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Ethernet Interface Introduction

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Revision History

Version No.	Author	Revision Date	Revision Description
V0.1	林宇锋、廖华平	2016/10/19	Add Ethernet Interface Introduction

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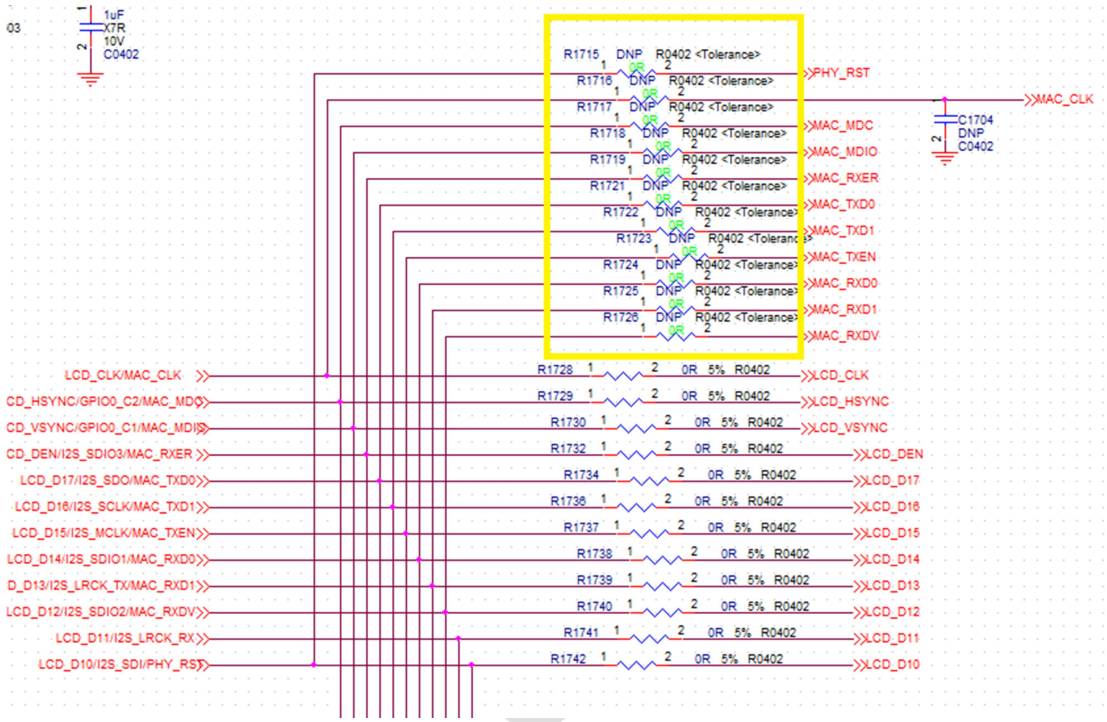
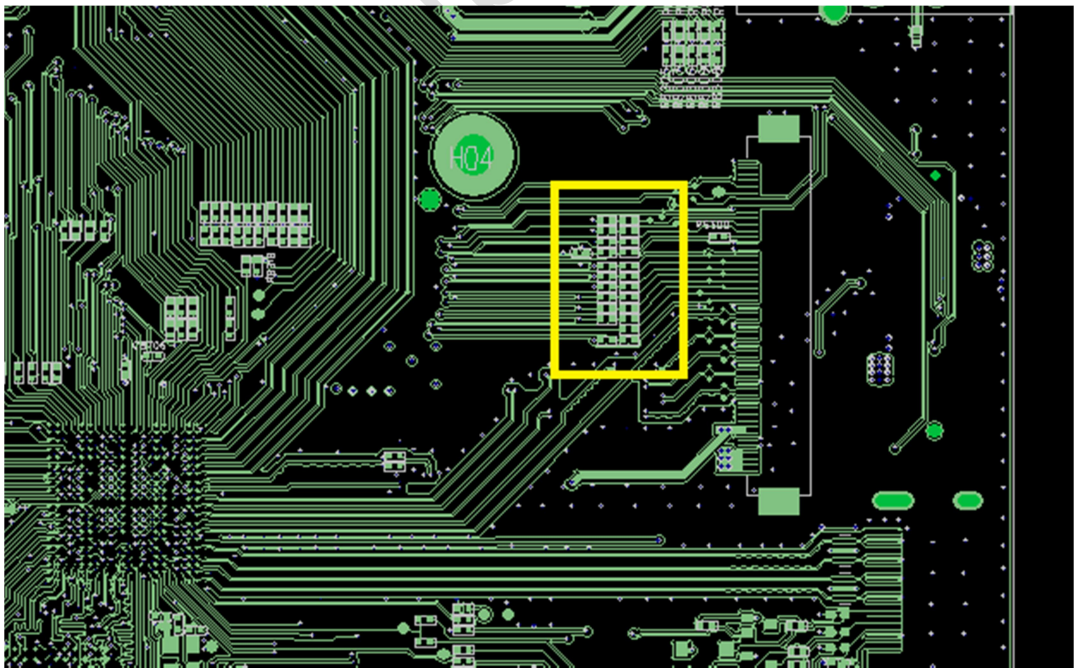
Chapter 1 Modify Hardware Connection

Due to LCD and Ethernet Interface hardware connection pin is reused, so need to modify hardware connection before Ethernet Interface is used. SDK board is default enabled LCD, so need to change hardware to enable Ethernet Interface. As shown in figure below, remove resistors R1728~R1742, SMT resistors R1715~R172 as well as resistor R6204.



Interface Diagram



Interface PCB Diagram

Chapter 2 Modify Software Configuration

2.1 Disable vop

Since vop and Ethernet Interface is resued, so need to disable vop.

Need to modify kernel/arch/arm/boot/dts/rk1108-cvr.dts file：

```
--- a/arch/arm/boot/dts/rk1108-cvr.dts
+++ b/arch/arm/boot/dts/rk1108-cvr.dts
@@ -619,7 +619,7 @@
 &vop {
-  status = "okay";
+ status = "disabled";
   power_ctr: power_ctr {
       rockchip,debug = <0>;
   /*
```

2.2 Modify gpll Clock

Modify kernel/arch/arm/boot/dts/rk1108.dtsi file:

```
diff --git a/arch/arm/boot/dts/rk1108.dtsi
b/arch/arm/boot/dts/rk1108.dtsi
index b43f58d..3f3a28d 100644
--- a/arch/arm/boot/dts/rk1108.dtsi
+++ b/arch/arm/boot/dts/rk1108.dtsi
@@ -117,7 +117,7 @@
<&clk_emmc &clk_gpll>, <&clk_sdio &clk_gpll>,
<&hdmiphy &hdmiphy_pll>, <&usb480m &usbphy_480m>;
rockchip,clocks-init-rate =
-       <&clk_gpll 1188000000>, <&clk_core 816000000>,
+       <&clk_gpll 1000000000>, <&clk_core 816000000>,
<&clk_dsp 396000000>, <&aclk_bus_pre 150000000>,
<&hclk_bus_pre 150000000>, <&pclk_bus_pre 75000000>,
<&aclk_peri 150000000>, <&hclk_peri 150000000>,
```

Recompile kernel after finished above modification, execute below commands under kernel directory

```
make rk1108-cvr.img
```

Chapter 3 How to Enable Ethernet Interface

3.1 Open eth0 Interface

Execute below command:

```
ifconfig eth0 up
```

3.2 Get IP Address

Execute below command:

```
udhcpc –i eth0
```

Then return to ip address, for next step.

3.3 Configure IP Address

If the received IP address is 192.168.1.106 Execute below command:

```
ifconfig eth0 192.168.1.106
```

3.4 Use ping Command to Test

When terminal has below similar log, which means ping successes

```
PING 192.168.1.1 (192.168.1.1) 56(84) bytes of data.
64 bytes from 192.168.1.1: icmp_seq=1 ttl=64 time=0.021 ms
64 bytes from 192.168.1.1: icmp_seq=2 ttl=64 time=0.032 ms
64 bytes from 192.168.1.1: icmp_seq=3 ttl=64 time=0.033 ms
64 bytes from 192.168.1.1: icmp_seq=4 ttl=64 time=0.030 ms
^C
--- 192.168.1.1 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss
```