SiliconMotion

SM770

USB Display Interface SoC for Universal Docking Station

The SM770 is a high-performance USB Display interface SoC that supports up to three concurrent 4K UHD (3840x2160@60p) displays, leveraging Silicon Motion's innovative CAT™ (Content Adaptive Technology) and employs multiple image and video processing algorithms to compress display data and minimize bandwidth usage to deliver ultra-low latency from the computer to the monitors. By transferring most of the compression work to a hardware accelerator, CAT technology operates more efficiently and reduces the CPU load.

For seamless multi-display extension, the SM770 features the user-friendly InstantView® software application. This tool effortlessly configures host content for any display without the need for a display driver. Additionally, the SM770 boasts superior compatibility with all major platforms, including the Microsoft Windows, Apple macOS, and Linux operating systems. It also includes extensions for Android, ChromeOS, and most popular display brands on the market. Whether in the workplace or at home, the SM770 makes display extension easier and more efficient.

Benefits & Features

4K UHD

Ultra High Resolution
- 4K UHD Displays

High Efficiency and Low Power
- Low Power Consumption
- Ultra Low host CPU usage for video / image processing

Complete Software Support
- Support Windows, Linux, macOS, Android, and ChromeOS
- Provide turn-key software including drivers, firmware and applications
- Automatic software updates

CAT™ 2.0 Content Adaptive CODEC
- High Compression Ratio
- Low Latency Algorithm

InstantView® Technology
- Self-Maintained
- Plugin-and-Display

Target Applications

| USB Docking Stations/Adapter | Wireless Display | Portable Monitor | Digital Signages |

CAT ™ 2.0 Technology

The 2nd Generation CAT™ Technology, featuring a real-time content adaptive CODEC with YUV 4:4:4 support, is an intelligent module for compression algorithm selection, dynamically selecting the best algorithm during runtime to enhance the user experience. CAT 2.0 provides the following advantages:

High Image Quality

Low CPU and GPU Usage

Best Video Performance

Low Power Consumption

Product Specification

- ARM Dual Core Processor
- USB 3.2 Gen2 (10Gbps)
  - 1x Device port
- Display Resolution
  - Up to 4K@60Hz
- Display Outputs
  - Built-in two DP v1.4 transmitters, the output supports up to 4K UHD resolution
  - Built-in three HDMI v2.0 transmitters, the output supports up to 4K UHD resolution
  - HDCP 2.3
  - Dual 24-bit LVDS channels
- Hardware Video/Image Decoders
  - CAT (Content Adaptive Technology) Loseless and Lossy high efficiency and low latency decoders
  - H.264 and H.265 Video Decoder
- I2C/I2S/GPIO/SPI interfaces

Application Functional Diagrams

True Universal Docking Solution

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Drive 3x outputs with single cable

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