



# HRV Standard

**Kubios HRV Standard is the market leader in heart rate variability (HRV) analysis software for non-commercial research and personal use.**

The Kubios HRV Standard makes it possible to use your HR monitor to examine the health of the cardiovascular system or to evaluate stress and recovery. By upgrading to Kubios HRV Premium, which is our full-featured HRV analysis software, you can obtain the most detailed and user-friendly charts of the HRV analysis with over 40 analysis parameters and time-varying analysis options – the true market leader.

## For Scientific Research

Kubios HRV is a **scientifically validated software**. The software has been developed during the past 15 years by experienced medical physicists. The software was originally published in 2004<sup>1</sup> and underwent a significant update in 2014<sup>2</sup>. These two publications have attracted **around 1 000 citations**.

## Stress and recovery monitoring

Kubios HRV Standard provides detailed analysis of the activity of the autonomic nervous system. The analysis features available in the Standard version allow you to evaluate your stress levels at a glance or to monitor recovery from daily HR measurements (e.g. by monitoring resting HR levels and the RMSSD value).

## Supports your measurement device

Kubios HRV Standard is compatible with most commonly used HR monitors on the market. The only requirement for the HR monitor is that it should be able to record inter-beat interval (IBI) data.



## Kubios HRV Standard Specifications

### Operating system

- Kubios HRV Standard is available for 64-bit operating systems: Windows (7 SP1, 8 and 10), MacOS, and Linux
- Minimum system specifications: 4 GB RAM, 3-5 GB of disk space and screen resolution 1024 x 768 or higher.

### Usability

- Easy-to-use graphical user interface (GUI)
- Adaptable to user needs due to adjustable analysis settings through software preferences.

### Supported data formats and devices

- Inter-beat-interval (IBI) or RR interval data files: Garmin FIT files; Polar HRM and TXT files; Suunto SDF, STE, XML and FIT files; custom formatted text and CSV files
- Supported HR monitors: ActiHeart, emWave, Firstbeat Bodyguard, Garmin (Forerunner and Fenix series), Polar (V800), Suunto (Ambit and Spartan series), Zephyr BioHarness.

### Pre-processing features

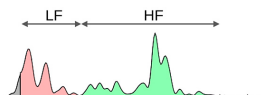
- Threshold based artefact correction algorithm with manually adjustable threshold for correcting missed, extra and misaligned beats
- Smoothness priors method for removing very low frequency trend components when performing short-term HRV analysis.

### HRV analysis features

- Stress level and indexes for parasympathetic (PNS) and sympathetic nervous system (SNS) activities
- Time-domain parameters: Mean RR and HR, min and max HR, SDNN, RMSSD, pNN50 (with adjustable threshold), HRV triangular index and TINN
- Frequency-domain parameters: Welch's periodogram and AR spectrum estimates. VLF, LF and HF peak frequencies and band powers (powers in absolute units and normalised units), and LF/HF ratio

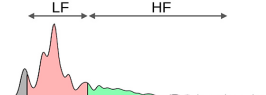
#### SUPINE REST

- Low heart rate
- High RMSSD and HF power



#### MODERATE STRESS

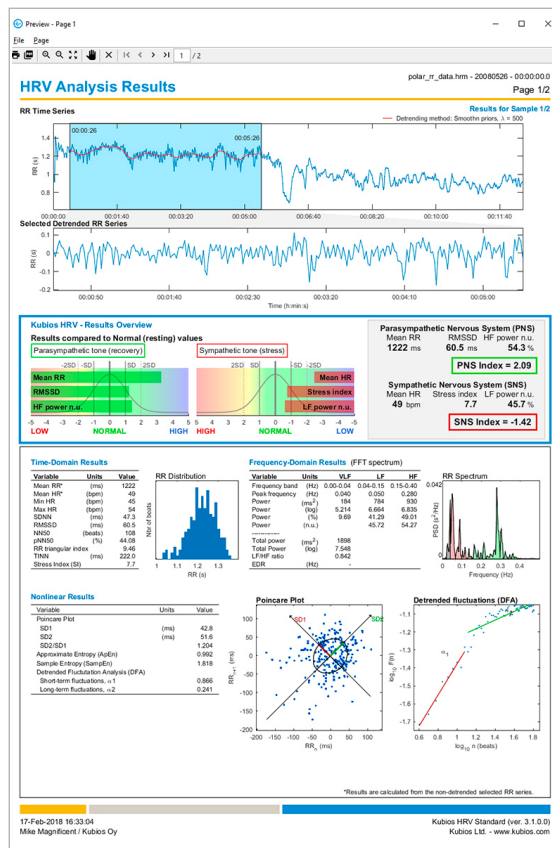
- Increased heart rate
- Lowered RMSSD and HF power
- Increased LF/HF ratio



- Nonlinear parameters: Poincare plot (SD1, SD2, and SD2/SD1), approximate entropy (ApEn), sample entropy (SampEn) and Detrended fluctuation analysis (DFA).

### Reports and exporting results

- PDF reports with detailed HRV analysis results and graphics



- Text file export for saving all the analysis results into a structured text file.

### Pricing and licensing policy

- Kubios HRV Standard is our freeware HRV analysis software
- The license allows you to use the software on one computer at a time for non-commercial research or personal use.

## Kubios Oy

### For more information:

Product page: [www.kubios.com/hrv-standard](http://www.kubios.com/hrv-standard)  
 User's guide and support: [www.kubios.com/support](http://www.kubios.com/support)  
 Screenshots and tutorials: [www.kubios.com/gallery](http://www.kubios.com/gallery)

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