



## H.264 Baseline Profile Decoder: GPU

Component name	H.264 Baseline Profile Decoder: GPU		
Category (IP/ Reusable)	IP	Component type (HW/SW/product etc)	SW, Video Codec
HW Platform	NVIDIA GPU + CPU	SW Platform /OS	ANSI C, Windows/Linux
Applications / applicable products	Multimedia applications/ products		
Market/ industries applicable	Consumer Electronics		
Product Description	<p>H.264 video codec is the best industry standardized video codec available today. It is developed by Joint video Team (JVT) with experts from Video Coding Experts Group (VCEG) from ITU-T and Moving Picture Experts Group (MPEG) from ISO/IEC. H.264 is known in many names (including MPEG- 4 Part 10 AVC (ISO/IEC) and ISO/IEC 14496 (ITU-T) H.26L, H.264, ISO/IEC 14496-10, JVT, MPEG-4 AVC, MPEG-4 Part 10.)</p> <p>H.264 is incorporated as mandatory standard to The HD-DVD specification of the DVD-Forum, The BD-ROM Video specification of the Blu-ray Disc Association and The DVB standards for European broadcast television.</p> <p>Current version of NeST IP is covering only the Baseline profile implementation.</p>		
Technical specifications	H.264 Baseline Profile decoder, Optimized for NVIDIA GPU		
Features /benefits	<ul style="list-style-type: none"> <li>• Profiles: Constrained Baseline Profile, Baseline Profile</li> <li>• Frame Types: I and P Frames, only progressive</li> <li>• Intra Prediction: In Spatial domain, 9 Intra-4x4 and 4 Intra-16x16 modes</li> <li>• Inter Prediction: Multi-frame Motion compensation. Luma- 16x16, 16x8, 8x16, 8x8, Chroma – 8x8, 8x4, 4x8, 4x4 blocks, Quarter-pel accuracy, 6-tap FIR filter for Half-pel and then bilinear for Quarter-pel. Only Bilinear Interpolation for Chroma.</li> <li>• Transform: 4x4 and 2x2 Integer Transform similar to DCT</li> <li>• De-blocking: in-loop filter.</li> <li>• Entropy coding: CAVLC</li> </ul>		
Other relevant details	<p>Other tasks in roadmap</p> <ol style="list-style-type: none"> <li>1. H.264 Baseline Profile decoder ported and optimized for ARM Cortex A8 platform</li> <li>2. H.264 Baseline profile decoder Running on NVIDIA GPU</li> <li>3. H.264 Main/High Profile decoder optimized c-reference code</li> <li>4. H.264 Main/High Profile decoder on NVIDIA GPU</li> </ol>		
Readiness	Roadmap - readiness by Q1 2010		