GM8180 Platform Evaluation Kit

Overview
The GM8180 Platform Evaluation Kit provides the software packages, hardware station, and reference design for accelerating IP Cam/IPTV/DVR-related streaming applications. This development kit includes a Linux SDK, a streaming media SDK (optional), the GM8180 GHDK station, and a reference schematic.

Key Components
- GM Hardware Development Kit (GHDK) - V0/V1
- Linux SDKs
- GM Streaming Media (GSM) application software (optional)
- Development kit documentation

Hardware Development Kit (GHDK)
- GM8180 GHDK - V0:
  - GM8180 EDHSBGA-484 4-layer EVB + IPTV7137 NTSC/PAL board
  - 1.3-megapixel CMOS sensor
- GM8180 GHDK - V1:
  - GM8180 EDHSBGA-484 4-layer EVB + AV codec board
  - VGA CMOS sensor

Linux SDK
- Linux kernel
- Peripheral drivers (optional)
- Protocol stack
- Video applications

  - Video decoder - ffmpeg
  - Video encoder - ffmpeg
  - HTML/CGI interfaces (optional)

GM Streaming Media (GSM) Application Software (Optional)
The GSM application software provides an easy development software package for accelerating image/video/audio-related streaming applications, such as video servers, IP cameras, and IPTV stations:

- GSM Server - Video and Audio Encoder, Streaming Server, Control Server and Web Server
- GSM Client Player - Video and Audio Decoder, GMPlayer, GMViewer and Player GUI

GM8180 Platform Evaluation Kit Documentation
- GHDK quick start guide
- GHDK reference schematic
- Application programming guide
- Linux programming guide
- FAQ for software and hardware
GM8180 Platform Evaluation Kit

GHDK-V0
GHDK-V0 is comprised of three parts:

- **EVB (Evaluation Board)**
  The EVB provides the basic functions for the IP Cam/IPTV/DVR station system. It includes the GM8180 PBGA-484 IC, DDR-SDRAM, NOR flash, USB OTG, serial EEPROM, 802.3 ethernet PHY, video encoder, and audio codec.

- **IPTV 7137 Board**
  This daughterboard can expand the functionality of the motherboard by adding an analog NTSC/PAL TV tuner, an NTSC/PAL multi-standard audio/video decoder, an SD card connector, and an IR emitter interface.

- **Megapixel CMOS Sensor Board**
  The megapixel CMOS sensor board includes the MT9M131 1.3-megapixel CMOS sensor. Its frame rate can reach up to 15 fps (frames per second) at a resolution of 1280 x 1024.

GHDK-V1
GHDK-V1 is comprised of three parts:

- **EVB (Evaluation Board)**
  The EVB provides the basic functions for the IP Cam/IPTV/DVR station system, which includes the GM8180 PBGA-484 IC, DDR-SDRAM, NOR flash, USB OTG, serial EEPROM, 802.3 ethernet PHY, video encoder, and audio codec.

- **AV Codec Board**
  This daughterboard can expand the functionality of the motherboard. It includes a TW9910 video decoder and a WM8731 audio codec.

- **CMOS Sensor Board with High Frame Rates**
  The CMOS sensor board with high frame rates includes the OV7720 VGA CMOS sensor. It can reach high frame rate performance up to 60 fps at a resolution of 640 x 480.

GHDK Accessories
- 5 V 4 A power adapter
- RS232 cable
- 640 x 480 24-bit LCD module (optional)