

Operational description and technical overview of Coolpad 8166G2

The Coolpad8166G2 device adopts the TI's TCS2600 chipset which includes OMAP730, TWL3016 and TRF6151. The OMAP730 is a single chip that integrates a ARM926EJ-S core for application processing and TI's GSM/GPRS digital baseband modem.

The TWL3016 is analog baseband(ABB) device which along with a digital baseband (DBB) forms TI s chipset solution for digital cellular applications. It also integrates some power management function on the chip and a D/A converter for applications like MP3 music and an audio power amplifier for hands-free speakerphone operation.

The GSM RF part include two main components TRF6151 and AWT6108. The TRF6151 is a quadruple band transceiver IC suitable for GSM 850, GSM 900, DCS1800 and PCS 1900 GPRS class 10 applications. The AWT6108 is a quad band power amplifier module designed to support dual, tri and quad band applications.

Another GSM module is used to support two GSM module online at the same time. This GSM module based on the Skyworks solution is controlled by OMAP730 through UART interface.

The Memory used on Coolpad8166 is a DiskOnChip-based MCP (Multi-Chip Package) consists of 128MB mDOC and 64MB Mobile SDRAM. The mDOC Based on Multi-Level Cell (MLC) NAND flash technologies is an Embedded Flash Driver (EFD) designed for mobile handsets and consumer electronics devices.

The power management part consists of LTC3455, TPS62204 and several LDOs. The LTC3455 is a complete power management solution contains two synchronous step-down DC/DC converters, a USB power controller, a full-featured Li-Ion battery charger and numerous internal protection features. The TPS62204 is a step-down DC/DC converters. Power by battery, this part can supply power to other parts.

The 2.4" transfective TFT TD024TGEA1 LCD of Toppoly is adopted. The LCD consists of a TFT-LCD module with 240*320 pixels resolution and 260K colors, a backlight unit. A touch panel is covered on the LCD to supply an user interface to customer.

Keypad and side keys are another user interface. There are six blue LEDs under the keypad to work as keypad backlight.

The Coolpad8166 is equipped with the 1.3 Mega-pixel PCV965020A camera which is a CMOS image sensor.

In the audio process and amplify part, all analog audio signals from or to ABB, GSM module is processed. This part contains a audio power amplifier, several analog multiplexers/switches and operation amplifiers.

There is an IO connector on the machine. This connector can be used as USB1.1 interface with a USB cable, a wall adapter input port to charge the battery and a headphone interface.

The machine is configured a Micro SD connector which can support up to 1GB micro SD card.