

## HD AEC Full Duplex i.MX RT600 EVK Arm Cortex- M33 Demo

*Demonstrating High Definition Acoustic Echo Cancelation (HD AEC) on the NXP MIMXRT685 EVK ARM Cortex-M-33.*

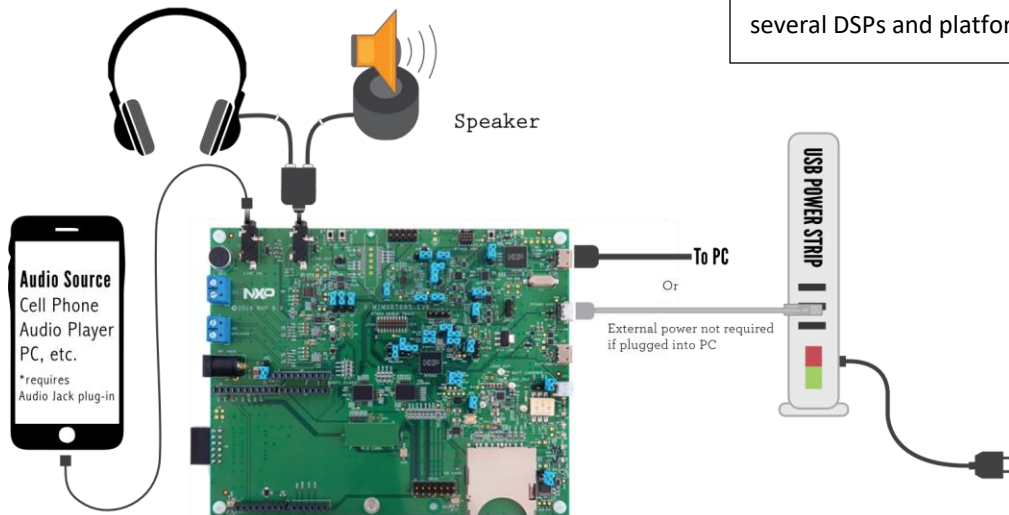
This demo uses a single MIMXRT685-EVK board configured to provide full duplex audio communication. This demo allows the HD AEC to be enabled and disabled for evaluation. Both an 8Khz and 16Khz version of the Demo are available.

These demos run with default parameters.

HD AEC is a software-only, high definition voice quality library which integrates Noise Reduction (NR) and Auto Gain Control (AGC) into the Acoustic Echo Cancellation (AEC) algorithm, with the appropriate hooks to make them seamlessly work together to provide superior speech enhancement.

- The inclusion of Noise Reduction in the HD AEC algorithm results in a far cleaner audio stream.
- HD AEC adapts to gain changes in the acoustic path (including gain/loss changes). When the changes are known, like in the case of controlled gain changes, the HD AEC communicate with the application to tell it the nature of the gain change so it can adjust immediately rather than take time to reconverge.

The demonstration software runs on **NXP MIMX685 EVK**



### HD AEC™ HIGHLIGHTS:

- Automatically adjusts for unknown bulk (buffering/audio driver) delay.
- Able to handle strong echo (speaker to microphone gains up to 20 dB).
- Programmable sampling rate, supporting narrowband wideband with no artificial cutoff of high frequencies.
- True full-duplex operation, even when microphone input signal is weak.

HD AEC is available for evaluation on several DSPs and platforms.

### Requirements

#### Hardware

- MIMXRT685-EVK
- Line-Input device
- Speakers with male jack connector
- Headphones
- Single 3.5MM audio jack splitter
- Windows 10 PC

- USB type A to fMini-B cable
- AC Power Source, or PC USB ports

#### Software

- Adaptive Digital Software: Binary Library: Adaptive Digital Technologies Inc. MIMXRT685-EVK HD AEC Full Duplex 8K Demo Test / MIMXRT685-EVK HD AEC Full Duplex 16K Demo Test.