



Fraunhofer Institute for
Integrated Circuits IIS



© Adobe Stock / Probot Dean - stock.adobe.com

xHE-AAC

The audio codec of choice for adaptive streaming

xHE-AAC is the latest generation of the AAC audio codec family. Installed in 5+ billion devices, it is an integral part of Android, iOS, Fire OS, and Windows products.

Services like Netflix, Facebook and Instagram are streaming an estimated 2+ billion hours of xHE-AAC content every month to 3+ billion consumers.

A demonstration of the improved audio quality and new features of xHE-AAC compared to HE-AAC is available on Fraunhofer's informal AAC playback test site at xhe-aac.com/listen

xHE-AAC is a registered trademark of Fraunhofer-Gesellschaft in Germany, the United States, and other countries.



xHE-AAC combines speech and audio coding into one unified system and enables consumers to enjoy uninterrupted streaming with all types of content – such as movies, music, audiobooks or podcasts. The codec’s usable bit rate range for stereo services spans from 12 kbit/s to 320 kbit/s and above and allows for seamless switching between those. This bit rate flexibility improves the reliability of streaming services: listeners will enjoy a continuous playback, even under challenging network conditions. Since xHE-AAC includes dedicated speech coding tools, speech quality can be greatly improved at lower bit rates compared to legacy codecs.

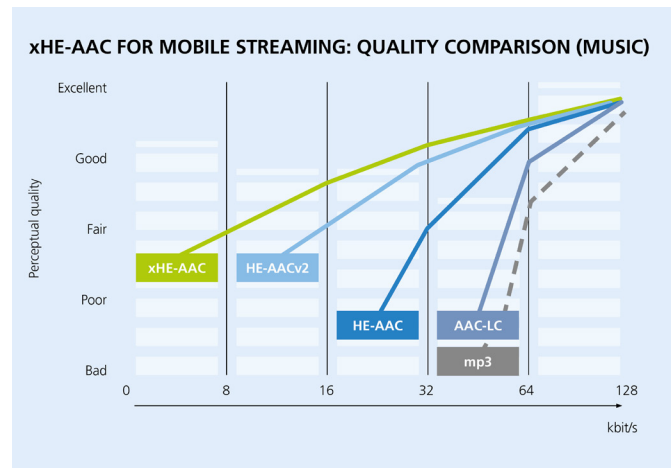
The reduced bit demand of xHE-AAC can also help reducing bandwidth costs. These characteristics make xHE-AAC the ideal codec for mixed-content applications with limited transmission capacity, such as mobile audio and video streaming or digital radio.

The mandatory MPEG-D DRC metadata provides loudness and dynamic range control for xHE-AAC to play content at a consistent volume and deliver the best possible user experience in any listening environment and on any device. This enables consumers to better understand dialogue, for instance, while watching a movie in a noisy environment.

xHE-AAC has been a mandatory audio codec of Digital Radio Mondiale (DRM) since 2013. Digital radio broadcasters also benefit from a simplified codec configuration process where all relevant quality parameters are automatically optimized by the encoder, as well the ability to deliver a wider selection of audio programs thanks to xHE-AAC’s high coding efficiency.

xHE-AAC is included in the AAC Patent Licensing Program by Via Licensing Alliance at no extra cost.

Fraunhofer IIS has also announced a new web-based test service that developers and manufacturers can use to validate their implementations of the xHE-AAC audio codec for compliance with MPEG standards. The service which is available at **test.xhe-aac.com** is free to use upon registration with Fraunhofer and will test encoders, decoders, and player applications.



Contact

Fraunhofer Institute for Integrated Circuits IIS

Management of the institute Mandy Garcia
 Prof. Albert Heuberger Phone +49 9131 776-6178
 (executive) audio-info@iis.fraunhofer.de
 Prof. Bernhard Grill
 Prof. Alexander Martin www.xhe-aac.com
 www.iis.fraunhofer.de

Am Wolfsmantel 33
 91058 Erlangen, Germany
 Phone +49 9131 776-0
 info@iis.fraunhofer.de