institute MIHAILO PUPIN
IMP-TELECOMMUNICATIONS
EMBEDDED SYSTEMS DESIGN HOUSE

Based on successful
IMP-Q7-DM8168™ module

IMP-V7-DM8168™

Accelerated Multi-Channel HD Video Processing Module

- High-performance DaVinci DM8168 SoC
- 1 or 2 GB DDR3-1600 SDRAM
- Multiple HD video input/output ports
- Multi-channel processing SW framework
- Compact form factor: 70 x 70 mm
- Technical and customization support



Dimensions	70x70 mm
Typ. power dissipation	11W
Video performance	High
Temperature	-40ºC +85ºC



TARGET APPLICATIONS

- Security and surveillance systems
- Machine and industrial vision
- Medical video
- Video communication terminals
- Broadcasting
- Real-time video transcoding applications

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Technical Data – IMP-V7-DM8168™

Core Logic & Memory

System-on-Chip:
TMS320DM8168 DaVinci SoC combining:
- ARM Cortex-A8 core @ 1.2 GHz
- C674x floating/fixed point DSP @ 1.0 GHz
- Three enhanced full-HD capable video coprocessors
- SGX530 3D graphics core, OpenGL ES 2.0 compatible

RAM:
1 or 2 GByte DDR3-1600 SDRAM (soldered)

Video inputs

Two independent digital input ports (24-bit + 16-bit), capable of capturing SD or HD video up to 1080p60.

Display Interface

Integrated:
- HDMI 1.3 / DVI interface (up to 1080p60 + audio)
- 16-bit digital HD video output port (up to 1080p60)
- Analog SD video output port (separate Y/C)

Storage Interfaces

Dual SATA 3.0 Gb/s interface

MMC/SD card support

2 GB NAND Flash, 4 MB SPI Flash (soldered)

High-Speed Bus Interfaces

PCI Express 2.0 dual-lane port

Dual USB 2.0 client

LAN Interface

Ethernet:
Dual 10/100/1000 Base-T Gigabit Ethernet

Sound Interface

5-pin audio port (16-bit or 24-bit, McASP-compatible)

Miscellaneous

Real-time clock (battery powered via MXM connector)

Additional Interfaces

Serial I/O:
Dual I²C up to 400kHz

SPI interface up to 40 MHz (two chip-select signals)

Dual UART (RX/TX only)

Firmware, Software

Board Support Package:
- Based on TI DVR-RDK 04.01.00.02 with Linux kernel 2.6.37
- U-Boot firmware pre-flashed into onboard SPI Flash
- Support for voltage and temperature monitoring

Carrier Board Interface

MXM edge connector

Power

+5V +/-5%, 5V standby
Power consumption: 11W typical

Environment

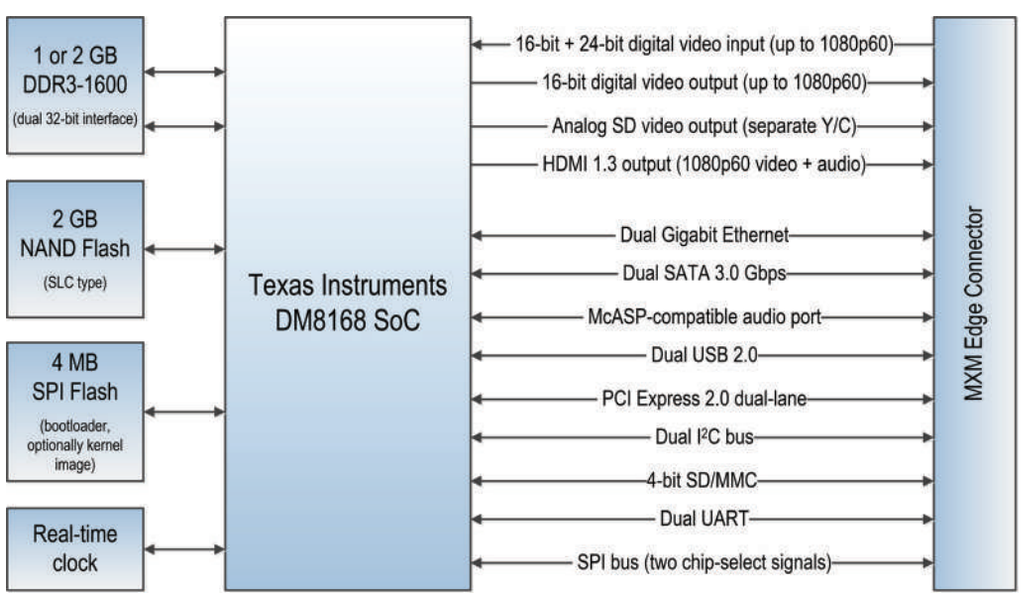
Ambient Temp.
0°C + 60°C operating (commercial)
- 40°C . + 85°C operating (extended)
- 40°C . + 125°C storage

Humidity
5 … 90% operating (non condensing)
5 … 90% storage (non-condensing)

Dimensions

Length x width: 70 mm x 70 mm
Height: 13 mm with heat spreader installed

Block Diagram



IMP institute MIHAILO PUPIN IMP-TELECOMMUNICATIONS EMBEDDED SYSTEMS DESIGN HOUSE

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