

In the last 10 years, Philips Wearable Sensing Technologies (WeST) has developed significant amounts of IP and know-how in the field of continuous unobtrusive wearable monitoring in all the key elements of its solution: sensing, electronics and algorithms. The relevant part of this IP has been protected by patent applications which, together with our know-how, contribute to actually making our solutions unique.

Below a list of WeST's published international patent applications.

Philips reference	Title	Priority date	Publication
2011PF01016	Method for estimating heart-rate during motion	16-Sep-2011	WO2013038296
2011PF02204	Improved synchronous detection	18-Jun-2012	WO2013190423
2012PF01625	Optical sensor with frame protection for heart rate monitoring	14-Dec-2012	WO2014091424
2013PF00601	Combining different HR features (recovery, HR peak, HRV, etc) according to context and behaviour to reliably assess fitness in free-living conditions	16-Sep-2013	WO2015049113
2013PF00555	Robust and efficient time domain signal processing method for feature extraction from periodic bio-signals	1-Oct-2013	WO2015036289
2013PF02089	Optical heart rate sensor with depth information for improved movement correction	4-Feb-2014	WO2015128226
2013PF02083	Gesture tracking using an optical sensor having at least two light sources	12-Feb-2014	WO2015121100
2013PF02080	Cycling cadence monitoring at the wrist or arm	26-Feb-2014	WO2015150199
2013PF02095	Wrist worn camera for vital body signs detection	6-Mar-2014	WO2015150434
2013PF02092	Method of increasing battery life in Heart Rate monitors using data from additional sensors	17-Mar-2014	WO2015117829
2013PF02093	Selection of a Heart Rate candidate	17-Mar-2014 26-Mar-2014	WO2015139980

2013PF02085	Unobtrusive fertility tracking method and apparatus using HR and HRV	1-Apr-2014	WO2015139930
2013PF02084	Unobtrusive atrial fibrillation detection	2-Apr-2014	WO2015132063
2013PF02096	Improved ambient light cancellation	3-Apr-2014	WO2015150200
2014PF00392	Modulated Photoplethysmographic Sensor featuring Activity Monitoring	22-May-2014	WO2015176999
2014PF00327	Motion artifact reduction using multi-channel PPG signals	28-May-2014	WO2015180986
2014PF00507	Method to estimate resting heart rate from daily measurements of heart rate and body movement	12-Jun-2014	WO2015189304
2014PF00549	Photoplethysmograph Sensor for Monitoring Animal's Cardio-respiratory signals	27-Jun-2014	WO2015197385
2014PF00627	PPG sensor with ambient light compensation loop	30-Jun-2014	WO2016000986
2014PF00625	Exercise warm-up indicator from photoplethysmography	28-Jul-2014	WO2016016016
2014PF00617	Hemoglobin PPG detection through nonlinear generated harmonics	30-Jul-2014	WO2016015999
2014PF00869	Heart rate sensor with switching laser	9-Sep-2014	WO2016037991
2014PF00951	Photoplethysmograph Sensor with optimized beam profile for optimal modulation signal	2-Oct-2014	WO2016050486
2014PF01032	Photoplethysmograph sensor with enhanced micro perfusion for optimal PPG signal	9-Oct-2014	WO2016055260