PHYSIOsensiics ™
with nanoPower Technology

LinearDimensions
SEMICONDUCTOR

AccuXtract Semi-Custom Modules

GENERAL DESCRIPTION

Linear Dimensions overcomes the motion artifact, power, and form factor challenges limiting the next generation of Fitness and Health devices with its patented line of AccuXtract modules.   The AccuXtract modules allow the extraction of physiological information including ECG, EEG, EMG, skin response, GSR, HRV, and numerous other physiological information during vigorous motion. All processing is done on board utilizing Linear's Neural Processors and ARM Cortex M0, M0+, M3 and M4 processors. No external support devices are required.

For the first time, AccuXtract coupled with the PEAL^{TM} **extraction system toolboxes allows reliable extraction and waveform reconstruction even during vigorous physical activity.**

The AccuXtract modules allow 32kbs streaming from any Bluetooth^{TM} LE equipped equipment such as the Bluetooth 4.0 capable iPad, many Android pads, Mac, and Windows based laptops. AccuXtract offers the longest battery life on the market for continuous streaming while also bypassing security features in iOS that make development more difficult.

AccuXtract for the first time combines advanced multipoint sensing techniques with a multi-dimensions adaptive gain control system and smart algorithms which actively modify the input instrumentation amplifiers, terminators and filters adaptively to extract only the signals you are looking for. Feedback only includes desired elements. This reduces processing, saves power, and does not tear apart the very waveforms we are looking for.

The difference between AccuXtract coupled with the PEAL^{TM} **is that AccuXtract looks for desired waveform patterns while other solutions fight a losing battle trying to filter the noise sources that are not desired and in so doing end up ruining the desired waveform itself.**

The accompanying AccuXtract software development kit and optional modules offer complete waveform extraction, reconstruction, control and communications functions using Linear Dimensions' patented PEAL extraction system. Combine communications elements like timing, texting, and calendar functions with fitness elements including distance, location, heart rate, respiration, hydration, motion, skin response, sleep patterns and other measurements to allow your customers to maintain and monitor a fitness lifestyle. Download physiological information to the Windows, Mac, iPAD or Android platforms.
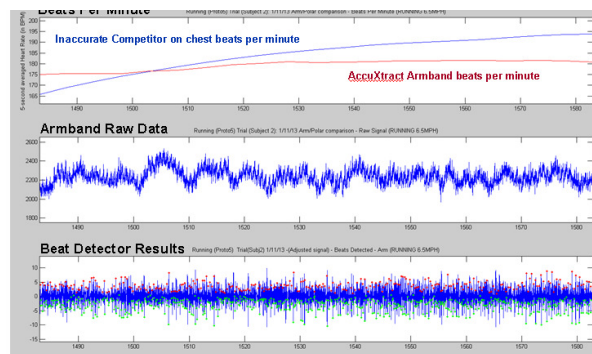
AccuXtract Bluetooth^{TM} LE Flex Circuit
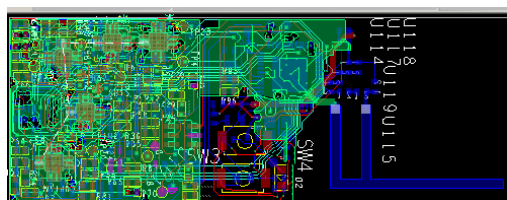
FEATURES

- Lowest Power Solution on the Market
- Streaming Bluetooth^{TM} LE Solutions
- No Security Device required for iOS Devices
- Physiological Extraction:
  - ECG, EMG, EEG
  - Up to 130db CMRR
  - Adapts to the User
  - Contact, Capacitive or Doppler Sensors
- Integrated PEAL extraction system
  - Extracts physiological signals during rigorous activity
  - Penetrates real world noise such as muscle noise, 50/60Hz, electrode connect & disconnect
- ARM Microcontroller + Linear Dimensions Neural Processors Allow on Board Computation
- No Support Device or Cloud Needed
- AGC Allows Inputs From Anywhere on the Body
- Interfaces:
  - Bluetooth^{TM}
  - microSD Card
- Cloud, Cell phone, Tablet, Microcontroller or PC Algorithm Solutions Available
- Let Linear Dimensions Develop Custom Flexible Substrate Mobile Solutions With You

Accurate at a Full Run on the Arm

AccuXtract Bluetooth^{TM} LE Band