

FRAUNHOFER INSTITUTE FOR INTEGRATED CIRCUITS IIS

ENHANCED VOICE SERVICES (EVS)

3GPP'S HIGH QUALITY COMMUNICATION CODEC FOR VolTE



EVS is the next-generation 3GPP communication codec designed for VoLTE (Voice over LTE) services.

It enables phone calls with Full-HD Voice quality, bringing call fidelity up to the same level as today's other digital media services. Integrating state-of-the-art speech and audio coding technology, EVS removes the limitations of bandlimited and voice-centric codecs that were previously used in mobile communications.

Full-HD Voice audio quality

EVS delivers unprecedented quality for speech, background music and mixed content for narrow-, wide-, superwide- and full-band services, outperforming the audio quality of today's mobile phone calls and over-the-top communication services.

High efficiency and versatility

EVS offers a wide range of bit rates from 5.9 kbit/s to 128 kbit/s, allowing service providers to optimize network capacity and call quality as desired for their service. Bit rates for narrow- and wideband start at 5.9 kbit/s, while superwideband Full-HD Voice audio quality is supported from 9.6 kbit/s on. EVS also significantly improves the audio quality over legacy codecs at popular mobile bit rates such as 13.2 kbit/s and 24 kbit/s.

Reliable service

Mobile network services such as VoLTE or Voice over WiFi can be affected by packet loss issues, resulting in a negative impact on speech intelligibility. EVS utilizes unique concealment techniques to minimize the impact of packet loss caused by adverse conditions in the transmission channel.

Backward-compatible to existing VoLTE services

The codec's integrated AMR-WB interoperability mode eliminates the need for a separate AMR-WB implementation allowing the signal to quickly switch between VoLTE (4G) and circuit switched networks (3G) when network conditions warrant a transition.