

OPTICAL CARDIAC MONITORING

Arrhythmia classifier



:: csem



info@csem.ch

www.csem.ch

TECHNOLOGY PORTFOLIO FOR MEDICAL APPLICATIONS

Scientific approach

CSEM's oAFD[®] technology relies on high-magnitude resolution, large-bandwidth photoplethysmography (PPG) signals. This technology allows for the detection of cardiac arrhythmia events obtained via a CSEM-proprietary analysis of arterial pulsatility patterns, at any body location with sufficient perfusion. The Optical Arrhythmia Classifier Library (Class B) is 62304 compliant.

Validation

CSEM has published the first clinical evidence of reliable AF detection using PPG sensors when compared to gold standard ECG signals. The library can demonstrate a performance, accuracy, specificity and sensitivity of 99% for atrial fibrillation detection (n=30).

Sensing form factors compliant with oAFD[®] library

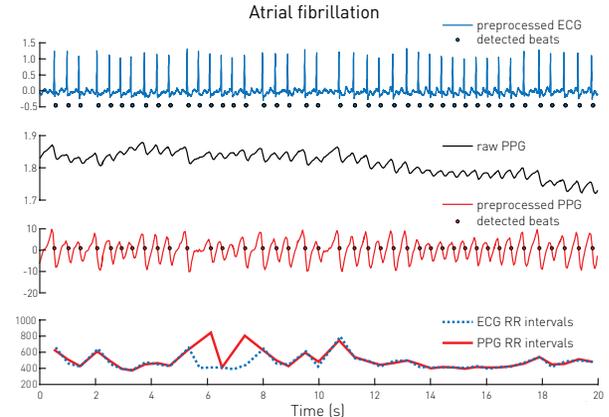
- Reflective PPG sensor integrated in a wrist/watch device
- Re-analysis of PPG signals from routinely-used PulseOx sensors
- Reflective optical measurements from a smartphone camera/LED module

Applications

- 24/7 ambulatory cardiac monitoring
- Unobtrusive cardiac monitoring solution, less disruption to sleep
- Large scale (epidemiologic) study
- Spot ambulatory cardiac monitoring

Features

- Requires measurement of arterial pulsatility, via PPG with high temporal resolution in transmission or reflectance modes
- Estimates beat-to-beat time intervals
- Real-time estimations of corresponding HRV features



www.csem.ch/Medtech

