

**Hexagon DSP SDK Messaging Framework**

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<b>Target audience for communications</b>	<p>Primary: User-Experience developers , OEMs, Service Providers Secondary: Mobile operators, journalists, industry analysts, industry thought leaders, consumers</p> <p>The primary developer target for the Hexagon DSP SDK is a cutting-edge embedded developer with a lot of expertise and familiarity working in a native C or assembly programming environments. We are targeting developers with the skills required to take deeper advantage of the hardware features on the Snapdragon platform to enhance the user experience. The typical Android developer writing Java apps in an Android app environment is not the primary target.</p> <p>Often, this class of developer works closely with OEMs and may be aligned with a service provider organization (e.g., BDTI, Bsquare, Intrinsic, Tata, etc.) that provides direct development and engineering support to OEMs.</p> <p>OEMs in this case will range from the smartphone manufacturers, set-top box/gaming/TV manufacturers, automotive manufacturers and makers of sensors and wearable computing devices.</p>
<b>Point of View</b> (this should motivate the audience to move forward with this solution with urgency while underscoring Qualcomm's unique position)	<p>Today, consumers want their mobile devices to do everything as an extension of how they work, live, communicate and play. In our "always connected" world, the mobile devices we choose are all-in-one phones, PCs, TVs and gaming consoles. As the only company that builds and integrates an end-to-end portfolio of mobile technologies, tools and resources, Qualcomm is uniquely positioned to help push mobile boundaries.</p> <p>Qualcomm's ability to advance multimedia processing is an excellent example of how the company continually extends mobile capabilities. Consumers are seeking fluid, interactive experiences, which can be greatly enhanced by powerful speech, audio, imaging and video capabilities. Qualcomm recognizes the power of multimedia in not just elevating user experiences but in taking mobility to the next level.</p> <p>Mobile is in Qualcomm's DNA—it's how we think, act and decide which new ideas to pursue. This informs our work with device makers as we help them differentiate their products by enabling high-end performance of new and existing features while lowering battery consumption and manufacturing costs.</p> <p>This same mobile mindset also drives Qualcomm's focus on developers as we understand and respect the role they play in the entire mobile ecosystem. We don't make the apps, we simply offer tools to help developers make them better with improved graphics, faster video streaming and less power consumption.</p> <p>Our goal is to continually look for mobile advancements that can lead to new business opportunities for our partners and the creation of amazing mobile experiences for consumers. In today's fast-paced world, consumers expect more from their mobile devices</p>

	<p>By partnering with Qualcomm, user-experience developers can be among the first to use the latest and greatest technologies to deliver advanced performance and the most compelling user experiences consumers crave.</p>	
<p><b>Tone</b></p>	<p>Knowledgeable Conversational Action oriented</p>	
<p><b>Definition (Elevator Pitch)</b></p>	<p><b>25-word:</b></p> <p>Qualcomm’s Hexagon DSP SDK enables developers and manufacturers to create compelling user experiences by improving audio, imaging, computer vision and video performance on devices powered by Snapdragon processors.</p> <p><b>50+ words:</b></p> <p>The Hexagon DSP SDK is designed to optimize multimedia processing on devices powered by Snapdragon processors, enabling developers and device makers to improve the features and performance of, audio, imaging, embedded vision and video software. Qualcomm provides tools and resources needed to simplify the development of highly differentiated embedded multimedia applications that deliver greater functionality while consuming less power.</p>	
<p><b>Key Messages and Proof Points: Developers</b></p>	<p><b>Cutting-edge developers can use Hexagon DSP SDK to build superior apps</b></p> <p>The Hexagon DSP SDK enables developers to create premium mobile experiences by improving the features and performance of multimedia software running on devices powered by Snapdragon processors.</p>	<ul style="list-style-type: none"> <li>• With the Hexagon DSP SDK, “user experience” developers can more easily access world-class multimedia features, which enables them to create amazing user experiences in less time.</li> <li>• Tight integration with Qualcomm’s Snapdragon processor platform enables developers to take advantage of the hardware features in Snapdragon to improve multimedia apps.</li> <li>• By taking advantage of the SDK, developers can ensure multimedia processing efficiency, which translates into increased fluidity, low latency and superior application performance.</li> </ul>
	<p><b>Remove development roadblocks with Hexagon DSP SDK</b></p>	<ul style="list-style-type: none"> <li>• The Hexagon DSP enables developers to easily optimize the performance of processing- and power-intensive speech, audio, imaging and video</li> </ul>

	<p>The Hexagon DSP SDK lowers development hurdles to porting features on the DSP, reducing the documentation and knowledge of the DSP architecture needed to port algorithms, using simple to follow examples for audio, imaging, computer vision and computer off-load use cases.</p>	<p>software.</p> <ul style="list-style-type: none"> <li>• Access to Qualcomm’s technology, tools and resources enables developers to create better multimedia apps that do more.</li> <li>• The Hexagon DSP SDK makes multimedia processing much more efficient because it takes advantage of the inherent strengths and capabilities of Qualcomm’s Snapdragon processor platform <ul style="list-style-type: none"> <li>- Dolby, DTS audio examples</li> <li>- GPS</li> </ul> </li> </ul>
	<p><b>Developers can reduce development time and costs by using the Hexagon DSP SDK</b></p> <p>Native programming within the Snapdragon environment helps developers reduce overall development time and costs. Use of examples that provide templates and utilize dynamic code linking reduce source code modifications.</p>	<ul style="list-style-type: none"> <li>• According to early work with Android developers, native multimedia features can be added to apps in weeks instead of up to six-to-nine months previously required to incorporate this level of functionality.</li> <li>• Qualcomm has the most efficient DSP on the market and ships more than any other company. Building apps based on this DSP ensures the highest levels of multimedia processing efficiency and speeds go-to-market capabilities.</li> </ul>
	<p><b>Access a broader mobile ecosystem with Hexagon DSP SDK</b></p> <p>The Hexagon DSP SDK helps developers differentiate their multimedia pass while increasing overall market opportunities beyond just smartphones. Utilization of the Hexagon DSP in products targeting HDTV, set-top boxes, automotive and IoE markets.</p>	<ul style="list-style-type: none"> <li>• With the Hexagon DSP SDK, developers have access to a broader OEM ecosystem that extends beyond phone manufacturers to device and consumer product manufacturers spanning tablets, HDTV and automotive.</li> <li>• Seamless integration with Qualcomm’s Snapdragon processor platform makes it easier for developers to build better apps that can be ported from phones to other devices easily.</li> <li>• Developers who choose to develop on the Snapdragon platform can address a large installed base, resulting in improved ROI</li> <li>• Feature developers can ease their transition into new markets with the Hexagon DSP SDK. For instance, the SDK opens up endless possibilities</li> </ul>

		<p>developers can take advantage of in the burgeoning multimedia entertainment marketplace.</p> <ul style="list-style-type: none"> <li>• Developers who invest in development on the Snapdragon platform can achieve a unique “stickiness” with OEMs as any device maker using Snapdragon then can take advantage of the new capabilities.</li> </ul>
<b>Key Messages and Proof Points: OEMs</b>	<p><b>Hexagon DSP SDK makes it easier to differentiate their brands</b></p> <p>OEMs can take advantage of the Hexagon DSP SDK to add powerful and highly differentiated speech, audio, imaging and video capabilities to their devices.</p>	<ul style="list-style-type: none"> <li>• Easy access to powerful features enable OEMs to differentiate their products and widen their competitive edge</li> <li>• Qualcomm makes it easy for OEMs to customize their products with powerful multimedia capabilities that enhance their brand <ul style="list-style-type: none"> <li>- HTC with Beats Audio example</li> </ul> </li> </ul>
	<p><b>Accelerate delivery of new, powerful multimedia capabilities</b></p> <p>With the Hexagon DSP SDK, ISVs can deliver the advanced multimedia consumers want to OEMs while lowering their manufacturing costs and power consumption on their devices.</p>	<ul style="list-style-type: none"> <li>• Qualcomm makes it easy for OEMs to use the Hexagon DSP SDK to help determine interest and feasibility of commercializing new multimedia capabilities.</li> <li>• In the future, OEMs will be able to offer ready access to store/library of world-class multimedia features and functionality</li> </ul>
	<p><b>Snapdragon “inside” = easier access to greater functionality</b></p> <p>The Hexagon DSP SDK enables OEMs and ISVs to take deeper advantage of the hardware features of Snapdragon to integrate world-class multimedia functionality that can be customized to support different use cases.</p>	<ul style="list-style-type: none"> <li>• Qualcomm gives OEMs an opportunity to broaden their ecosystem in new ways by taking advantage of native multimedia processing on the Snapdragon platform. They can extend this by utilizing ISVs to add world class algorithms.</li> </ul>
<b>SEO Key Words and Phrases</b>	<ul style="list-style-type: none"> <li>• Digital Signal Processor, DSP, multimedia, multimedia processing efficiency, speech, audio, imaging, video acceleration, GPS, sensors, Snapdragon</li> </ul>	
<b>Use Cases</b>	<ul style="list-style-type: none"> <li>• 3D audio, audio enhancement, image enhancement, computational off-load from the CPU</li> </ul>	

<b>Snapdragon Tie-in Messaging</b>	<p>&lt;Why developing on Snapdragon matters&gt;</p> <ul style="list-style-type: none"> <li>Qualcomm is the leader in mobile technology innovation and its industry-leading Snapdragon processors power millions of mobile devices worldwide. The Qualcomm Developer Network helps today's most forward-looking developers leverage the power and innovation in Snapdragon processors to optimize their apps and offer consumers extraordinary mobile user experiences.</li> </ul>
<b>Competitive commentary</b> NOTE: Competitive statements are not to be quoted, and require substantiation and prepared documentation for any use	<p>Few competitive AP manufacturers have developed programs for accessing DSP processors in their SOC solutions for multimedia. TI and Analog Devices were the two best known and they have exited the mobile AP marketplace.</p> <p>Licensable cores from CEVA and Tensilica feature an access program for their licensed DSP that are utilized by some competitors, but they have not extended this ecosystem beyond the licensor's program. By comparison, Snapdragon offers baseline AMSS multimedia features, value added features from Qualcomm for additional license (AOST), ISV licensable third party multimedia features ( e.g. Dolby, DTS) and finally OEMs can integrate their own customizations and modify the concurrency and run-time characteristics to create new user experiences.</p>
<b>Specifications</b>	<p>Hexagon V5 processor, contains floating point and 600 MHZ of clock speed performance that is accessible to the OEM and ISVs.</p>