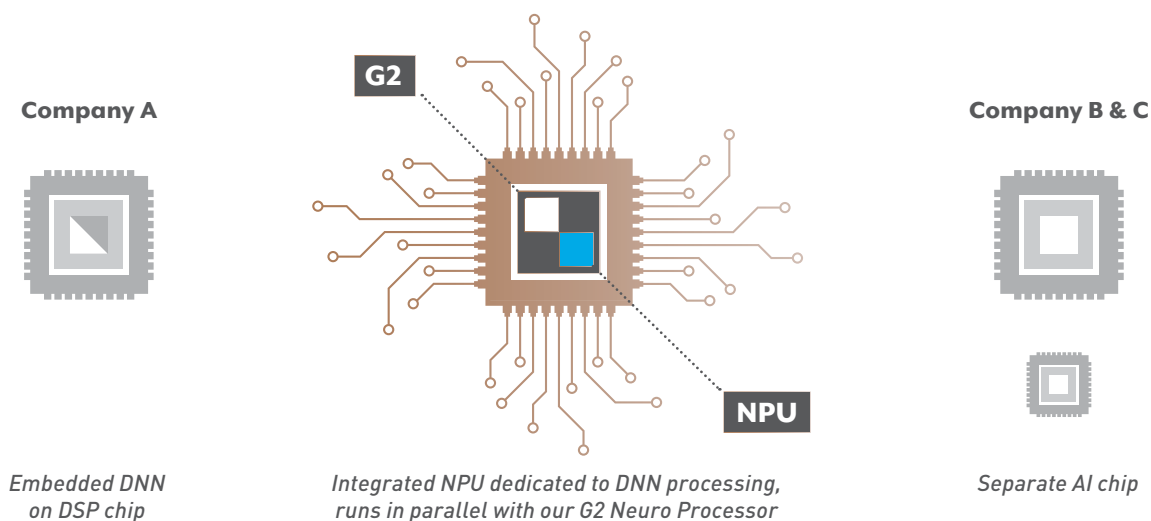# Not all AI is created equal

The DNN difference

Hearing aids have traditionally used machine learning to perform automated processing with limited success in complex listening environments, like speech in noise. Deep Neural Networks (DNN) combine machine learning capabilities with a neural network which improve accuracy in real-world environments. With DNN now in Starkey's automatic signal processing, **Edge AI is 30% more accurate at detecting speech vs. background babble**, compared to previous technology, resulting in a clearer and more comfortable listening experience for the user.

No trade off: Starkey's DNN solution

DNN computation on a low-powered system like hearing aids requires advanced architecture and development to offer a highly efficient and lasting solution. Starkey's integrated Neural Processing Unit (NPU) has an integrated DNN co-processor that runs in parallel with our G2 Neuro Processor for optimal performance. An NPU architecture is uniquely and specifically designed for fast and efficient DNN processing, which enables it to offer industry-leading battery life in a small package.

Company A

Embedded DNN on DSP chip

G2

NPU

Integrated NPU dedicated to DNN processing, runs in parallel with our G2 Neuro Processor

Company B & C

Separate AI chip

Performance when it matters

The proof is in the data. Starkey Edge AI outperformed other manufacturers' flagship products in real-world sound scenarios using Starkey's automatic Sound Management system and Edge Mode+ (Reduce Noise). Read more in our white paper **An Edge In Signal-to-Noise Ratio Improvement for Noisy Environments**.

SNR improvement (dB)

Babble 0 db SNR · Babble –3 dB SNR · Babble –6 dB SNR

Edge AI · Edge AI with Edge Mode+ (Reduce Noise) · Brand 1 · Brand 2 · Brand 3