GS2011M HD Video + 2-Way Audio Application Development/Evaluation Kit

PRODUCT OVERVIEW

The GainSpan GS2011M HD Video + Audio Application Development Kit (ADK) is a complete reference design that demonstrates a video + full duplex audio streaming product application hosted on the GainSpan GS2011M Wi-Fi module, and associated demo application software that runs on a mobile device. The video demo application software renders streamed video and audio from the ADK to the mobile device screen and enables 2-way voice communication on both Android and iOS devices. The Video ADK supports Wi-Fi end product applications such as battery-powered video doorbells, baby monitors, and Wi-Fi IP cameras for home security/surveillance systems.

The ADK includes the video + audio application board and external speaker, a hardware design package, a complete software suite including GainSpan embedded software and mobile demo applications for iOS- and Android-based smartphones. An evaluation version of the ADK, the Video + Audio Application Evaluation Kit (AEK) is also available, which includes the application hardware and binary-only software.

The video + audio application board features the GainSpan Wi-Fi module, the OmniVision OV788 720p video compression chip, an OmniVision OV9712 HD imaging sensor and lens module, and the MicroSemi TimberwolfTM audio processor. The board also features a single motion detector, event trigger buttons, and various LEDs to indicate modes of operation. The embedded software package includes the video + audio application software, Wi-Fi and networking stacks and mDNS/DNS-SD-based discovery methods to discover devices and services available on the wireless network. The mobile device application software features an RTP/RTSP-based video and audio player. The software provides customers a foundation to rapidly build custom features suited to their end application.

BENEFITS:

- **Complete Video reference design that allows users to experience real-time video and full-duplex audio streaming from a camera to their iOS- and Android-based smartphones**
- **Accelerated time-to-market for development of new wireless video streaming applications such as Wi-Fi doorbells, security/surveillance cameras, and baby monitors**
- **Quick and easy way to integrate video streaming services into end products using GainSpan Video Application board and embedded/mobile software suite**
- **Mobile device applications for Android and iOS platform as well as APIs and reference source code to facilitate customized video application development**

FEATURES:

- **Video + Audio ADK consisting of the hardware application board and an external audio speaker, complete hardware design package, complete software suite, including embedded source code and mobile reference apps**
- **Video + Audio AEK consists of the hardware application board and an evaluation, binary-only version of the embedded software**
- **The Video + Audio embedded software application operates in both Limited AP and Infrastructure client modes. The Video embedded application advertises itself and allows automatic discovery by clients using mDNS/DNS-SD discovery methods**
- **Mobile Demo Applications for iOS and Android devices, which feature a dashboard for easy setup and camera selection and use an open source, RTP/RTSP-based video player**
- **The Video + Audio Evaluation board supports H.264 video compression, a 720p imaging sensor, an audio processor with dual microphone inputs and full echo cancellation and event trigger buttons, plus LEDs to indicate status and mode of operation**

GAINSPAN VIDEO + 2-WAY AUDIO HARDWARE COMPONENTS

The GainSpan Video + 2-Way Audio ADK uses a GS2011M Wi-Fi module- based Video Application Board that features the following components.

Components	Description
GainSpan Wi-Fi Module	GS2011M module streams video + audio data over Wi-Fi
Omnivision OV788	Video processor chip; supports H.264, 720p 30 fps HD resolution
Omnivision OV9712 HD Image Sensor and Lens module	Omnivision OV9712 HD image sensor and lens module; supports 1280x720 video resolution
MicroSemi ZL38051 Audio Processor	Dual, on-board digital microphones echo cancellation
External Audio Output Jack	
PIR Motion Event Sensor	Additional event trigger pushbuttons
Firmware	
LEDs	Indicates power-on, operation mode (limited AP or client) and Run/Program mode
USB port	Used to power the board and upgrade firmware on the Wi-Fi module

VIDEO ADK AND AEK CONTENTS

Components	ADK	AEK
Video Embedded Firmware Application	Binary and source	Binary only
Video Mobile Application for iOS/Android Smartphones	Mobile application and source	Mobile application
GainSpan Video Application Board	Hardware	Hardware
USB Cable	Hardware	Hardware
External Audio Speaker	Hardware	Hardware

VIDEO APPLICATION DEVELOPMENT MINIMUM REQUIREMENTS

Requirements	Type
GainSpan SDK	Software source, tools
iOS and Android Based Smart Device and Mobile Development Tools	Client device, tools

VIDEO ADK/AEK ORDERING INFORMATION

Item	Part Number	Description
GainSpan Video ADK	GS-ADK-Video+FD Audio-OV720p	GainSpan Video ADK based on GS2011M Wi-Fi modules
GainSpan Video AEK	GS-AEK-Video+FD Audio-OV720p	GainSpan Video AEK based on GS2011M Wi-Fi modules