The next-generation Coala Heart Monitor is here with increased accuracy to detect heart disease and with minimized risk of false positive results. Thus, the Coala Heart Monitor is the first integrated, smartphone-based system to detect arrhythmias and atrial fibrillation (AF) based on analysis of both P-wave and R-R variability in the ECG signal, in line with clinical guidelines.

State of the art analytic algorithms
The new analytic algorithms (version 1.5) are based on research findings presented at the 2018 Autumn Meeting of the Swedish Association for Clinical Physiology in Lund, Sweden. In the study, Coala’s new analysis algorithms were evaluated with enhanced functionality to detect atrial fibrillation based on the presence of P-wave or not in the ECG signal.

The new algorithms were compared to existing Coala Heart Monitor algorithms and demonstrated a significant increase in accuracy by an increased Positive Predictive Value (PPV) of 0.751 to 0.872, corresponding to a decrease of false positive results by more than 90%, while at the same time retaining high sensitivity and specificity (95% and 98% respectively).

Meeting clinical guidelines with P-wave and R-R based detection
Established clinical guidelines define that atrial fibrillation (AF) is diagnosed by ECG and demonstrated variability in R-R as well as absence of P-waves. Detecting P-waves with high-sensitivity and specificity requires high resolution and signal quality. Coala Heart Monitor analyzes, unlike conventional mobile ECG systems that typically only detect for irregular pulse or R-R variability, both for R-R variability and absence of P-waves, leading to significantly improved accuracy.

Apple compatibility
The new Coala Heart Monitor is compatible with new Apple Health Records and is since 2017 already compatible with Apple Health.