



MGI264

H.264/AVC VGA 30fps Video Codec
AAC 2-channel Audio Codec

Features and Benefits

H.264/AVC Video

- Baseline Profile Codec (Level 3) encode and decode
- 30/25 fps natural motion frame rates
User selectable frame rates:
24 | 15 | 10 | 7.5
- Bitrates: 64kbps – 10Mbps
CBR and VBR
- I and P frames
- Quarter-Pel Motion Estimation (including 4x4 mode)
Mobilygen patent pending
- Rate-distortion mode decision
- Deblocking filter
- Frame mode coding (progressive) and Field mode coding (interlaced)
- User defined Input/Output video scaling
High-quality multi-tap poly-phase
Horizontal and vertical filter
- Standard supported resolutions
640x480 (VGA) 720x480/576 (NTSC/PAL)
640x240 (HVR) 720x240 (HVR)
320x480 (HHR) 352x480 (HHR)
320x240 (QVGA) 352x240/288 (SIF/CIF)
- Advanced video pre-processor including noise reduction
Mobilygen patent pending
- Full-duplex operation
- Simultaneous encode and decode
- Dual-stream decode PIP including scaling
- Advanced trick-play decode options
- 4X smooth Fast Forward
- 4X smooth Fast Reverse
- Slow play
- High-quality digital zoom

AAC Audio

- High-fidelity 2-channel AAC-LC
- 22.05 | 24 | 32 | 44.1 | 48 kHz sample rate
- 8 – 384 kbps bitrates

System

- Low-power: 185mW
- Encoding - 30fps VGA video & 2-channel AAC audio
- Complete chip including SDRAM I/O
- Power-down mode
- Flexible Host Interface
- DMA
- Complete optimized encoder and decoder firmware
- High-quality video and audio
- No customer development required
- Easy to use APIs
- Supports both 2.5V & 3.3V SDRAM I/O

Physical

- Package info
- 156 TFBGA (Lead-free)
- 9x9mm | 0.5mm ball-pitch
- Supports both 2.5V & 3.3V SDRAM (4Mx16)
- High-volume 0.13µ

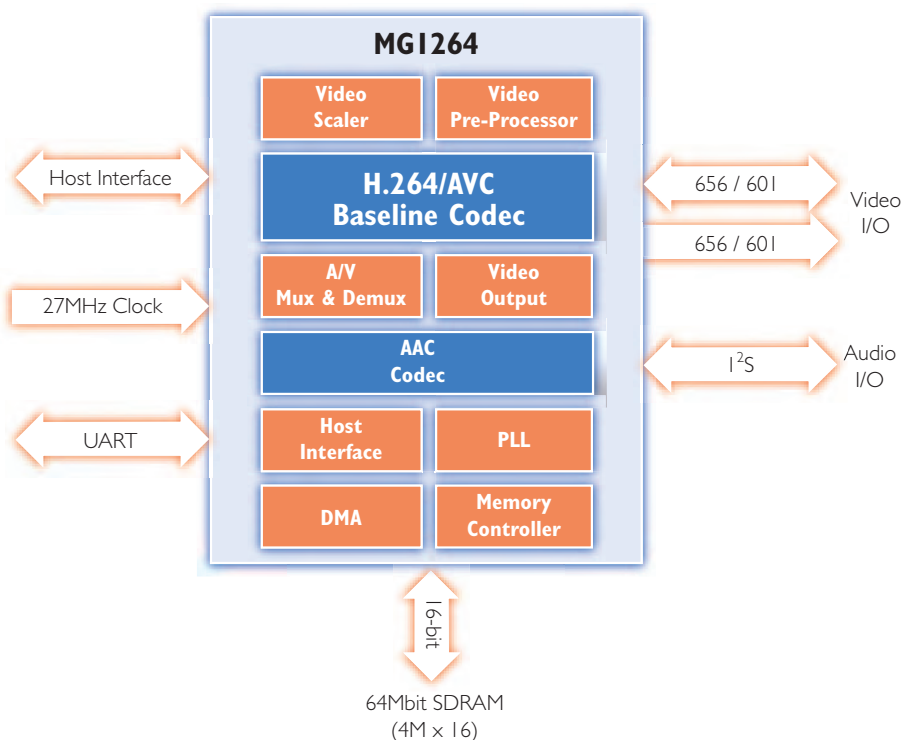
Mobilygen MGI264, The Low Power A/V Coprocessor for Mobile Devices

The Mobilygen MGI264 H.264/AVC Coprocessor is designed for low-power mobile devices such as Digital Still Cameras, Solid-State Camcorders, and video enabled mobile phones. MGI264 consumes less than 185mW while encoding TV-quality VGA 30fps H.264/AVC video and high-fidelity 2-ch AAC audio. This breakthrough performance and low-power consumption is the benefit of Mobilygen's patented EVE (Enabling Video Everywhere) architecture. The EVE architecture combines hardware data-driven media engines for efficient media processing, hardware-multithreading requiring zero overhead for control functions, and an ultra-efficient memory controller optimized for advanced video processing.



MGI264 enables mobile products to easily incorporate high-quality H.264/AVC video recording and playback into existing platforms through industry standard interfaces. Mobilygen provides complete H.264 and AAC encoder/decoder firmware. MGI264 requires no customer programming. Flexible APIs provide access to all control and codec parameters, and allow for substantial product differentiation.

The H.264/AVC video standard is gaining universal industry adoption, ranging from digital TV broadcasting, to next generation consumer electronics and much more. H.264/AVC advanced features provides equivalent video quality at half the bit rate of MPEG-2.



MGI264 EVB

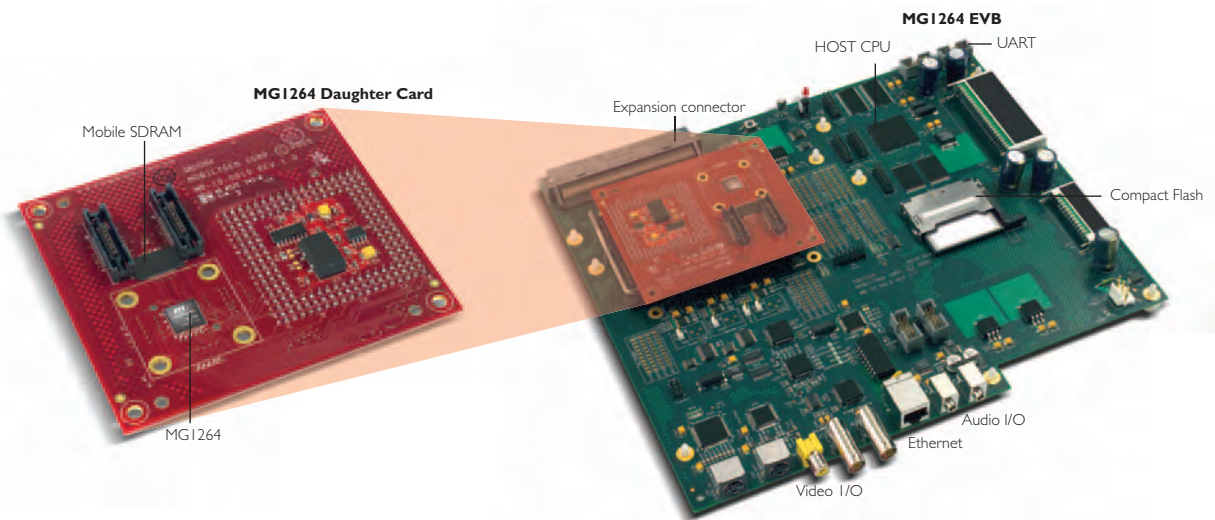
MGI264 EVB, Evaluation Board for MGI264 H.264/AAC codec

Complete evaluation and development platform

The Mobilygen MGI264 EVB is a complete evaluation and development platform, providing access to all hardware and software functions. Key features of the MGI264 EVB are common audio and video I/Os, Ethernet connectivity,

on-board storage, UART monitors, convenient hardware probe access, and debug utilities. The MGI264 EVB also includes an onboard host CPU and can be operated as a stand-alone reference system, or connected to an external host system through a configurable expansion connector. All I/O signals can be routed

and configured through the expansion connector enabling easy integration with existing host systems. The MGI264 EVB includes a removable Daughter Card that consists of a high-quality socket for the MGI264 chip, a mobile SDRAM, and exposed I/O, for advanced system integration.



Features (MGI264 EVB)

H.264/AVC Video

- MGI264 EVB
 - Host CPU running a Linux-based OS
 - Expansion connector with reconfigurable I/Os
 - Run-time host selection (host CPU or expansion connector)
 - Compact Flash card storage
- Removable Daughter Card
 - MGI264, SDRAM and clock circuit
 - Can be removed from EVB and connected onto another board
- MGI264 firmware (encoder and decoder)

Connectivity

- RJ-45 10/100 Mbps Ethernet connection
- Video: S-video, Composite RCA, SDI, 656
- Audio: Mini-RCA, IIS
- PGA socket connecting daughter card to EVB

Development tools

- Probe points for logic analyzer
- 2 UART connectors for system monitoring
- Debug utilities (including gdb)
- APIs and documentation

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