



Coda7541/Coda7542

Multi-standard High-def. Codec IP

The Multi-Standard High-Definition Video Codec Coda7541/Coda7542 are the highly optimized pre-configurable cores supporting both H.264, MPEG-4, H.263, (M)JPEG encoding and MPEG-2, H.264, VC-1, MPEG-4(DivX), RealVideo, AVS and (M)JPEG decoding. Using a unique and optimal hardware architecture Coda7541/Coda7542 enable to meet stringent power and clock requirements at low silicon cost.

— Support Standards & Compliance

Encoder

Standard	Standard Compliance
H.264	Baseline Profile @L3.1
MPEG-4	Simple Profile
H.263	Profile3(Annex J, K, T)
MJPEG	Baseline

Decoder

Standard	Standard Compliance
H.264	BP/MP/HP@L4.1
MPEG-4	SP/ASP@L5.0
DivX	High definition profile
H.263	P3(Annex I, J, K, T)
VC-1	SP/MP/AP@L3.0
MPEG-2	MP@HL
RealVideo	v.8/9/10(RMVB)
AVS*	Jizhun profile@L6.2
Sorenson	Sorenson spark
MJPEG	Baseline

* Coda7542 only

— Performance

- Resolution & Frame rate:
 - Decoder : up to HD(1080p 30fps / 1080i 60fps)
 - Encoder : up to HD(720p 30fps)
- MJPEG resolution
 - Decoder 32MP/s(up to 4:4:4) @133MHz
 - Encoder 64MP/s(up to 4:2:2) @133MHz
- In half-duplex mode
 - HD decoding @133MHz, encoding @180MHz
 - D1 decoding @40MHz, encoding @70MHz
- In full-duplex mode
 - D1/SD(NTSC&PAL) enc./dec. @110MHz
- Required host processor resource to run:
 - under 1 MIPS

— Features

Encoding tools

- Simultaneous multi-standard encoding
- Unrestricted motion vector
- H.264 Intra-prediction
- In-loop de-blocking filter for H.264 & H.263
- MPEG-4 AC/DC prediction
- H.263 Annex J,K and T(RS=0, ASO=0)
- Error resilience tools
 - MPEG-4 : resync. Marker & Data-partitioning with RVLC
 - H.264 : FMO & ASO
- Bit-rate control(CBR & VBR)
- Built-in pre-rotation/mirroring function to remove redundant bus-loading
 - 90xn degree rotation(n=0,1,2,3)
 - Vertical/horizontal mirroring
- Dynamic clock gating for power saving
- Linear & Tiled macro-block map for bus efficiency

Decoding tools

- Simultaneous multi-standard decoding
- CABAC/CAVLC for H.264 MP/HP
- Global motion compensation warp point1 for MPEG-4 ASP
- Built-in de-blocking, de-ringing filter and post-rotation / mirroring for post processing
- Error resilience tools
 - MPEG-4 : resync. Marker & Data-partitioning with RVLC
 - H.264 : FMO & ASO
- DivX High Definition Profile certifiable & Full Xvid compatibility
- Fully compatible with RV8/9/10 specification
- Dynamic clock gating for power efficiency
- Linear & Tiled macro-block map for bus efficiency

Coda7541/Coda7542

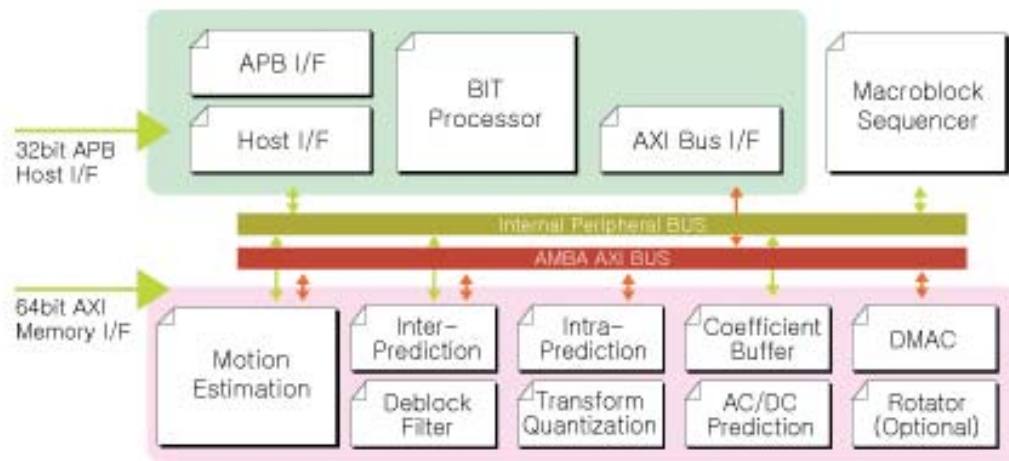


Multi-standard High-def. Codec IP

Applications

- HD camcorder
- IP Camera / DVR
- Multimedia Mobile Phone
- Portable Media Player
- HDTV / PVR

Internal Block Diagram



FPGA demonstration board Runs at 50MHz



+Headquarter+

+China Office+