

Oxygen monitors - Report



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Smart Wrist Pulse Oximeter :



Fig.1 : Smart wrist pulse oximeter

This device is useful to monitor heart pulse and blood oxygen.

Website link : [Viatom Checkme O2 Pulse Oximeter | Viatom \(viatomtech.com\)](https://viatomtech.com)

Characteristics of smart wrist :

Is it easy to use ?	YES (thanks to user manual)
Is the mobile app easy to use ?	YES (thanks to user guide)
Are the data consistent ?	YES

Tanks to the mobile app (Mobile App link : [ViHealth - Apps on Google Play](https://play.google.com/store/apps/details?id=com.viatom.checkme_o2)), we can monitor our pulse rate and our oxygen level :

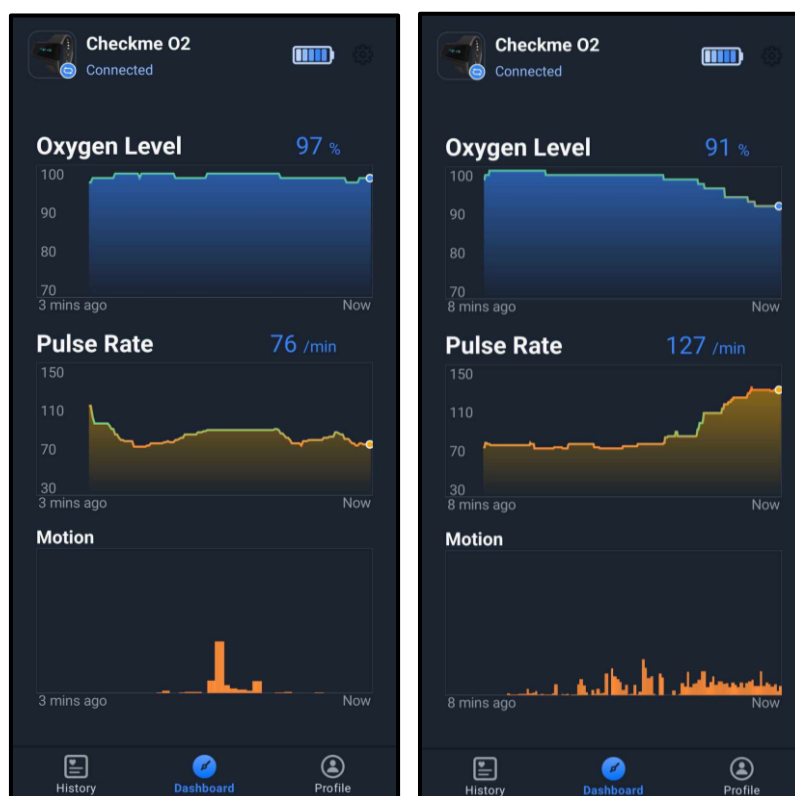


Fig.2 : Oxygen level and pulse rate while standing still (left screenshot) and in motion (right screenshot)

This is also possible to display measurement history :



Fig.3 : Measurement History

Owlet smart sock:



This device is useful to monitor heart rate and oxygen level while babies are sleeping.

Website link : [Owlet Smart Sock 3 Baby Monitor – Owlet UK](https://www.owlet.co.uk/) ([owletbabycare.co.uk](https://www.owletbabycare.co.uk/))

Fig.4 : Smart sock

Characteristics of owlet smart sock :

Is it easy to use ?	YES (Explanatory diagram)
Is the mobile app easy to use ?	YES (User guide)
Are the data consistent ?	No test performed

Tanks to the mobile app (Mobile App link : [Owlet - Apps on Google Play](https://play.google.com/store/apps/details?id=com.owlet.babysocket3)), we can monitor pulse rate and oxygen level of babies.



This device was created to enable parents to monitor heart pulse and oxygen level of their children. The datasheet of this product explains that we need to connect to a WIFI-network. It was not possible to do so in the University because the mobile app used for this device is not programmed for such a network.

BabyO2 S2 – Oxygen Monitor :



This device is useful to monitor oxygen level while babies are sleeping.

Fig.5 : Oxygen monitor & base station

Website link : [Baby Sleep Monitor with Base Station, Track Baby's Average Oxygen Level, Heart Rate & Movement, with Free APP, Fit Babies 0-3 Years Old – Wellue \(getwellue.com\)](https://www.getwellue.com/)

Characteristics of BabyO2 S2 :



This device is supposed to be used on a foot of a child. It was used on an arm of an adult because we needed to test it.

Is the main device easy to use ?	YES (thanks to explanatory diagram)
Is the mobile app easy to use ?	YES (thanks to user guide)
Are the data consistent ?	YES (but it was not possible to do lots of test)
Is the base station easy to use ?	YES (thanks to user guide)

We can use base station to easily monitor data (oxygen level).

Thanks to the following mobile app : [ViHealth - Apps on Google Play](https://play.google.com/store/apps/details?id=com.wellue.babyo2s2) , we can also monitor oxygen level and pulse rate with charts.

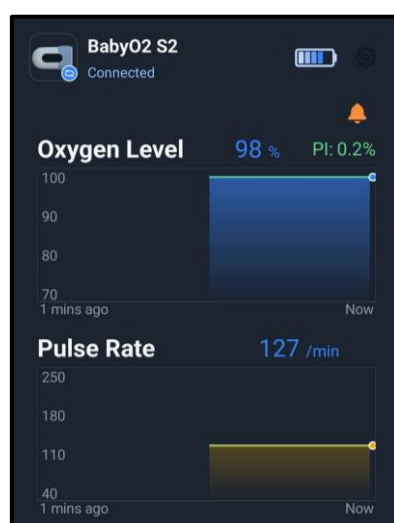


Fig.6 : Oxygen level and pulse rate

ECG recorder – Heart Health monitor :



This device is useful to monitor ECG. There are two option to record ECG : with electrodes or with chest chest strap.



Fig.7 : Hear Health Monitor – ECG recorder, electrodes & chest strap

Website link : [24-Hour ECG Monitor with AI Analysis, Continuous ECG/EKG Monitoring at Home – Wellue \(getwellue.com\)](https://getwellue.com)

Characteristics of Heart Health monitor :

Is the main device easy to use ?	YES (thanks to explanatory diagram)
Is the computer app easy to use ?	YES (thanks to user guide)
Are the data consistent ?	YES

Tanks to the computer app (the software is available thanks to a USB key included in the ECG recorder packaging), we can monitor our pulse rate and read a medical report :

Wellue | ECG Browser

Notifications

Download data

Settings

⌵ User

All Users

Fannie B (1)

Fannie B (2)

Data ID

Name

Measurement duration

All

Delete

Batch analysis

<input type="checkbox"/>	Data ID	Name	User ID	Age	Gender	E-mail	Measurement duration	Analysis State	Operation	Start Time	Download Time	Device Info
<input type="checkbox"/>	4	Fannie B	2	44	Female		12 h 48 m	Analyzed	View ECG View report	2024-03-30 21:15:58	2024-06-09 17:11:31	View
<input type="checkbox"/>	5	Fannie B	2	44	Female		8 m	Analyzed	View ECG View report	2024-06-09 16:59:29	2024-06-09 17:11:31	View
<input checked="" type="checkbox"/>	6	Fannie B	2	44	Female		1 h 33 m	Analyzed		2024-06-09 17:24:56	2024-06-09 18:58:54	

Fig.8 : User interface with measurement details

The first test was to use ECG recorder with chest strap. The following document shows the ECG report of this experiment :

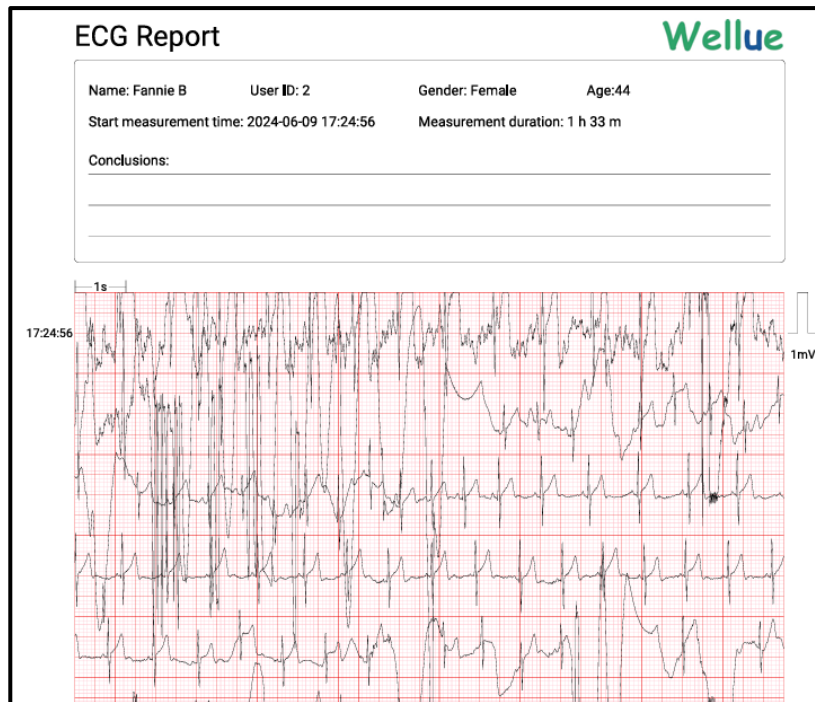


Fig.9 : ECG report – using chest strap

The second test was to use ECG recorder with electrodes. The following documents shows two ECG report of this experiment :

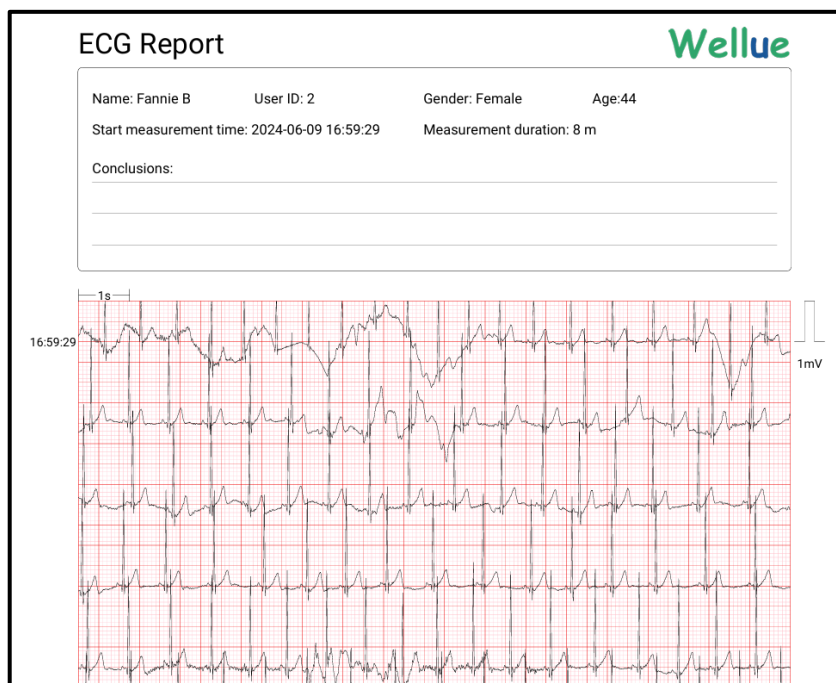


Fig.10 : ECG report – using electrodes (beginning)

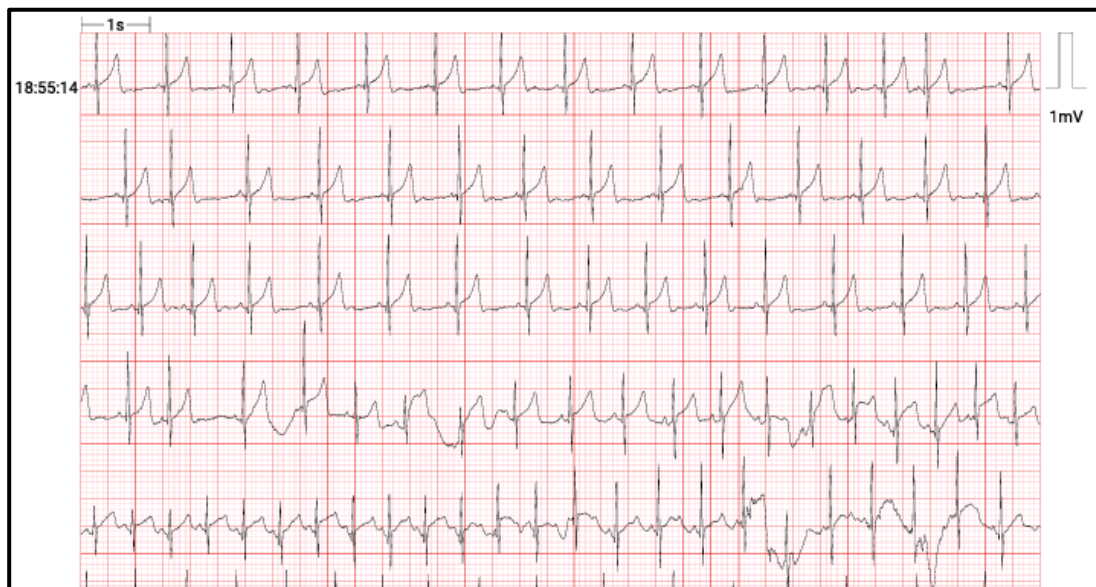


Fig.11 : ECG report – using electrodes (data at the end of the experiment)

- The following three pages show the report created by the software. It allows us to discover overall min and max pulse rate, ventricular and supraventricular rhythm.

ECG Report

Basic Information

Name : Fannie B	Gender : Female	Age : 44
Recording Time: 2024-06-09 17:24:56	-- 2024-06-09 18:58:26	Total Time: 1h33m30s

Report Overview

Total Number of Heartbeats (beats):	6557
Percentage of Atrial Flutter and Atrial Fibrillation:	0
Maximum Heart Rate:	121 bpm 17:26:50
Minimum Heart Rate:	57 bpm 18:17:45
Average Heart Rate:	72 bpm

Supraventricular Rhythm

Total Number of Supraventricular Heart Beats:	49
Number of PAC:	49
Couplet of PAC:	0
Supraventricular Bigeminy (Paroxysmal):	0
Supraventricular Trigeminy (Paroxysmal):	0
Supraventricular Tachycardia:	0
Maximum Duration of Supraventricular Tachycardia(s):	0.00
The Longest Time of Supraventricular Tachycardia Happened:	

Ventricular Rhythm

Total Number of Ventricular Heart Beats:	0
Number of PVC:	0
Couplet of PVC:	0
Ventricular Bigeminy(Paroxysmal):	0
Ventricular Trigeminy(Paroxysmal):	0
Ventricular Tachycardia:	0
Maximum Duration of Ventricular Tachycardia (s):	0.00
The Longest Time of Ventricular Tachycardia Happened:	

HRV

SDNN: 121.48 ms	RMSSD: 63.24 ms	SDANN: 67.68 ms
SDSD: 47.75 ms	PNN50: 28.85 %	TINN: 51.37
LF: 2116.17 ms ²	HF: 1607.68 ms ²	VLF: 7100.76 ms ²
ASDNN: 96.47		

ECG Report Conclusion

Name : Fannie B

Gender : Female

Age : 44

1. Normal sinus rhythm
2. Premature Supraventricular Contraction (PAC)

- *1. Due to the sporadic and transient nature of ECG events, it is normal for each measurement result to be different. It is recommended to increase the frequency of monitoring and capture incidents on time.
- *2. The results of this analysis are only for reference in daily heart health monitoring, they cannot replace the medical diagnosis results and cannot be used for clinical diagnosis and treatment.

ECG Fragment

Name: Fannie B

Gender: Female

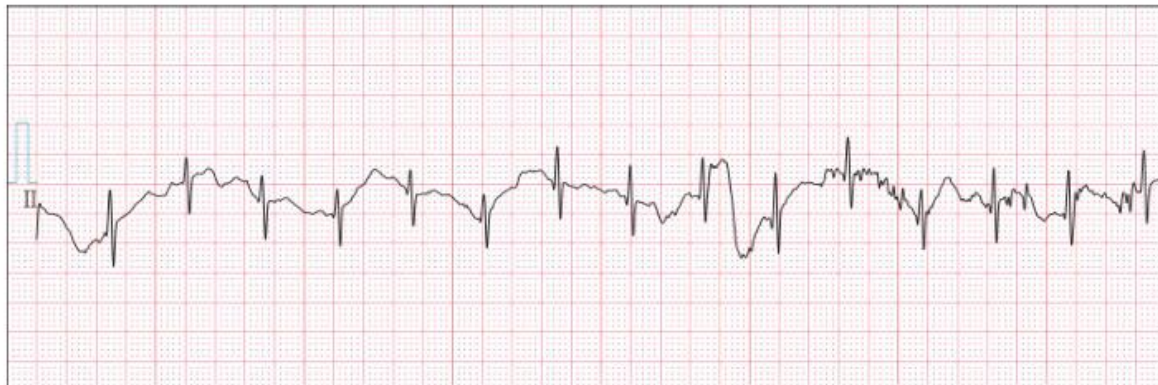
Age: 44

Overall Max Heart Rate

Time: 2024-06-09 17:26:50

Gain: 10 mm/mV

Speed: 25 mm/s



Overall Min Heart Rate

Time: 2024-06-09 18:17:45

Gain: 10 mm/mV

Speed: 25 mm/s



Premature supraventricular Contraction (PAC)

Time: 2024-06-09 18:03:58

Gain: 10 mm/mV

Speed: 25 mm/s



Conclusion

	APPLICATION	Features
BabyO2 S2	On a child's feet	Base station for parents
Checkme 02	On an adult's wrist	Bluetooth & charts
Smart Sock	On a child's ankles	WIFI connexion
Heart Health monitor	On an adult's chest	Accuracy & Report