1. **Power Supply**

VP-R47P is powered by 12V through power adaptor or PoE port.On the main board 12V is converted to 5V(VSYS) by U17(SY8113). 5V is used for USB power, LCD backlight input, and other DC/DC converter.

PMU U14 convert 5V to VDD_ARM, VCC_DDR, VCC_IO,VCC15_CIF,VCC_11,etc, for CPU and peripheral chips. U15 DC/DC converter is also for CPU, which use DVS1_CTL pwm to ajust VCC_LOG voltage.U18 output VCC1V8_LAN is for LAN switch core power.

U35, U36 boost converter is for LCD backlight and bias voltage.

2. **CPU mini system**

CPU mini system contains CPU, DRAM and e-MMC. CPU (Rockchip RK3066) integrates ARM dual-core Cortex-A9, 3D GPU and video decoder, etc. VP-R47P CPU mini system uses 1GB DDR3 DRAM, and 8GB e-MMC for storage.

3. **Camera**

VP-R47P equips 2M pixels camera, with fixed diagonal FOV 60.1°.

4. **WiFi BT module**

U12 integrates 2.4G 802.11 b/g/n and bluetooth 4.0 feature. It communicates with RK3066 through SDIO and UART ports. Voice signal of Bluetooth connect to PCM bus of U11(Audio CODEC).

5. **USB Host port**

RK3066 has one USB HOST port. It is compatible with usb host 2.0 specification. Supports high-speed(480Mbps), full-speed(12Mbps) and low-speed(1.5Mbps) mode.

6. **HDMI Tx port**

RK3066 has one HDMI transmitter. It is compatible with HDMI version 1.4a, HDCP revision 1.4 and DVI version 1.0.

7. **Ethernet LAN ports**

VP-R47P supplies 2 fast Ethernet LAN ports. These two ports connect to U8(LAN switch), and U8 connect to RK3066 through RGMII(Reduced Gigabit Media Independent Interface).

8. **LCD and touch screen**

VP-R47P includes a 7.0 inch, 24bits color, 800*480 LCD. The LCD is controlled by RK3066 through digital RGB port. The capacitive touch screen is used to select menu, APP, scroll, zoom and etc. The touch screen driver GT910 communicates with RK3066 through IIC bus.

9. **Audio CODEC**

The audio CODEC(U11) converts digital data to analog signal, and the integrated power amplifier makes the speaker, headphone and receiver to sound. U11 also converts analog signal from MIC to digital. U11 communicates with RK3066 through IIS bus.