



SM768

High Performance 4K Graphics Processor

SM768 is high performance graphics processor which provides dual display channels and supports multiple output interfaces, including HDMI, DVI, VGA, LVDS and digital interfaces. Display resolution supports up to 4K UHD (3840x2160@30p) or 2K/Full HD@60p. SM768 supports H.264/MJPEG hardware video decoding. There's also an option to embed 256MB DDR3 memory into a single 19x19mm package.

SM768 connects to host via USB 3.0 device interface or PCIe 2.0 interface and can support various applications, ex: USB display, Thin/Zero client, Signage and Embedded displays. SMI's Content Adaptive Technology(CAT) use adaptive algorithms to compress content and can send through USB for displays.

APPLICATIONS

- USB Display Adapter/Monitor
- Universal Docking Station
- Thin/Zero Client
- Digital Signage/Video Wall
- Factory Automation/IPC
- Gaming Machine
- POS (Point-of-Sale) Terminal
- Small Form Factor, Low Power Embedded Graphics



FEATURES

System Interfaces

- USB 3.0 Device Interface - Connect to USB Host
- PCI-Express Gen2 x1/x2 lane device slave Interface

Memory Support

- Supports 256MB internal DDR3 memory or up to 1GB external DDR 3 memory
- Use embedded memory for power efficient and small form factor applications

Display Features

- HW Video decoder supports: H.264 MVC/AVS+, H.263, MPEG-4, MPEG2, M-JPEG, RealVideo, VC-1, & Theora
- Support Dual independent channels up to 4K UHD - 3840x2160 @ 30p or 2K/Full HD@60p
- Four display layers supported per channel: Graphics, Hardware cursor, Video overlay and Alpha layers.
- Content Adaptive Technology (CAT) to accelerate USB display by display content compression.
- Embedded 1x HDMI v1.4 transmitter, output supports up to 4K UHD resolution.
- Dual 24-bit LVDS channels for direct LCD panel connections – single high-res panel
- Dual 24-bit digital video interface to connect with transmitters with various display output
- Dual 8-bit DACs with pixel rate up to 350 MHz
- Resolution support: VGA (640x480), SVGA, SXGA, WXGA, WXGA+, WSXGA+, Full HD (1920x1080), QWXGA, WQXGA (2560x1600) and 4k UHD (3840x2160)
- Modes: Extended Desktop Single & Dual View, Clone, Portrait/Landscape modes

Software Support

- Windows operating systems: Windows 7, 8, 10, 11 and Windows Server 32-bit or 64-bit
- Linux OS (Ubuntu, Red Hat, SUSE, etc)
- macOS
- Android
- ChromeOS

SPECIFICATION

Host Interface	USB 3.0 PCIe 2.0 x1 or x2
Int. Memory	256MB DDR3 (option)
Ext. Memory	1GB DDR3 (max)
Resolution	Up to 4K UHD (3840x2160)
Operation Temperature	Commercial (0°C to +70°C) Industrial (-40°C to +85°C)
Package	425-pin BGA MCM (19mm x 19mm)