 Del

CONSUMER IR

D03 Del J_IR1

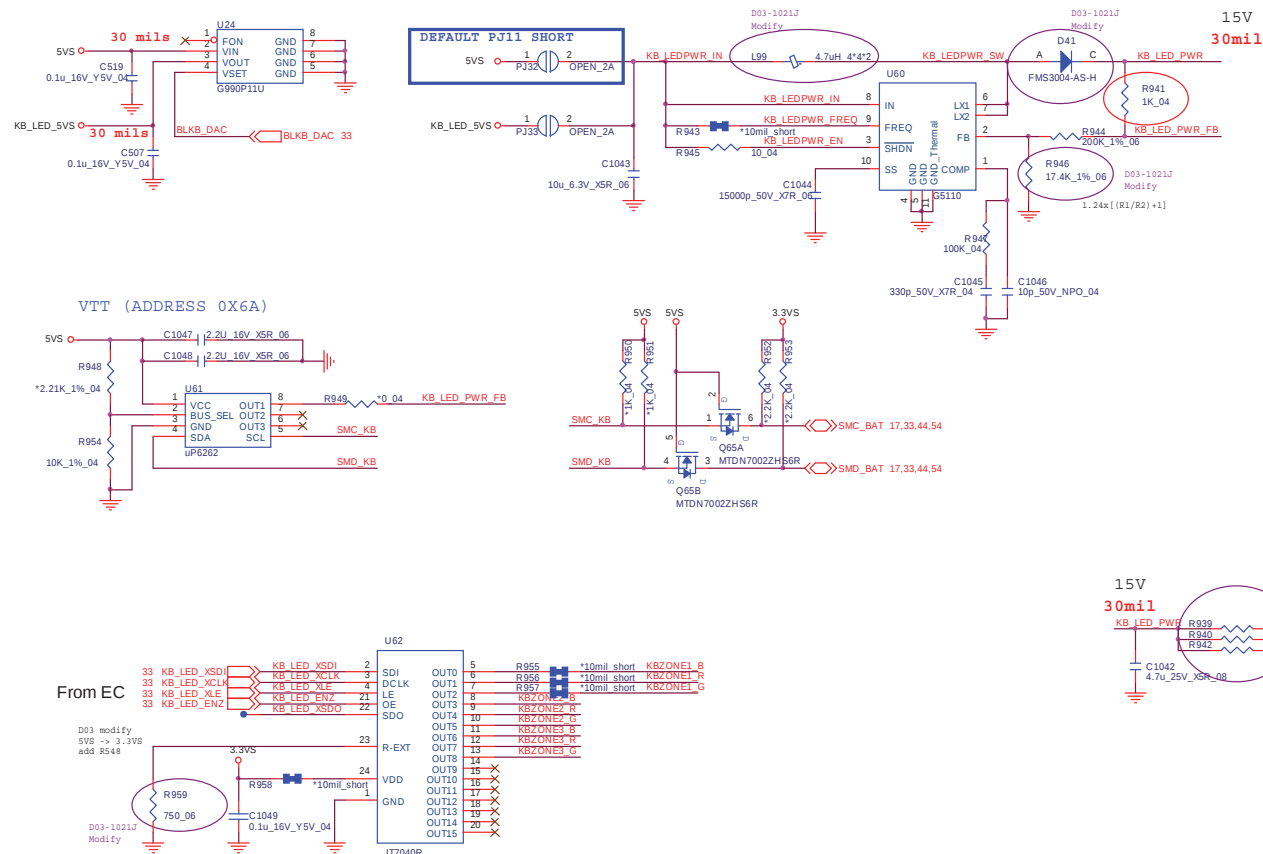
USB BOARD



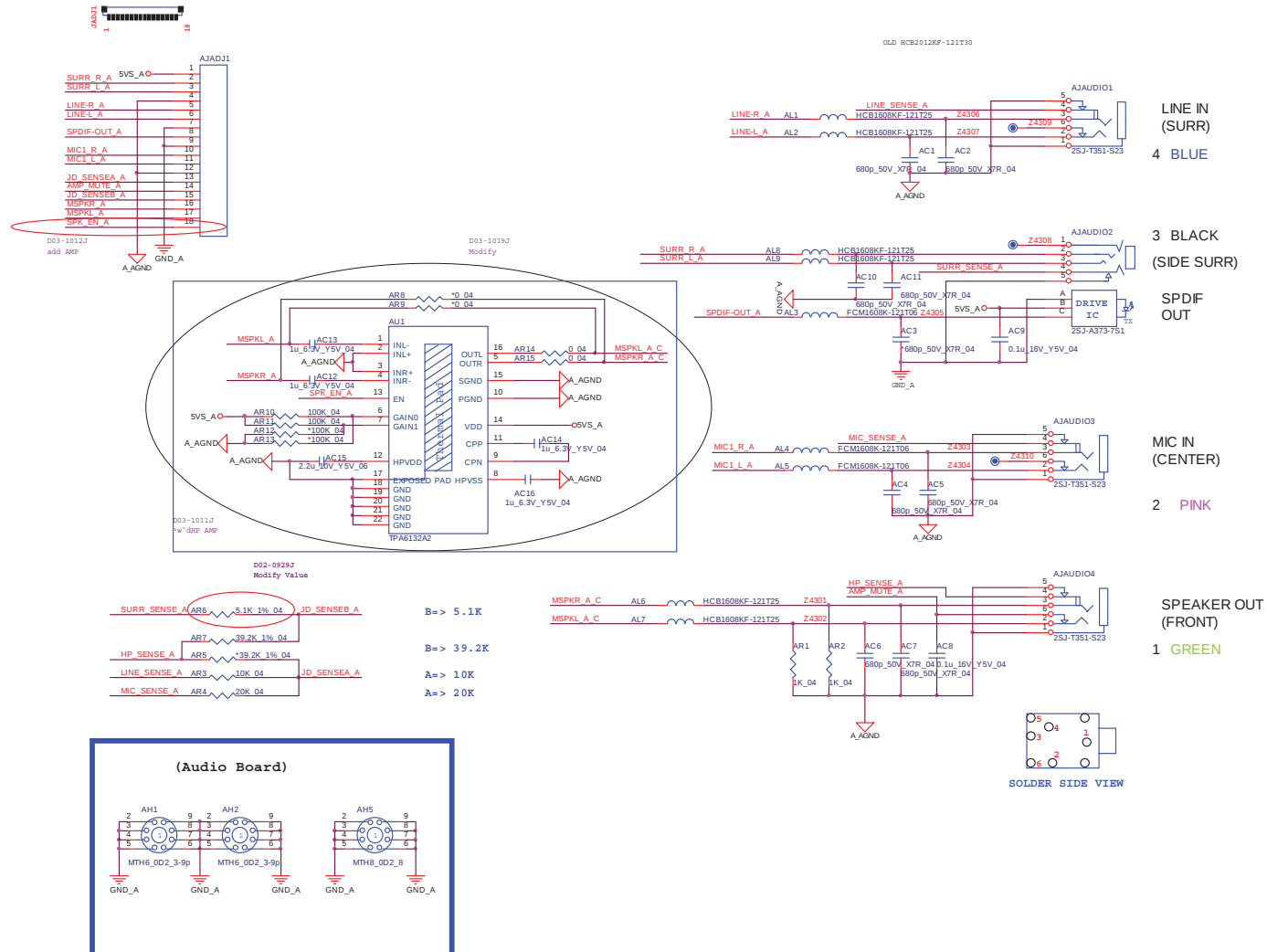
Sheet 54 of 63
DAUGHTER CON

Backlight Keyboard

Sheet 55 of 63
Backlight
Keyboard



AUDIO BOARD

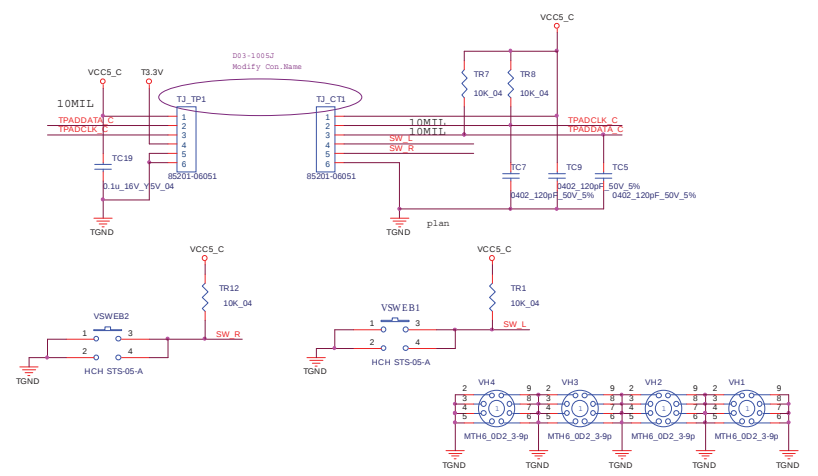


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AUDIO BOARD

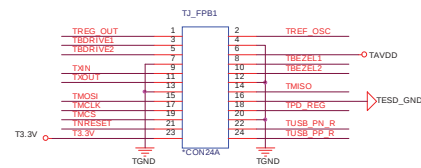
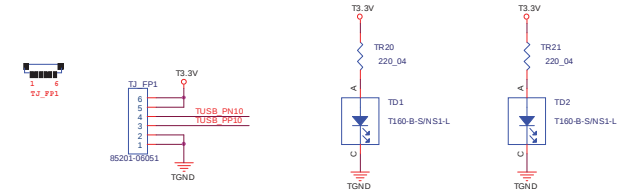
Schematic Diagrams

<http://hobi-elektronika.net>

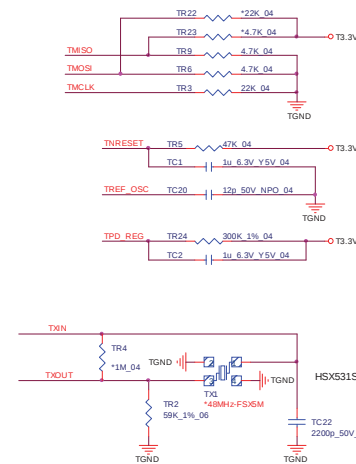
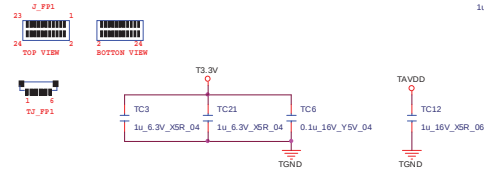
CLICK BOARD

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CLICK BOARD


FINGER BOARD

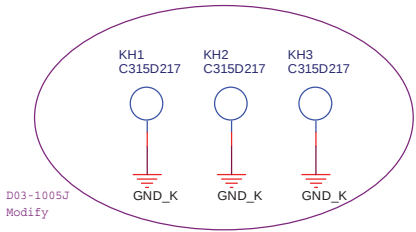
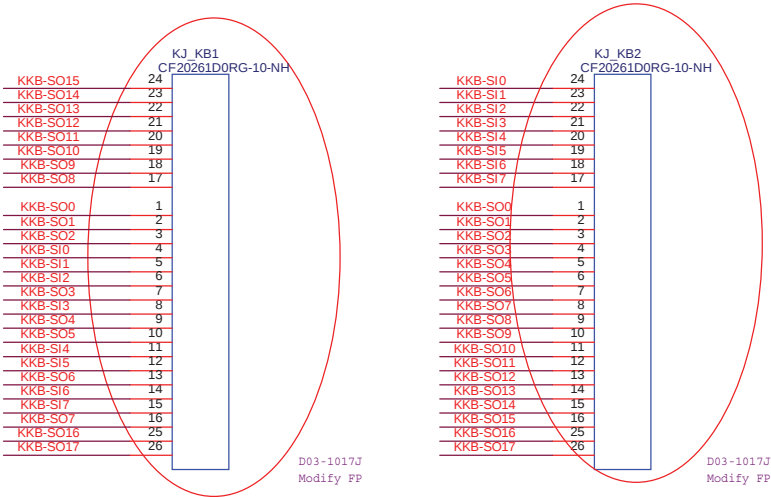


Place Bottom



FINGER PRINT "İYİ·s®E,¼u,6%ã-İSó·s

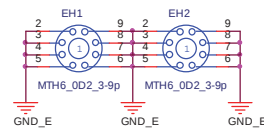
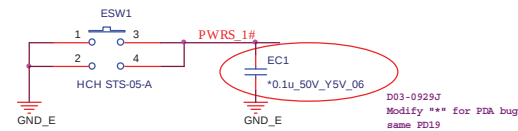
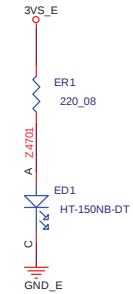
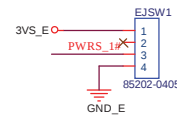
K/B CONVERTER BOARD



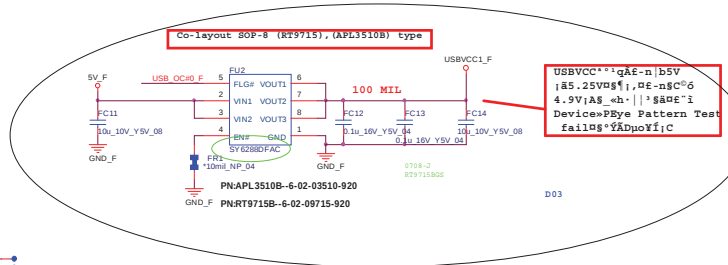
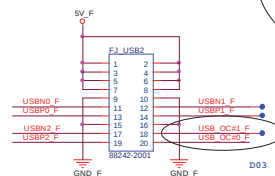
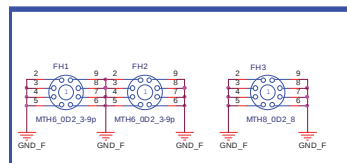
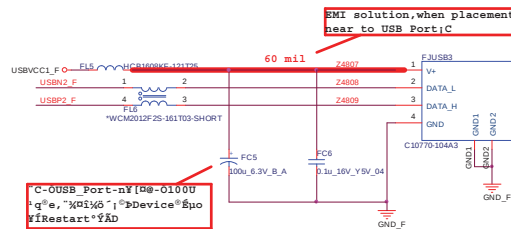
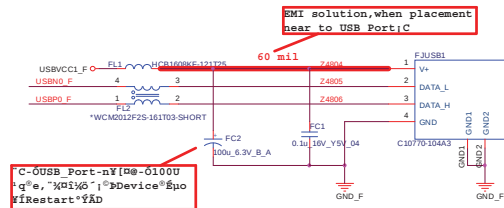
Sheet 58 of 63
K/B CONVERTER
BOARD

SWITCH BOARD

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SWITCH BOARD

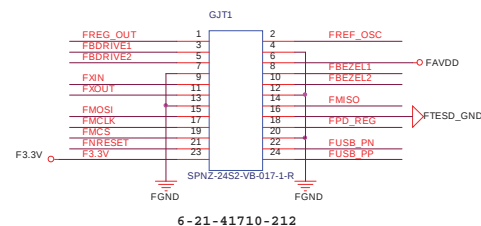
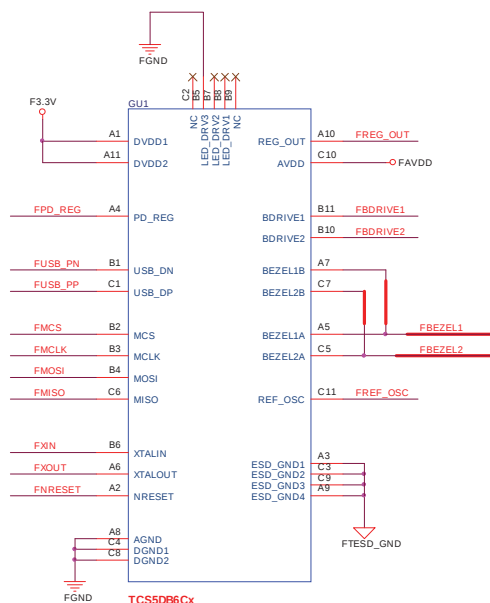


USB BOARD



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USB BOARD

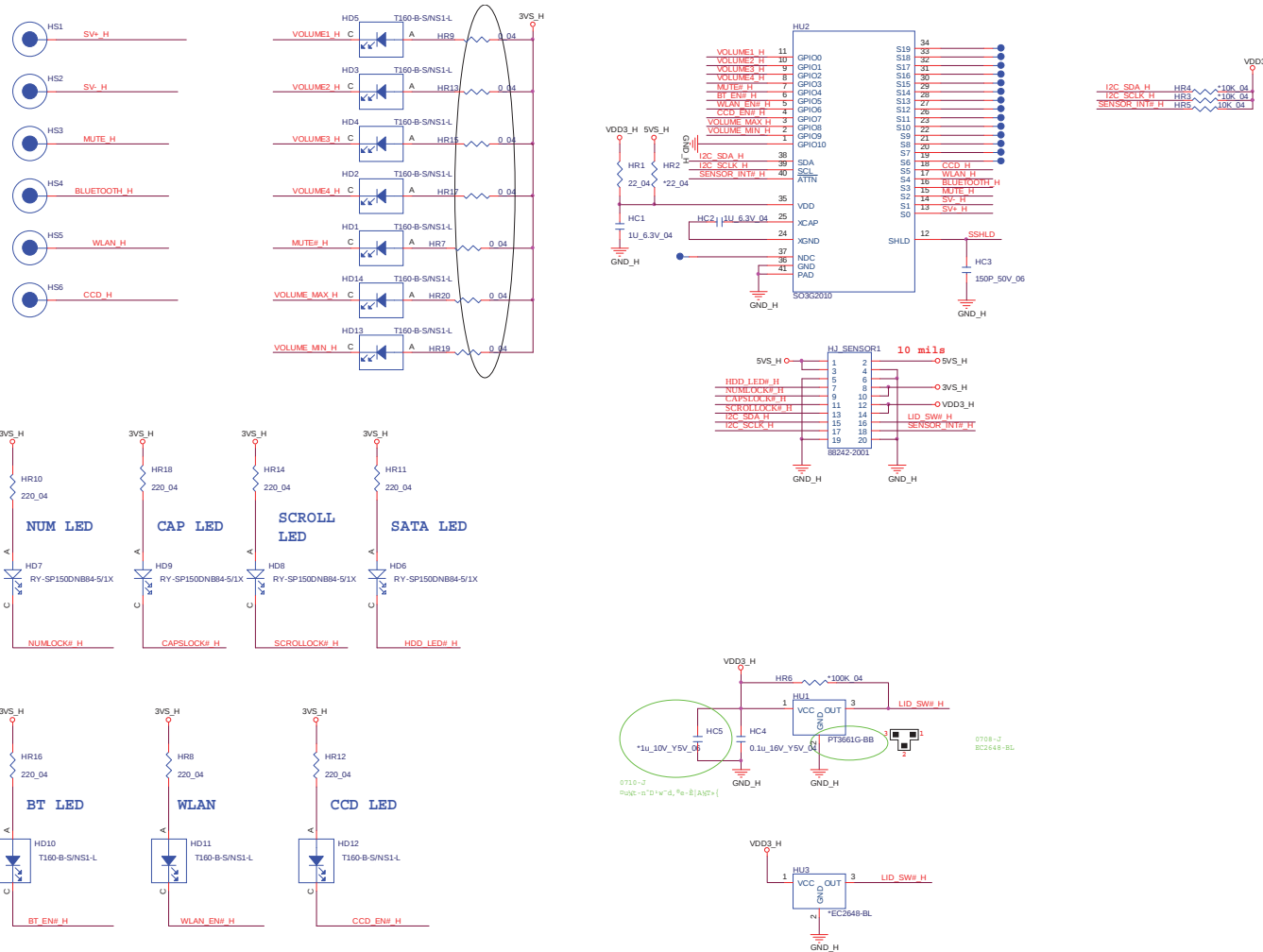
Sheet 61 of 63
FINGER SENSOR
BOARD



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SAME W150ERQ FINGERPRINT BOARD
6-71-W15EF-D01

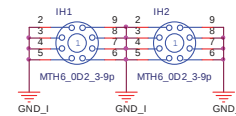
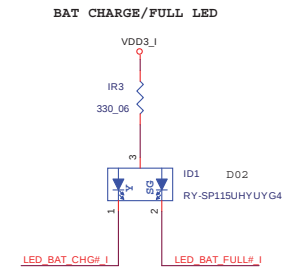
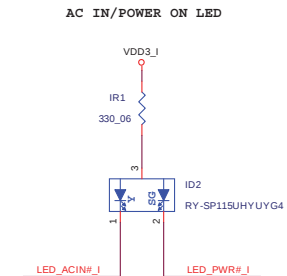
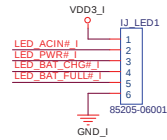
TOUCH SENSOR BOARD



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TOUCH SENSOR
BOARD

POWER LED BOARD

Sheet 63 of 63
POWER LED
BOARD



Appendix C: Updating the FLASH ROM BIOS

To update the FLASH ROM BIOS, you must:

- Download the BIOS update from the web site.
- Unzip the files onto a bootable CD/DVD/USB Flash Drive.
- Reboot your computer from an external CD/DVD/USB Flash Drive.
- Use the flash tools to update the flash BIOS using the commands indicated below.
- Restart the computer booting from the HDD and press **F2** at startup enter the BIOS.
- Load setup defaults from the BIOS and save the default settings and exit the BIOS to restart the computer.
- After rebooting the computer you may restart the computer again and make any required changes to the default BIOS settings.

Download the BIOS

1. Go to www.clevo.com.tw and point to **E-Services** and click **E-Channel**.
2. Use your user ID and password to access the appropriate download area (BIOS), and download the latest BIOS files (the BIOS file will be contained in a batch file that may be run directly once unzipped) for your computer model (see sidebar for important information on BIOS versions).

Unzip the downloaded files to a bootable CD/DVD or USB Flash drive

1. Insert a bootable CD/DVD/USB flash drive into the CD/DVD drive/USB port of the computer containing the downloaded files.
2. Use a tool such as Winzip or Winrar to unzip all the BIOS files and refresh tools to your bootable CD/DVD/USB flash drive (you may need to create a bootable CD/DVD with the files using a 3rd party software).

Set the computer to boot from the external drive

1. With the bootable CD/DVD/USB flash drive containing the BIOS files in your CD/DVD drive/USB port, restart the computer and press **F2** (in most cases) to enter the BIOS.
2. Use the arrow keys to highlight the **Boot** menu.
3. Use the “+” and “-” keys to move boot devices up and down the priority order.
4. Make sure that the CD/DVD drive/USB flash drive is set first in the boot priority of the BIOS.
5. Press **F4** to save any changes you have made and exit the BIOS to restart the computer.



BIOS Version

Make sure you download the latest correct version of the BIOS appropriate for the computer model you are working on.

You should only download BIOS versions that are **V1.01.XX or higher** as appropriate for your computer model.

Note that BIOS versions are not backward compatible and therefore **you may not downgrade your BIOS to an older version** after upgrading to a later version (e.g if you upgrade a BIOS to ver 1.01.05, you **MAY NOT** then go back and flash the BIOS to ver 1.01.04).

BIOS Update

<http://hobi-elektronika.net>

Use the flash tools to update the BIOS

1. Make sure you are not loading any memory management programs such as HIMEM by holding the **F8** key as you see the message “**Starting MS-DOS**”. You will then be prompted to give “**Y**” or “**N**” responses to the programs being loaded by DOS. Choose “**N**” for any memory management programs.
2. You should now be at the DOS prompt e.g: **DISK C:\>** (C is the designated drive letter for the CD/DVD drive/USB flash drive).
3. **Type the following command** at the DOS prompt:

C:\> Flash.bat

4. The utility will then proceed to flash the BIOS.
5. You should then be prompted to press any key to restart the system or turn the power off, and then on again but make sure you remove the CD/DVD/USB flash drive from the CD/DVD drive/USB port before the computer restarts.

Restart the computer (booting from the HDD)

1. With the CD/DVD/USB flash drive removed from the CD/DVD drive/USB port the computer should restart from the HDD.
2. Press **F2** as the computer restarts to enter the BIOS.
3. Use the arrow keys to highlight the **Exit** menu.
4. Select **Load Setup Defaults** (or press **F3**) and select “**Yes**” to confirm the selection.
5. Press **F4** to save any changes you have made and exit the BIOS to restart the computer.

Your computer is now running normally with the updated BIOS

You may now enter the BIOS and make any changes you require to the default settings.