

## Supplementary Material

### 1 LIST OF ABBREVIATIONS

<i>Acc</i>	Accelerometer	<i>LF</i>	Low frequency
<i>AP</i>	Airway pressure	<i>MA</i>	Magnetometer
<i>ApEn</i>	Approximate entropy	<i>MF</i>	Medium frequency
<i>BP</i>	Blood pressure	<i>PPG</i>	Photoplethysmogram
<i>BPC</i>	Blood pressure cuff	<i>PSD</i>	Power spectral density
<i>BVP</i>	Blood volume pressure	<i>PWTT</i>	Pulse wave transit time
<i>ECG</i>	Electrocardiogram	<i>R</i>	Research
<i>ED</i>	Exhalation duration	<i>Resp</i>	Respiration
<i>EDA</i>	Electrodermal activity	<i>RMSSD</i>	Root mean square of the successive diff.
<i>EEG</i>	Electroencephalogram	<i>RRI</i>	RR interval
<i>EMA</i>	Ecological momentary assessment	<i>RSA</i>	Respiratory sinus arrhythmia
<i>EMG</i>	Electromyogram	<i>RSA</i>	R-R interval variability
<i>EMSR</i>	Emotion mood and stress recognition	<i>SC</i>	Skin conductance
<i>EOG</i>	Electrooculogram	<i>SCL</i>	Skin conductance level
<i>F</i>	Force	<i>SCR</i>	Skin conductance response
<i>FAD</i>	First absolute difference	<i>SDNN</i>	Standard deviation of NN intervals
<i>GP</i>	General public	<i>SP</i>	Several products
<i>GSR</i>	Galvanic skin response	<i>SpO2</i>	Peripheral oxygen saturation
<i>GY</i>	Gyroscope	<i>ST</i>	Skin temperature
<i>HF</i>	High frequency	<i>T</i>	Torque
<i>HR</i>	Heart rate	<i>TEMP</i>	Temperature
<i>HRV</i>	Heart rate variability	<i>TINN</i>	Triangular interpolation of RR intervals
<i>HRVi</i>	heart rate variability triangular index	<i>UD</i>	User dependent
<i>IBI</i>	Interbeat interval	<i>UID</i>	User independent
<i>IBI</i>	Interbeat interval	<i>Ve</i>	Ventilation
<i>ID</i>	Inhalation duration	<i>Vo</i>	Volume
<i>L</i>	Load	<i>W</i>	Weight

### 2 LIST OF DEVICES

Several devices are available for collecting physiological signals in the wild. Decision must be done regarding comfort, invasiveness and data accuracy. A list devices available for ambulatory data collection is given below with indications of their characteristics.

Companies with several products are marked with (SP). Invasiveness is marked according to categories defined in Section 4.1. It is specified for each device, if it was made for research (R) or for the general public (GP).

Product (company)	Physiological signal	Other	Inva-siveness	Research / Gen. Public
E4 (Empatica) – SP	EDA, PPG, ST	Acc, GY	4	R and GP
Shimmer (shimmersensing) – SP	ECG,EMG, PPG, RESP, GSR	3D Acc, 3D GY, 3D MA, L, W, F, T, P	2-3	R
Lifeshirt (VivoMetrics)	ECG, RESP, GSR, ST, PPG, EEG, EMG	Acc, TEMP	2	R
Biofeedback 2000x-Pert (Schuhfried)	EDA, PPG, ST, RESP	Acc	2	R
(movisens) - SP	ECG, EDA	Acc, Barometric AP, light, TEMP	3	R
(BITalino) - SP	Resp, PPG, ST, Glucose, BPC, SpO2, EMG, EEG, ECG, EDA	F, TEMP, Acc, Light	1-3	R
(somniaedics) - SP	RESP, EEG, ECG, EOG, EMG, ST, BP, SpO2	TEMP, Light, Body position, Snoring	1-3	R
NeXus-4 (Mindmedia)	EEG, EMG, EDA, EOG, ECG, ST, RESP, BVP		2-3	R
vu-AMS	ECG, RESP, EDA	Acc	2	R
(Vitamove) - SP	ECG, EMG, EEG, EOG, Resp	Acc, light	2-3	R
EQ02 LifeMonitor (Equivital)	ST, SpO2, GSR, BP cuff, PPG, ECG, RESP,	Acc, GPS, Body position	2-3	R
G. MOBILab (Gtec)	EEG,ECG, EOG, EMG, Resp, GSR, ST, BP, SpO2	Limb movements, Snoring	2-3	R
Mobile Impedance Cardiograph (Mindware Technologies)	EMG, RESP, ECG, GSR	Acc	2-3	R
Zephyr – SP	ECG, Resp, ST	Acc, time, location	3	R and GP
Feel	BVP, EDA, ST	Acc	4	P
Jawbone – SP	BVP, EDA, ST	Acc	4	P
eMoodmetrics	EDA		4	P
Spire health	Resp		4	GP and R

Table S1. Available devices for ambulatory physiological signal collection