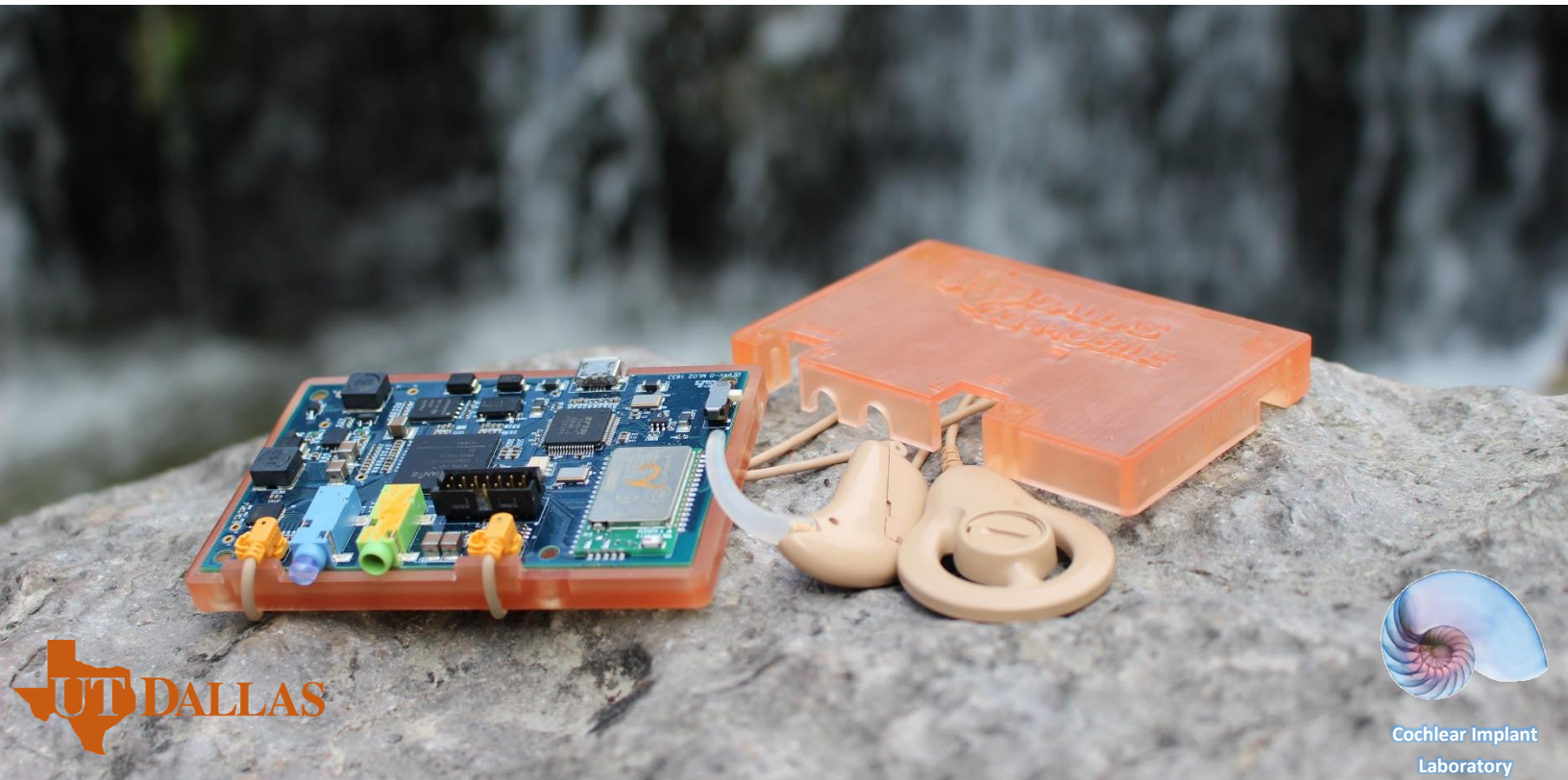
CCi-MOBILE Platform

for Cochlear Implant and Hearing-Aid Research

The CCi-Mobile research platform enables easy development of sound processing algorithms/strategies to carry out preliminary scientific experiments with cochlear implant users. The platform uses existing FDA-approved microphones and RF coils to communicate with the internal implanted receiver-stimulator. Such a setup allows to implement/test custom sound processing strategies. The platform is intended to be used strictly for non-commercial, non-clinical, and experimental use only, with the sole purpose to advance basic research in sound processing for cochlear implants.



UT DALLAS

Cochlear Implant Laboratory

CCi-MOBILE PLATFORM FEATURES

COCHLEAR IMPLANTS and HEARING-AIDS Research

UNILATERAL and TIME-SYNCHRONIZED BILATERAL stimulation

ELECTRIC ALONE and ELECTRIC + ACOUSTIC stimulation (EAS)

REAL-TIME: Conduct experiments in free field. Smartphone/tablet acts as a processor. Suitable for take-home field trials

BENCH-TOP: allows platform to be used in bench-top (offline) mode to conduct experiments in laboratory (e.g., using MATLAB) for acute studies

Flexibility in implementing sound coding algorithms as APPS

PROGRAMMING FLEXIBILITY – MATLAB, C, C++, JAVA, C#, LabVIEW

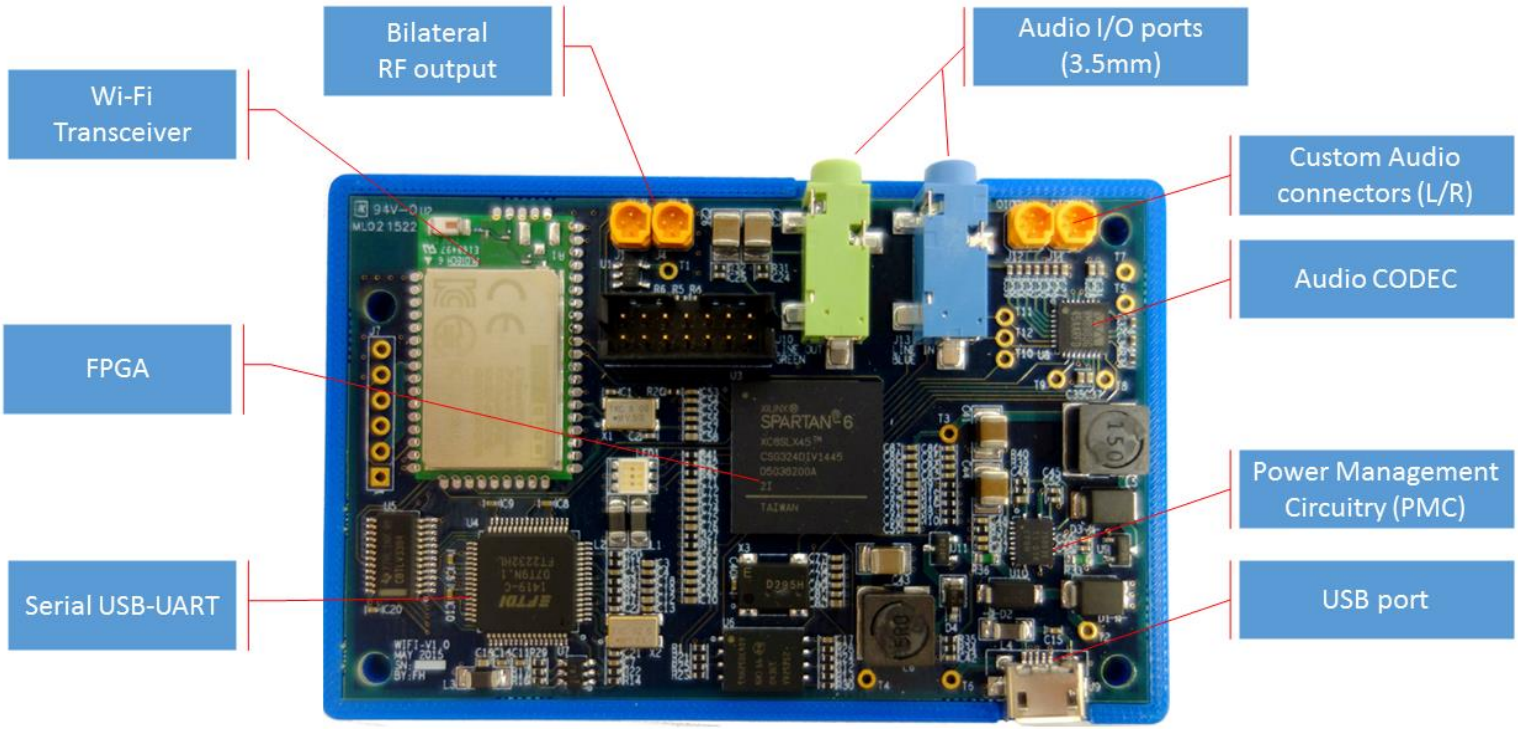
REAL-TIME MATLAB processing

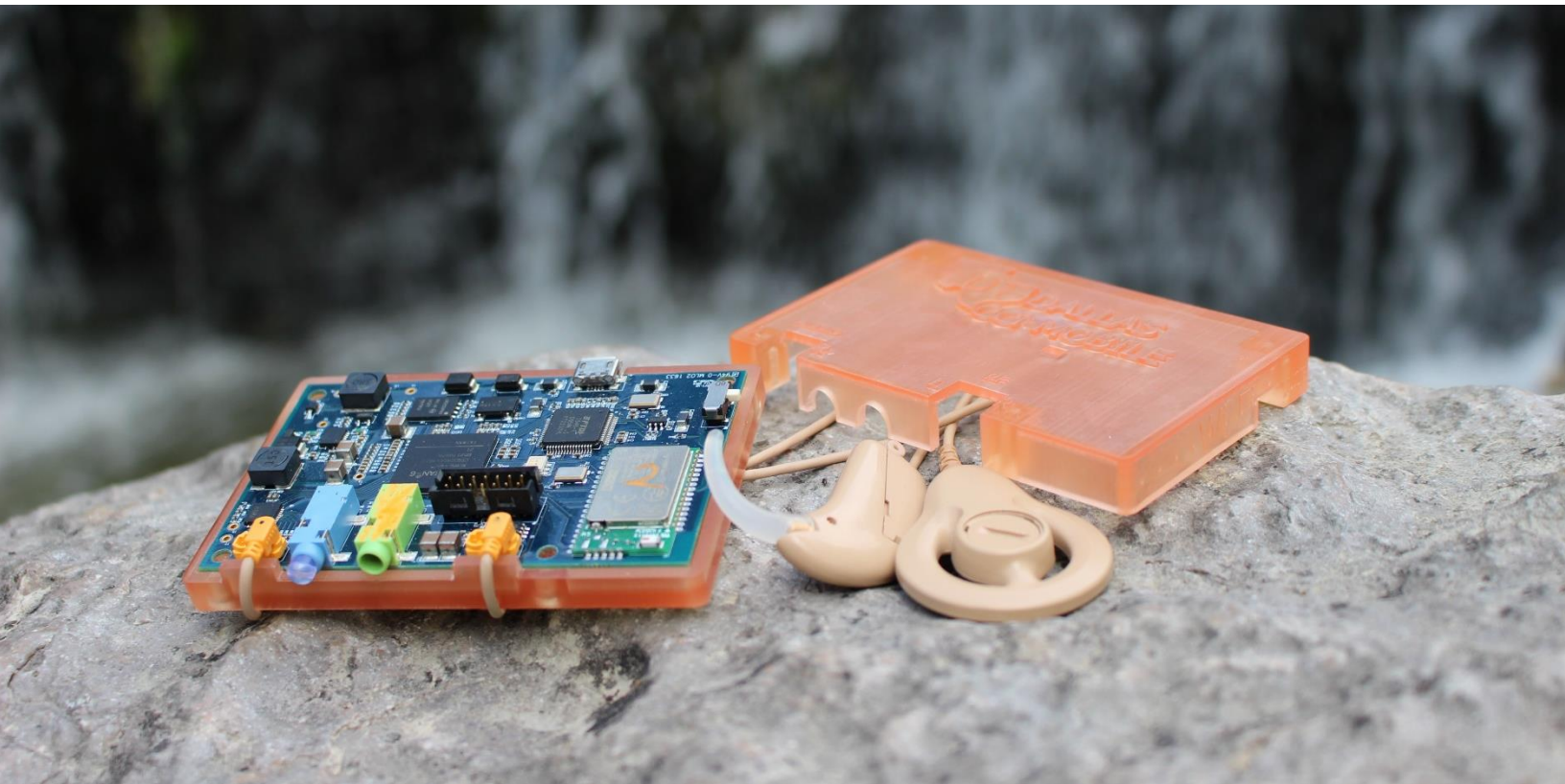
Wireless (WI-FI) link + USB interface

ON-THE-GO adjustment of sound processing parameters in real-time

Idea can be extended to iPhone, windows-based phones/tablets

State-of-the-art computing hardware





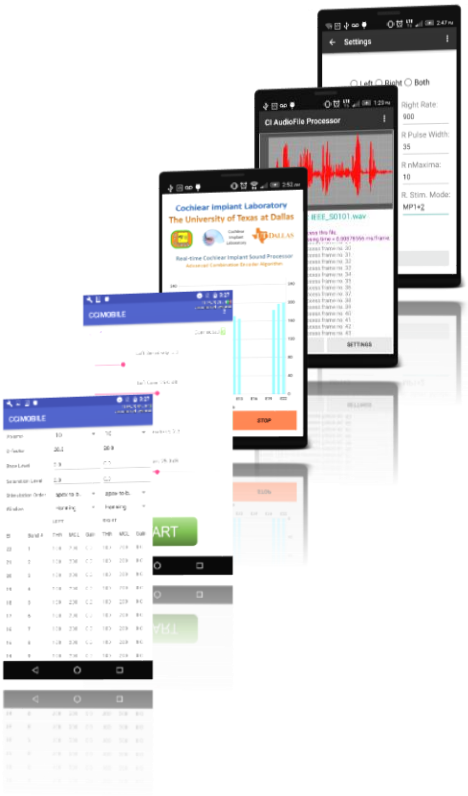
Open-source Software Suite for sound processing research

PC

MATLAB-based

Android

JAVA-based

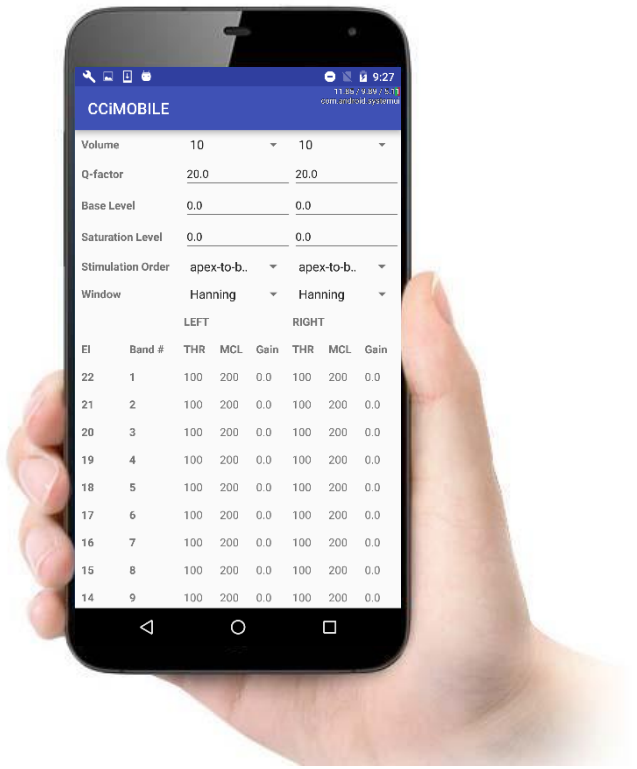


Real-time sound processing in **MATLAB** made possible with **CCi-MOBILE**

Apps for your experiments

Broad range of applications to help you get started quickly.

Configure MAP parameters on-the-go with Android applications



Electric + Acoustic Stimulation

4 channels of

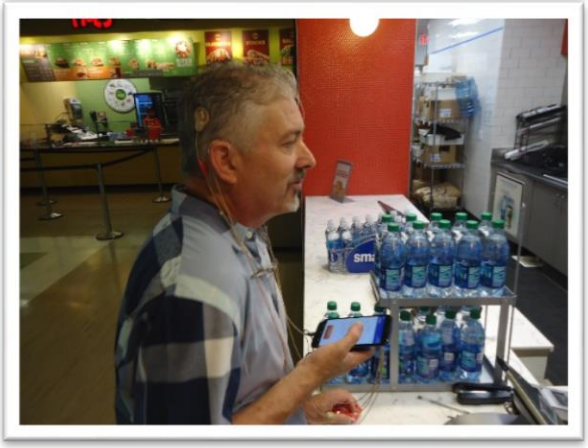
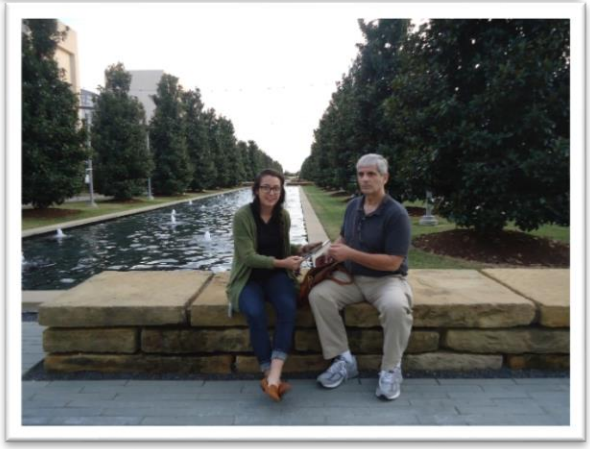
BILATERAL

time-synchronized

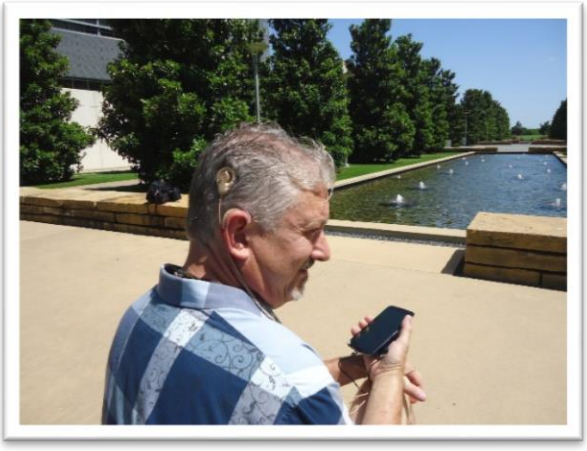
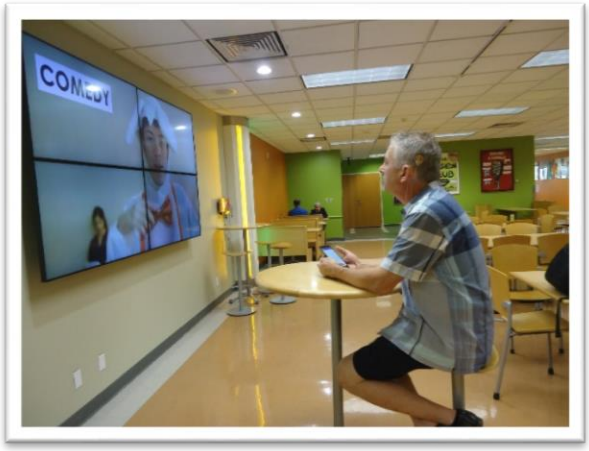
EAS

CCi-MOBILE Platform for Cochlear Implants and Hearing Aids



ABILITY TO USE IN EVERYDAY NATURALISTIC ENVIRONMENTS
FOR
TRUE CHRONIC ASSESSMENT OF SOUND PROCESSING IDEAS


Go beyond the lab…

Evaluate your algorithms in real-world environments

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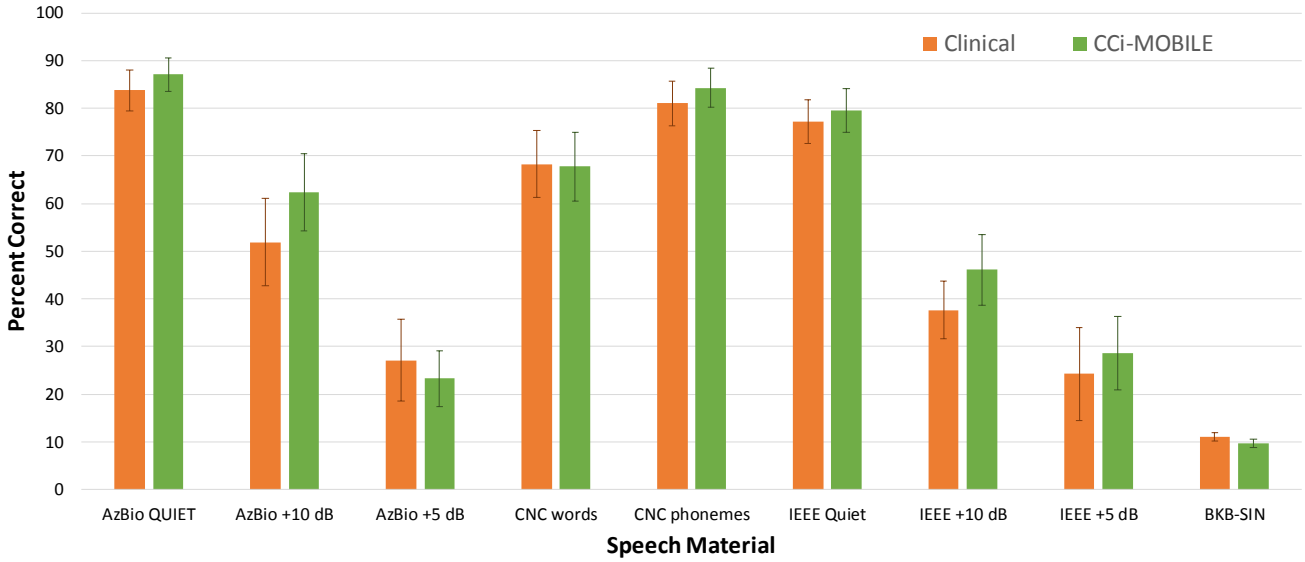
UTD CRSS

Cochlear Implant Laboratory

NIDCD

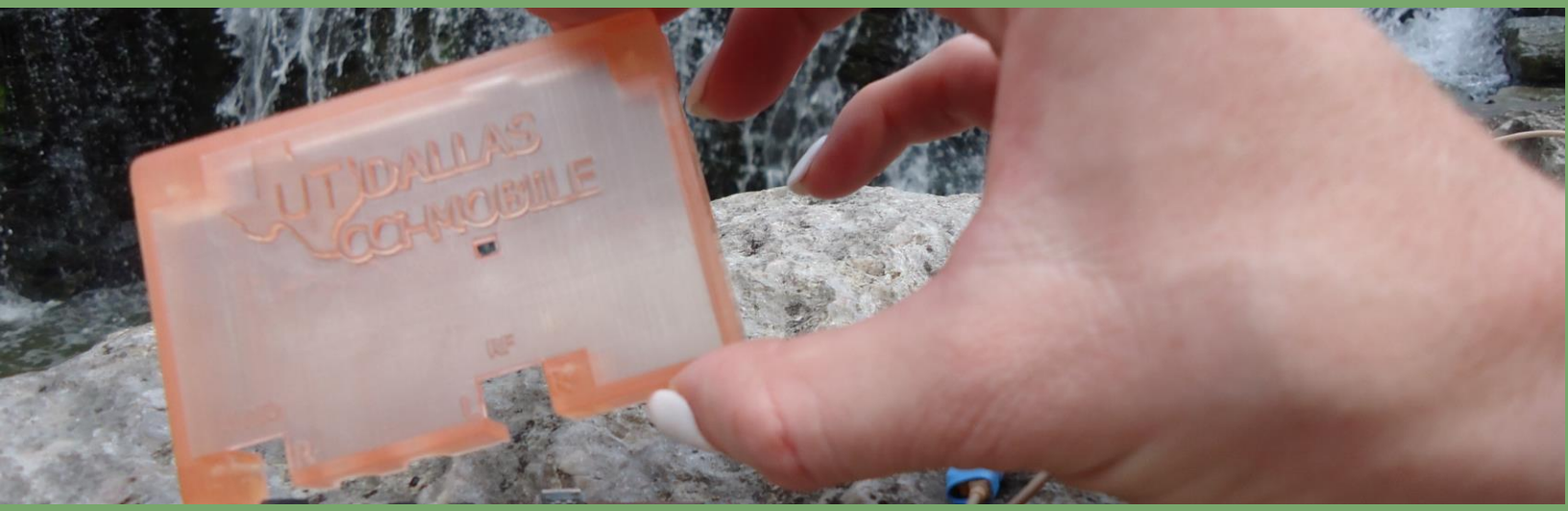
National Institutes of Health

Data speaks for itself!



Percentage correct mean speech recognitions scores with clinical processor and CCi-MOBILE research platform. Error bars represent SEM. N = 8.

BUILD BY RESEARCHERS FOR RESEARCHERS



Open source and available to the research community

Portable

Wearable

Plug-n-play

On-the-go

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